wfec western farmers electric cooperative

PO Box 429 Anadarko, OK 73005 (405) 247-3351 www.wfec.com

July 6, 2023

Hillary Young
Chief Engineer - Land Protection Division
Oklahoma Department of Environmental Quality
P.O. Box 1677
Oklahoma City, OK 73162

Re: Notification of Apparent Exceedances from First 2023 Assessment Monitoring
Western Farmers Electric Cooperative – Hugo Power Station, Fort Towson, Oklahoma

Dear Ms. Young:

Western Farmers Electric Cooperative (WFEC) has been conducting assessment monitoring associated with Coal Combustion Residuals (CCR) Units at its Hugo Power Station (HPS). The first 2023 assessment monitoring was conducted April 11-18, 2023. The laboratory reports for the first 2023 assessment monitoring of the Landfill CCR Unit monitoring wells are included in **Attachment A**. Groundwater data summary tables for the Landfill CCR Unit updated to include results from the first 2023 assessment monitoring are included in **Attachment B**. The laboratory reports for the first 2023 assessment monitoring of the Surface Impoundment CCR Unit monitoring wells are included in **Attachment C**. Groundwater data summary tables for the Surface Impoundment CCR Unit updated to include results from the first 2023 assessment monitoring are included in **Attachment D**.

Based upon review of data from the first 2023 assessment monitoring meeting QA/QC standards, WFEC has identified constituents listed in Appendix B of Oklahoma Administrative Code Chapter 517, Disposal of Coal Combustion Residuals from Electric Utilities (OAC 252:517) at statistically significant levels (SSLs) above the GWPS at wells associated with its Landfill CCR Unit. In particular, molybdenum was detected at SSLs above the GWPS at monitoring wells MW-15A, MW-16, MW-18, and MW-19S, where previous SSLs exceedances for molybdenum have been historically noted. This submittal addresses OAC 252:517-9-6(g), which requires the owner/operator to prepare a notification identifying OAC 252:517 Appendix B constituents detected at SSLs above the GWPS.

Molybdenum has been historically detected at SSLs above the GWPS at the above mentioned wells and notifications have previously been provided to the Oklahoma Department of Environmental Quality (ODEQ). A Plan and Schedule for Analyzing SSIs for Molybdenum (Altamira; March 4, 2020) was submitted to and approved for implementation by ODEQ in its letter dated April 28, 2020. An Assessment of Corrective Measures (ACM) Report was submitted on October 29, 2020. Two years of semi-annual sampling was proposed to establish the effectiveness of monitored natural attenuation as a groundwater remedy. The two year sampling period was completed in October 2022. Findings from each semi-annual sampling event were reported to the ODEQ, with findings from the final two year

semi-annual sampling event provided to ODEQ in the Fourth Report to Monitor Progress of Semi-Annual Corrective Measures Assessment (CMA) Sampling at Landfill CCR Unit (Altamira, April 10, 2023). From this, molybdenum concentrations appear to have decreased over the sampling history at monitoring wells MW-15A, MW-16, MW-18, and MW-19S; with decreasing trends apparent at MW-15A, MW-16, and MW-18. The report proposed an additional two years of semi-annual monitoring and reporting to fully evaluate the proposed remedy and to meet the standards listed in OAC 252:517-9-8(b) and (c). The report was accepted by ODEQ in its letter dated May 23, 2023.

Other than as discussed above, no OAC 252:517 Appendix B constituents were detected at SSLs above the GWPS in monitoring wells associated with the Landfill CCR Unit. Also, no OAC 252:517 Appendix B constituents were detected at SSLs above the GWPS in monitoring wells associated with the Surface Impoundment CCR Unit.

Sincerely,

Kent Fletcher
Environmental Coordinator

Attachments

cc: John McCreight / WFEC
Chris Schaefer and Bert Smith / Altamira-US, LLC.

ATTACHMENT A

FIRST 2023 ASSESSMENT MONITORING – APRIL 2023
LABORATORY REPORT
(LANDFILL CCR UNIT)

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

June 28, 2023

Bert Smith
Altamira
525 central park Dr
Suite 500
Oklahoma City, OK 73013

Work Order: **HS23040697**

Laboratory Results for: **WFEC / CCR Landfill**

Dear Bert Smith,

ALS Environmental received 13 sample(s) on Apr 13, 2023 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
Anna Kinchen
Project Manager

Client: Altamira
Project: WFEC / CCR Landfill
Work Order: HS23040697

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS23040697-01	MW-3	Water		12-Apr-2023 10:42	13-Apr-2023 09:00	☐
HS23040697-02	MW-5S	Water		12-Apr-2023 12:32	13-Apr-2023 09:00	☐
HS23040697-03	MW-13	Water		12-Apr-2023 11:57	13-Apr-2023 09:00	☐
HS23040697-04	MW-14A	Water		12-Apr-2023 11:06	13-Apr-2023 09:00	☐
HS23040697-05	MW-15A	Water		12-Apr-2023 09:45	13-Apr-2023 09:00	☐
HS23040697-06	MW-20	Water		12-Apr-2023 12:58	13-Apr-2023 09:00	☐
HS23040697-07	MW-21	Water		12-Apr-2023 09:47	13-Apr-2023 09:00	☐
HS23040697-08	MW-16	Water		12-Apr-2023 15:23	14-Apr-2023 08:50	☐
HS23040697-09	MW-17	Water		12-Apr-2023 16:37	14-Apr-2023 08:50	☐
HS23040697-10	MW-18	Water		12-Apr-2023 18:10	14-Apr-2023 08:50	☐
HS23040697-11	DUP-4	Water		12-Apr-2023 16:37	14-Apr-2023 08:50	☐
HS23040697-12	MW-7S	Water		18-Apr-2023 09:28	19-Apr-2023 09:10	☐
HS23040697-13	MW-19S	Water		17-Apr-2023 18:33	19-Apr-2023 09:10	☐

Client: Altamira **CASE NARRATIVE**
Project: WFEC / CCR Landfill
Work Order: HS23040697

Work Order Comments

• Sample received outside method holding time for pH. pH is an immediate test. Sample results are flagged with an "H" qualifier.

The temperature at the time of pH is reported. Please note that all pH results are already normalized to a temperature of 25 °C.

Metals by Method SW7470A

Batch ID: 192976,192996

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Metals by Method SW6020A

Batch ID: 192867

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Batch ID: 192875

Sample ID: MW-19S (HS23040697-13MS)

• The MS and/or MSD recovery was outside of the control; however, the result in the parent sample is greater than 4x the spike amount. Boron, Molybdenum, Sodium.

Wet Chemistry by Method E300

Batch ID: R432738

Sample ID: HS23040723-01MS

• MS and MSD are for an unrelated sample

Batch ID: R433149

Sample ID: HS23040356-02MS

• MS and MSD are for an unrelated sample

WetChemistry by Method E410.4

Batch ID: R433632,R433776

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SM2320B

Batch ID: R433630

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SM4500 S2-F

Batch ID: R432939,R433336,R433352

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Client: Altamira **CASE NARRATIVE**
Project: WFEC / CCR Landfill
Work Order: HS23040697

WetChemistry by Method SM4500H+ B

Batch ID: R433354

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method M2510 B

Batch ID: R433330

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method M2540C

Batch ID: R432824,R432930,R433412

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method E300

Batch ID: R432628

Sample ID: HS23040411-01MS

- MS and MSD are for an unrelated sample

Sample ID: HS23040694-02MS

- MS and MSD are for an unrelated sample

Batch ID: R433149

Sample ID: MW-19S (HS23040697-13MS)

- The MS and/or MSD recovery was outside of the control limits; however, the result in the parent sample is greater than 4x the spike amount. (Sulfate)

Sample ID: MW-19S (HS23040697-13MSD)

- The MS and/or MSD recovery was outside of the control limits for Nitrogen, Nitrite (As N), Nitrate/Nitrite (as N) due to suspect matrix effect

Client: Altamira
Project: WFEC / CCR Landfill
Sample ID: MW-3
Collection Date: 12-Apr-2023 10:42

ANALYTICAL REPORT
WorkOrder:HS23040697
Lab ID:HS23040697-01
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 25-Apr-2023		Analyst: JC
Antimony	U		0.000400	0.00200	mg/L	1	25-Apr-2023 20:05
Arsenic	**0.000762**	J	**0.000400**	**0.00200**	**mg/L**	1	25-Apr-2023 20:05
Barium	**0.0194**		**0.00190**	**0.00400**	**mg/L**	1	25-Apr-2023 20:05
Beryllium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 20:05
Boron	**2.28**		**0.220**	**0.400**	**mg/L**	20	26-Apr-2023 11:19
Cadmium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 20:05
Calcium	**295**		**0.680**	**10.0**	**mg/L**	20	26-Apr-2023 11:19
Chromium	U		0.000400	0.00400	mg/L	1	25-Apr-2023 20:05
Cobalt	**0.000730**	J	**0.000200**	**0.00500**	**mg/L**	1	25-Apr-2023 20:05
Lead	U		0.000600	0.00200	mg/L	1	25-Apr-2023 20:05
Lithium	**0.133**		**0.00100**	**0.00500**	**mg/L**	1	25-Apr-2023 20:05
Molybdenum	U		0.000600	0.00500	mg/L	1	25-Apr-2023 20:05
Selenium	U		0.00110	0.00200	mg/L	1	25-Apr-2023 20:05
Thallium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 20:05
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 26-Apr-2023		Analyst: JS
Mercury	U		0.0000300	0.000200	mg/L	1	26-Apr-2023 14:13
ANIONS BY E300.0, REV 2.1, 1993		**Method:E300**					Analyst: TH
Chloride	**9.95**		**0.200**	**0.500**	**mg/L**	1	13-Apr-2023 15:17
Fluoride	**0.333**		**0.0500**	**0.100**	**mg/L**	1	13-Apr-2023 15:17
Nitrogen, Nitrate (As N)	U		0.0300	0.100	mg/L	1	13-Apr-2023 15:17
Sulfate	**1,480**		**4.00**	**10.0**	**mg/L**	20	13-Apr-2023 15:23
CHEMICAL OXYGEN DEMAND BY E410.4, REV 2.0, 1993		**Method:E410.4**					Analyst: TH
Chemical Oxygen Demand	**10.0**	J	**5.00**	**15.0**	**mg/L**	1	26-Apr-2023 11:00
SPECIFIC CONDUCTANCE BY SM 2510B-2011		**Method:M2510 B**					Analyst: CD
Specific Conductivity	**2,820**		**5.00**	**5.00**	**umhos/cm @ 25.0 °C**	1	21-Apr-2023 16:54
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: DC
Total Dissolved Solids (Residue, Filterable)	**1,960**		**5.00**	**10.0**	**mg/L**	1	14-Apr-2023 13:07
PH BY SM4500H+ B-2011		**Method:SM4500H+ B**					Analyst: MZD
pH	**7.26**	H	**0.100**	**0.100**	**pH Units**	1	22-Apr-2023 14:02
Temp Deg C @pH	**20.8**	H	**0**	**0**	**°C**	1	22-Apr-2023 14:02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Altamira
Project: WFEC / CCR Landfill
Sample ID: MW-5S
Collection Date: 12-Apr-2023 12:32

ANALYTICAL REPORT
WorkOrder:HS23040697
Lab ID:HS23040697-02
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
FERRIC IRON - BY CALCULATION BY SM3500FED		**Method:SM3500FED**					Analyst: JHD
Ferric Iron	U		0.0200	0.0500	mg/L	1	27-Apr-2023 15:25
FERRIC IRON (DISS)- BY CALCULATION BY SM3500FED		**Method:SM3500FED (dissolved)**					Analyst: JHD
Ferric Iron, Dissolved	U		0.0200	0.0500	mg/L	1	27-Apr-2023 15:26
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 25-Apr-2023		Analyst: JC
Antimony	U		0.000400	0.00200	mg/L	1	25-Apr-2023 20:07
Arsenic	U		0.000400	0.00200	mg/L	1	25-Apr-2023 20:07
Barium	**0.00789**		**0.00190**	**0.00400**	**mg/L**	1	25-Apr-2023 20:07
Beryllium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 20:07
Boron	**2.21**		**0.220**	**0.400**	**mg/L**	20	26-Apr-2023 11:21
Cadmium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 20:07
Calcium	**37.0**		**0.0340**	**0.500**	**mg/L**	1	25-Apr-2023 20:07
Chromium	U		0.000400	0.00400	mg/L	1	25-Apr-2023 20:07
Cobalt	U		0.000200	0.00500	mg/L	1	25-Apr-2023 20:07
Iron	**0.0165**	J	**0.0120**	**0.200**	**mg/L**	1	25-Apr-2023 20:07
Lead	U		0.000600	0.00200	mg/L	1	25-Apr-2023 20:07
Lithium	**0.0520**		**0.00100**	**0.00500**	**mg/L**	1	25-Apr-2023 20:07
Magnesium	**5.72**		**0.0100**	**0.200**	**mg/L**	1	25-Apr-2023 20:07
Molybdenum	**0.00211**	J	**0.000600**	**0.00500**	**mg/L**	1	25-Apr-2023 20:07
Potassium	**3.84**		**0.0180**	**0.200**	**mg/L**	1	25-Apr-2023 20:07
Selenium	U		0.00110	0.00200	mg/L	1	25-Apr-2023 20:07
Sodium	**371**		**0.280**	**4.00**	**mg/L**	20	26-Apr-2023 11:21
Thallium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 20:07
DISSOLVED METALS BY SW6020A		**Method:SW6020A (dissolved)**			Prep:SW3010A / 25-Apr-2023		Analyst: JC
Iron	U		0.0120	0.200	mg/L	1	25-Apr-2023 15:45
Molybdenum	**0.00207**	J	**0.000600**	**0.00500**	**mg/L**	1	25-Apr-2023 15:45
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 26-Apr-2023		Analyst: JS
Mercury	U		0.0000300	0.000200	mg/L	1	26-Apr-2023 14:14
ANIONS BY E300.0, REV 2.1, 1993		**Method:E300**					Analyst: TH
Chloride	**23.8**		**0.200**	**0.500**	**mg/L**	1	13-Apr-2023 15:29
Fluoride	**1.25**		**0.0500**	**0.100**	**mg/L**	1	13-Apr-2023 15:29
Nitrogen, Nitrate (As N)	**0.467**		**0.0300**	**0.100**	**mg/L**	1	13-Apr-2023 15:29
Sulfate	**556**		**4.00**	**10.0**	**mg/L**	20	13-Apr-2023 15:35
CHEMICAL OXYGEN DEMAND BY E410.4, REV 2.0, 1993		**Method:E410.4**					Analyst: TH
Chemical Oxygen Demand	**5.00**	J	**5.00**	**15.0**	**mg/L**	1	26-Apr-2023 11:00
SPECIFIC CONDUCTANCE BY SM 2510B-2011		**Method:M2510 B**					Analyst: CD
Specific Conductivity	**1,880**		**5.00**	**5.00**	**umhos/cm @ 25.0 °C**	1	21-Apr-2023 16:54

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Altamira
Project: WFEC / CCR Landfill
Sample ID: MW-5S
Collection Date: 12-Apr-2023 12:32

ANALYTICAL REPORT
WorkOrder:HS23040697
Lab ID:HS23040697-02
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: DC
Total Dissolved Solids (Residue, Filterable)	**1,100**		**5.00**	**10.0**	**mg/L**	1	14-Apr-2023 13:07
ALKALINITY BY SM 2320B-2011		**Method:SM2320B**					Analyst: JAC
Alkalinity, Bicarbonate (As CaCO3)	**292**		**5.00**	**5.00**	**mg/L**	1	25-Apr-2023 19:17
Alkalinity, Carbonate (As CaCO3)	U		5.00	5.00	mg/L	1	25-Apr-2023 19:17
Alkalinity, Hydroxide (As CaCO3)	U		5.00	5.00	mg/L	1	25-Apr-2023 19:17
Alkalinity, Total (As CaCO3)	**292**		**5.00**	**5.00**	**mg/L**	1	25-Apr-2023 19:17
FERROUS IRON BY SM3500 FE B		**Method:SM3500FED**					Analyst: MZD
Ferrous Iron	U		0.0200	0.0500	mg/L	1	14-Apr-2023 09:22
FERROUS IRON BY SM3500 FE D		**Method:SM3500FED (dissolved)**					Analyst: MZD
Ferrous Iron, Dissolved	U		0.0200	0.0500	mg/L	1	14-Apr-2023 09:30
SULFIDE BY SM4500 S2-F-2011		**Method:SM4500 S2-F**					Analyst: CD
Sulfide	U		1.70	2.00	mg/L	1	18-Apr-2023 13:38
PH BY SM4500H+ B-2011		**Method:SM4500H+ B**					Analyst: MZD
pH	**7.73**	H	**0.100**	**0.100**	**pH Units**	1	22-Apr-2023 14:02
Temp Deg C @pH	**21.1**	H	**0**	**0**	**°C**	1	22-Apr-2023 14:02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Altamira
Project: WFEC / CCR Landfill
Sample ID: MW-13
Collection Date: 12-Apr-2023 11:57

ANALYTICAL REPORT
WorkOrder:HS23040697
Lab ID:HS23040697-03
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 25-Apr-2023		Analyst: JC
Antimony	U		0.000400	0.00200	mg/L	1	25-Apr-2023 20:09
Arsenic	U		0.000400	0.00200	mg/L	1	25-Apr-2023 20:09
Barium	**0.0102**		**0.00190**	**0.00400**	**mg/L**	1	25-Apr-2023 20:09
Beryllium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 20:09
Boron	**2.29**		**0.220**	**0.400**	**mg/L**	20	26-Apr-2023 11:23
Cadmium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 20:09
Calcium	**187**		**0.680**	**10.0**	**mg/L**	20	26-Apr-2023 11:23
Chromium	U		0.000400	0.00400	mg/L	1	25-Apr-2023 20:09
Cobalt	**0.000403**	J	**0.000200**	**0.00500**	**mg/L**	1	25-Apr-2023 20:09
Lead	U		0.000600	0.00200	mg/L	1	25-Apr-2023 20:09
Lithium	**0.129**		**0.00100**	**0.00500**	**mg/L**	1	25-Apr-2023 20:09
Molybdenum	**0.000970**	J	**0.000600**	**0.00500**	**mg/L**	1	25-Apr-2023 20:09
Selenium	U		0.00110	0.00200	mg/L	1	25-Apr-2023 20:09
Thallium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 20:09
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 26-Apr-2023		Analyst: JS
Mercury	U		0.0000300	0.000200	mg/L	1	26-Apr-2023 14:16
ANIONS BY E300.0, REV 2.1, 1993		**Method:E300**					Analyst: TH
Chloride	**17.9**		**0.200**	**0.500**	**mg/L**	1	13-Apr-2023 15:41
Fluoride	**0.446**		**0.0500**	**0.100**	**mg/L**	1	13-Apr-2023 15:41
Nitrogen, Nitrate (As N)	**0.0990**	J	**0.0300**	**0.100**	**mg/L**	1	13-Apr-2023 15:41
Sulfate	**1,610**		**4.00**	**10.0**	**mg/L**	20	13-Apr-2023 15:47
CHEMICAL OXYGEN DEMAND BY E410.4, REV 2.0, 1993		**Method:E410.4**					Analyst: TH
Chemical Oxygen Demand	U		5.00	15.0	mg/L	1	26-Apr-2023 11:00
SPECIFIC CONDUCTANCE BY SM 2510B-2011		**Method:M2510 B**					Analyst: CD
Specific Conductivity	**3,320**		**5.00**	**5.00**	**umhos/cm @ 25.0 °C**	1	21-Apr-2023 16:54
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: DC
Total Dissolved Solids (Residue, Filterable)	**2,750**		**5.00**	**10.0**	**mg/L**	1	14-Apr-2023 13:07
PH BY SM4500H+ B-2011		**Method:SM4500H+ B**					Analyst: MZD
pH	**7.45**	H	**0.100**	**0.100**	**pH Units**	1	22-Apr-2023 14:02
Temp Deg C @pH	**20.8**	H	**0**	**0**	**°C**	1	22-Apr-2023 14:02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Altamira
Project: WFEC / CCR Landfill
Sample ID: MW-14A
Collection Date: 12-Apr-2023 11:06

ANALYTICAL REPORT
WorkOrder:HS23040697
Lab ID:HS23040697-04
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
FERRIC IRON - BY CALCULATION BY SM3500FED		**Method:SM3500FED**					Analyst: JHD
Ferric Iron	**0.126**		**0.0200**	**0.0500**	**mg/L**	1	27-Apr-2023 15:25
FERRIC IRON (DISS)- BY CALCULATION BY SM3500FED		**Method:SM3500FED (dissolved)**					Analyst: JHD
Ferric Iron, Dissolved	**0.0800**		**0.0200**	**0.0500**	**mg/L**	1	27-Apr-2023 15:26
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 25-Apr-2023		Analyst: JC
Antimony	U		0.000400	0.00200	mg/L	1	25-Apr-2023 20:11
Arsenic	U		0.000400	0.00200	mg/L	1	25-Apr-2023 20:11
Barium	**0.0114**		**0.00190**	**0.00400**	**mg/L**	1	25-Apr-2023 20:11
Beryllium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 20:11
Boron	**1.01**		**0.110**	**0.200**	**mg/L**	10	26-Apr-2023 11:40
Cadmium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 20:11
Calcium	**319**		**0.340**	**5.00**	**mg/L**	10	26-Apr-2023 11:40
Chromium	U		0.000400	0.00400	mg/L	1	25-Apr-2023 20:11
Cobalt	**0.000745**	J	**0.000200**	**0.00500**	**mg/L**	1	25-Apr-2023 20:11
Iron	**0.126**	J	**0.0120**	**0.200**	**mg/L**	1	25-Apr-2023 20:11
Lead	U		0.000600	0.00200	mg/L	1	25-Apr-2023 20:11
Lithium	**0.155**		**0.00100**	**0.00500**	**mg/L**	1	25-Apr-2023 20:11
Magnesium	**29.7**		**0.0100**	**0.200**	**mg/L**	1	25-Apr-2023 20:11
Molybdenum	U		0.000600	0.00500	mg/L	1	25-Apr-2023 20:11
Potassium	**8.81**		**0.0180**	**0.200**	**mg/L**	1	25-Apr-2023 20:11
Selenium	U		0.00110	0.00200	mg/L	1	25-Apr-2023 20:11
Sodium	**469**		**0.140**	**2.00**	**mg/L**	10	26-Apr-2023 11:40
Thallium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 20:11
DISSOLVED METALS BY SW6020A		**Method:SW6020A (dissolved)**			Prep:SW3010A / 25-Apr-2023		Analyst: JC
Iron	**0.0795**	J	**0.0120**	**0.200**	**mg/L**	1	25-Apr-2023 15:47
Molybdenum	U		0.000600	0.00500	mg/L	1	25-Apr-2023 15:47
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 26-Apr-2023		Analyst: JS
Mercury	U		0.0000300	0.000200	mg/L	1	26-Apr-2023 14:18
ANIONS BY E300.0, REV 2.1, 1993		**Method:E300**					Analyst: TH
Chloride	**12.0**		**0.200**	**0.500**	**mg/L**	1	13-Apr-2023 16:22
Fluoride	**0.307**		**0.0500**	**0.100**	**mg/L**	1	13-Apr-2023 16:22
Nitrogen, Nitrate (As N)	**0.220**		**0.0300**	**0.100**	**mg/L**	1	13-Apr-2023 16:22
Sulfate	**1,760**		**4.00**	**10.0**	**mg/L**	20	13-Apr-2023 16:27
CHEMICAL OXYGEN DEMAND BY E410.4, REV 2.0, 1993		**Method:E410.4**					Analyst: TH
Chemical Oxygen Demand	U		5.00	15.0	mg/L	1	26-Apr-2023 11:00
SPECIFIC CONDUCTANCE BY SM 2510B-2011		**Method:M2510 B**					Analyst: CD
Specific Conductivity	**3,370**		**5.00**	**5.00**	**umhos/cm @ 25.0 °C**	1	21-Apr-2023 16:54

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Altamira
Project: WFEC / CCR Landfill
Sample ID: MW-14A
Collection Date: 12-Apr-2023 11:06

ANALYTICAL REPORT
WorkOrder:HS23040697
Lab ID:HS23040697-04
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: DC
Total Dissolved Solids (Residue, Filterable)	**2,320**		**5.00**	**10.0**	**mg/L**	1	14-Apr-2023 13:07
ALKALINITY BY SM 2320B-2011		**Method:SM2320B**					Analyst: JAC
Alkalinity, Bicarbonate (As CaCO3)	**294**		**5.00**	**5.00**	**mg/L**	1	25-Apr-2023 19:22
Alkalinity, Carbonate (As CaCO3)	U		5.00	5.00	mg/L	1	25-Apr-2023 19:22
Alkalinity, Hydroxide (As CaCO3)	U		5.00	5.00	mg/L	1	25-Apr-2023 19:22
Alkalinity, Total (As CaCO3)	**294**		**5.00**	**5.00**	**mg/L**	1	25-Apr-2023 19:22
FERROUS IRON BY SM3500 FE B		**Method:SM3500FED**					Analyst: MZD
Ferrous Iron	U		0.0200	0.0500	mg/L	1	14-Apr-2023 09:22
FERROUS IRON BY SM3500 FE D		**Method:SM3500FED (dissolved)**					Analyst: MZD
Ferrous Iron, Dissolved	U		0.0200	0.0500	mg/L	1	14-Apr-2023 09:30
SULFIDE BY SM4500 S2-F-2011		**Method:SM4500 S2-F**					Analyst: CD
Sulfide	U		1.70	2.00	mg/L	1	18-Apr-2023 13:38
PH BY SM4500H+ B-2011		**Method:SM4500H+ B**					Analyst: MZD
pH	**7.58**	H	**0.100**	**0.100**	**pH Units**	1	22-Apr-2023 14:02
Temp Deg C @pH	**20.7**	H	**0**	**0**	**°C**	1	22-Apr-2023 14:02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Altamira
Project: WFEC / CCR Landfill
Sample ID: MW-15A
Collection Date: 12-Apr-2023 09:45

ANALYTICAL REPORT
WorkOrder:HS23040697
Lab ID:HS23040697-05
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
FERRIC IRON - BY CALCULATION BY SM3500FED		**Method:SM3500FED**					Analyst: JHD
Ferric Iron	U		0.0200	0.0500	mg/L	1	27-Apr-2023 15:25
FERRIC IRON (DISS)- BY CALCULATION BY SM3500FED		**Method:SM3500FED (dissolved)**					Analyst: JHD
Ferric Iron, Dissolved	**0.133**		**0.0200**	**0.0500**	**mg/L**	1	27-Apr-2023 15:26
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 25-Apr-2023		Analyst: JC
Antimony	U		0.000400	0.00200	mg/L	1	25-Apr-2023 20:13
Arsenic	**0.000525**	J	**0.000400**	**0.00200**	**mg/L**	1	25-Apr-2023 20:13
Barium	**0.0180**		**0.00190**	**0.00400**	**mg/L**	1	25-Apr-2023 20:13
Beryllium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 20:13
Boron	**3.44**		**0.220**	**0.400**	**mg/L**	20	26-Apr-2023 11:42
Cadmium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 20:13
Calcium	**107**		**0.0340**	**0.500**	**mg/L**	1	25-Apr-2023 20:13
Chromium	U		0.000400	0.00400	mg/L	1	25-Apr-2023 20:13
Cobalt	**0.000357**	J	**0.000200**	**0.00500**	**mg/L**	1	25-Apr-2023 20:13
Iron	**0.138**	J	**0.0120**	**0.200**	**mg/L**	1	25-Apr-2023 20:13
Lead	U		0.000600	0.00200	mg/L	1	25-Apr-2023 20:13
Lithium	**0.0669**		**0.00100**	**0.00500**	**mg/L**	1	25-Apr-2023 20:13
Magnesium	**12.5**		**0.0100**	**0.200**	**mg/L**	1	25-Apr-2023 20:13
Molybdenum	**0.173**		**0.000600**	**0.00500**	**mg/L**	1	25-Apr-2023 20:13
Potassium	**5.82**		**0.0180**	**0.200**	**mg/L**	1	25-Apr-2023 20:13
Selenium	U		0.00110	0.00200	mg/L	1	25-Apr-2023 20:13
Sodium	**702**		**0.280**	**4.00**	**mg/L**	20	26-Apr-2023 11:42
Thallium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 20:13
DISSOLVED METALS BY SW6020A		**Method:SW6020A (dissolved)**			Prep:SW3010A / 25-Apr-2023		Analyst: JC
Iron	**0.371**		**0.0120**	**0.200**	**mg/L**	1	25-Apr-2023 15:49
Molybdenum	**0.175**		**0.000600**	**0.00500**	**mg/L**	1	25-Apr-2023 15:49
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 26-Apr-2023		Analyst: JS
Mercury	U		0.0000300	0.000200	mg/L	1	26-Apr-2023 14:19
ANIONS BY E300.0, REV 2.1, 1993		**Method:E300**					Analyst: TH
Chloride	**25.3**		**0.200**	**0.500**	**mg/L**	1	13-Apr-2023 16:33
Fluoride	**1.24**		**0.0500**	**0.100**	**mg/L**	1	13-Apr-2023 16:33
Nitrogen, Nitrate (As N)	**0.544**		**0.0300**	**0.100**	**mg/L**	1	13-Apr-2023 16:33
Sulfate	**1,690**		**4.00**	**10.0**	**mg/L**	20	13-Apr-2023 16:39
CHEMICAL OXYGEN DEMAND BY E410.4, REV 2.0, 1993		**Method:E410.4**					Analyst: TH
Chemical Oxygen Demand	**10.0**	J	**5.00**	**15.0**	**mg/L**	1	26-Apr-2023 11:00
SPECIFIC CONDUCTANCE BY SM 2510B-2011		**Method:M2510 B**					Analyst: CD
Specific Conductivity	**3,470**		**5.00**	**5.00**	**umhos/cm @ 25.0 °C**	1	21-Apr-2023 16:54

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Altamira
Project: WFEC / CCR Landfill
Sample ID: MW-15A
Collection Date: 12-Apr-2023 09:45

ANALYTICAL REPORT
WorkOrder:HS23040697
Lab ID:HS23040697-05
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: DC
Total Dissolved Solids (Residue, Filterable)	**2,240**		**5.00**	**10.0**	**mg/L**	1	14-Apr-2023 13:07
ALKALINITY BY SM 2320B-2011		**Method:SM2320B**					Analyst: JAC
Alkalinity, Bicarbonate (As CaCO3)	**180**		**5.00**	**5.00**	**mg/L**	1	25-Apr-2023 19:27
Alkalinity, Carbonate (As CaCO3)	U		5.00	5.00	mg/L	1	25-Apr-2023 19:27
Alkalinity, Hydroxide (As CaCO3)	U		5.00	5.00	mg/L	1	25-Apr-2023 19:27
Alkalinity, Total (As CaCO3)	**180**		**5.00**	**5.00**	**mg/L**	1	25-Apr-2023 19:27
FERROUS IRON BY SM3500 FE B		**Method:SM3500FED**					Analyst: MZD
Ferrous Iron	**0.238**		**0.0200**	**0.0500**	**mg/L**	1	14-Apr-2023 09:22
FERROUS IRON BY SM3500 FE D		**Method:SM3500FED (dissolved)**					Analyst: MZD
Ferrous Iron, Dissolved	**0.238**		**0.0200**	**0.0500**	**mg/L**	1	14-Apr-2023 09:30
SULFIDE BY SM4500 S2-F-2011		**Method:SM4500 S2-F**					Analyst: CD
Sulfide	U		1.70	2.00	mg/L	1	18-Apr-2023 13:38
PH BY SM4500H+ B-2011		**Method:SM4500H+ B**					Analyst: MZD
pH	**7.77**	H	**0.100**	**0.100**	**pH Units**	1	22-Apr-2023 14:02
Temp Deg C @pH	**20.8**	H	**0**	**0**	**°C**	1	22-Apr-2023 14:02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Altamira
Project: WFEC / CCR Landfill
Sample ID: MW-20
Collection Date: 12-Apr-2023 12:58

ANALYTICAL REPORT
WorkOrder:HS23040697
Lab ID:HS23040697-06
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 25-Apr-2023		Analyst: JC
Antimony	U		0.000400	0.00200	mg/L	1	25-Apr-2023 20:15
Arsenic	U		0.000400	0.00200	mg/L	1	25-Apr-2023 20:15
Barium	**0.00924**		**0.00190**	**0.00400**	**mg/L**	1	25-Apr-2023 20:15
Beryllium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 20:15
Boron	**0.559**		**0.0110**	**0.0200**	**mg/L**	1	25-Apr-2023 20:15
Cadmium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 20:15
Calcium	**351**		**0.680**	**10.0**	**mg/L**	20	26-Apr-2023 11:44
Chromium	U		0.000400	0.00400	mg/L	1	25-Apr-2023 20:15
Cobalt	**0.000689**	J	**0.000200**	**0.00500**	**mg/L**	1	25-Apr-2023 20:15
Lead	U		0.000600	0.00200	mg/L	1	25-Apr-2023 20:15
Lithium	**0.0905**		**0.00100**	**0.00500**	**mg/L**	1	25-Apr-2023 20:15
Molybdenum	**0.000629**	J	**0.000600**	**0.00500**	**mg/L**	1	25-Apr-2023 20:15
Selenium	U		0.00110	0.00200	mg/L	1	25-Apr-2023 20:15
Thallium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 20:15
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 26-Apr-2023		Analyst: JS
Mercury	U		0.0000300	0.000200	mg/L	1	26-Apr-2023 14:21
ANIONS BY E300.0, REV 2.1, 1993		**Method:E300**					Analyst: TH
Chloride	**5.27**		**0.200**	**0.500**	**mg/L**	1	13-Apr-2023 16:45
Fluoride	**0.367**		**0.0500**	**0.100**	**mg/L**	1	13-Apr-2023 16:45
Nitrogen, Nitrate (As N)	U		0.0300	0.100	mg/L	1	13-Apr-2023 16:45
Sulfate	**962**		**4.00**	**10.0**	**mg/L**	20	13-Apr-2023 16:51
CHEMICAL OXYGEN DEMAND BY E410.4, REV 2.0, 1993		**Method:E410.4**					Analyst: TH
Chemical Oxygen Demand	**6.00**	J	**5.00**	**15.0**	**mg/L**	1	26-Apr-2023 11:00
SPECIFIC CONDUCTANCE BY SM 2510B-2011		**Method:M2510 B**					Analyst: CD
Specific Conductivity	**1,860**		**5.00**	**5.00**	**umhos/cm @ 25.0 °C**	1	21-Apr-2023 16:54
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: DC
Total Dissolved Solids (Residue, Filterable)	**1,470**		**5.00**	**10.0**	**mg/L**	1	14-Apr-2023 13:07
PH BY SM4500H+ B-2011		**Method:SM4500H+ B**					Analyst: MZD
pH	**7.15**	H	**0.100**	**0.100**	**pH Units**	1	22-Apr-2023 14:02
Temp Deg C @pH	**20.6**	H	**0**	**0**	**°C**	1	22-Apr-2023 14:02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Altamira
Project: WFEC / CCR Landfill
Sample ID: MW-21
Collection Date: 12-Apr-2023 09:47

ANALYTICAL REPORT
WorkOrder:HS23040697
Lab ID:HS23040697-07
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 25-Apr-2023		Analyst: JC
Antimony	U		0.000400	0.00200	mg/L	1	25-Apr-2023 21:12
Arsenic	**0.000517**	J	**0.000400**	**0.00200**	**mg/L**	1	25-Apr-2023 21:12
Barium	**0.0115**		**0.00190**	**0.00400**	**mg/L**	1	25-Apr-2023 21:12
Beryllium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 21:12
Boron	**3.28**		**0.220**	**0.400**	**mg/L**	20	26-Apr-2023 11:46
Cadmium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 21:12
Calcium	**168**		**0.680**	**10.0**	**mg/L**	20	26-Apr-2023 11:46
Chromium	U		0.000400	0.00400	mg/L	1	25-Apr-2023 21:12
Cobalt	**0.000351**	J	**0.000200**	**0.00500**	**mg/L**	1	25-Apr-2023 21:12
Lead	U		0.000600	0.00200	mg/L	1	25-Apr-2023 21:12
Lithium	**0.137**		**0.00100**	**0.00500**	**mg/L**	1	25-Apr-2023 21:12
Molybdenum	**0.000933**	J	**0.000600**	**0.00500**	**mg/L**	1	25-Apr-2023 21:12
Selenium	U		0.00110	0.00200	mg/L	1	25-Apr-2023 21:12
Thallium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 21:12
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 26-Apr-2023		Analyst: JS
Mercury	U		0.0000300	0.000200	mg/L	1	26-Apr-2023 14:29
ANIONS BY E300.0, REV 2.1, 1993		**Method:E300**					Analyst: TH
Chloride	**22.0**		**0.200**	**0.500**	**mg/L**	1	13-Apr-2023 16:56
Fluoride	**0.545**		**0.0500**	**0.100**	**mg/L**	1	13-Apr-2023 16:56
Nitrogen, Nitrate (As N)	**0.153**		**0.0300**	**0.100**	**mg/L**	1	13-Apr-2023 16:56
Sulfate	**1,750**		**4.00**	**10.0**	**mg/L**	20	13-Apr-2023 17:02
CHEMICAL OXYGEN DEMAND BY E410.4, REV 2.0, 1993		**Method:E410.4**					Analyst: TH
Chemical Oxygen Demand	**25.0**		**5.00**	**15.0**	**mg/L**	1	26-Apr-2023 11:00
SPECIFIC CONDUCTANCE BY SM 2510B-2011		**Method:M2510 B**					Analyst: CD
Specific Conductivity	**3,600**		**5.00**	**5.00**	**umhos/cm @ 25.0 °C**	1	21-Apr-2023 16:54
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: DC
Total Dissolved Solids (Residue, Filterable)	**2,250**		**5.00**	**10.0**	**mg/L**	1	17-Apr-2023 12:00
PH BY SM4500H+ B-2011		**Method:SM4500H+ B**					Analyst: MZD
pH	**7.57**	H	**0.100**	**0.100**	**pH Units**	1	22-Apr-2023 14:02
Temp Deg C @pH	**20.7**	H	**0**	**0**	**°C**	1	22-Apr-2023 14:02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Altamira
Project: WFEC / CCR Landfill
Sample ID: MW-16
Collection Date: 12-Apr-2023 15:23

ANALYTICAL REPORT
WorkOrder:HS23040697
Lab ID:HS23040697-08
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
FERRIC IRON - BY CALCULATION BY SM3500FED		**Method:SM3500FED**					Analyst: JHD
Ferric Iron	**0.0980**		**0.0200**	**0.0500**	**mg/L**	1	27-Apr-2023 15:25
FERRIC IRON (DISS)- BY CALCULATION BY SM3500FED		**Method:SM3500FED (dissolved)**					Analyst: JHD
Ferric Iron, Dissolved	U		0.0200	0.0500	mg/L	1	27-Apr-2023 15:26
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 25-Apr-2023		Analyst: JC
Antimony	U		0.000400	0.00200	mg/L	1	25-Apr-2023 21:14
Arsenic	U		0.000400	0.00200	mg/L	1	25-Apr-2023 21:14
Barium	**0.0123**		**0.00190**	**0.00400**	**mg/L**	1	25-Apr-2023 21:14
Beryllium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 21:14
Boron	**1.80**		**0.110**	**0.200**	**mg/L**	10	26-Apr-2023 11:48
Cadmium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 21:14
Calcium	**118**		**0.0340**	**0.500**	**mg/L**	1	25-Apr-2023 21:14
Chromium	U		0.000400	0.00400	mg/L	1	25-Apr-2023 21:14
Cobalt	**0.000263**	J	**0.000200**	**0.00500**	**mg/L**	1	25-Apr-2023 21:14
Iron	**0.0982**	J	**0.0120**	**0.200**	**mg/L**	1	25-Apr-2023 21:14
Lead	U		0.000600	0.00200	mg/L	1	25-Apr-2023 21:14
Lithium	**0.0545**		**0.00100**	**0.00500**	**mg/L**	1	25-Apr-2023 21:14
Magnesium	**8.22**		**0.0100**	**0.200**	**mg/L**	1	25-Apr-2023 21:14
Molybdenum	**0.127**		**0.000600**	**0.00500**	**mg/L**	1	25-Apr-2023 21:14
Potassium	**4.12**		**0.0180**	**0.200**	**mg/L**	1	25-Apr-2023 21:14
Selenium	U		0.00110	0.00200	mg/L	1	25-Apr-2023 21:14
Sodium	**419**		**0.140**	**2.00**	**mg/L**	10	26-Apr-2023 11:48
Thallium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 21:14
DISSOLVED METALS BY SW6020A		**Method:SW6020A (dissolved)**			Prep:SW3010A / 25-Apr-2023		Analyst: JC
Iron	U		0.0120	0.200	mg/L	1	25-Apr-2023 15:51
Molybdenum	**0.127**		**0.000600**	**0.00500**	**mg/L**	1	25-Apr-2023 15:51
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 26-Apr-2023		Analyst: JS
Mercury	U		0.0000300	0.000200	mg/L	1	26-Apr-2023 14:31
ANIONS BY E300.0, REV 2.1, 1993		**Method:E300**					Analyst: TH
Chloride	**16.5**		**0.200**	**0.500**	**mg/L**	1	14-Apr-2023 11:48
Fluoride	**0.908**		**0.0500**	**0.100**	**mg/L**	1	14-Apr-2023 11:48
Nitrogen, Nitrate (As N)	**0.194**		**0.0300**	**0.100**	**mg/L**	1	14-Apr-2023 11:48
Sulfate	**986**		**4.00**	**10.0**	**mg/L**	20	14-Apr-2023 13:09
CHEMICAL OXYGEN DEMAND BY E410.4, REV 2.0, 1993		**Method:E410.4**					Analyst: TH
Chemical Oxygen Demand	**8.00**	J	**5.00**	**15.0**	**mg/L**	1	26-Apr-2023 11:00
SPECIFIC CONDUCTANCE BY SM 2510B-2011		**Method:M2510 B**					Analyst: CD
Specific Conductivity	**2,340**		**5.00**	**5.00**	**umhos/cm @ 25.0 °C**	1	21-Apr-2023 16:54

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Altamira
Project: WFEC / CCR Landfill
Sample ID: MW-16
Collection Date: 12-Apr-2023 15:23

ANALYTICAL REPORT
WorkOrder:HS23040697
Lab ID:HS23040697-08
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: DC
Total Dissolved Solids (Residue, Filterable)	**1,570**		**5.00**	**10.0**	**mg/L**	1	17-Apr-2023 12:00
ALKALINITY BY SM 2320B-2011		**Method:SM2320B**					Analyst: JAC
Alkalinity, Bicarbonate (As CaCO3)	**259**		**5.00**	**5.00**	**mg/L**	1	25-Apr-2023 19:32
Alkalinity, Carbonate (As CaCO3)	U		5.00	5.00	mg/L	1	25-Apr-2023 19:32
Alkalinity, Hydroxide (As CaCO3)	U		5.00	5.00	mg/L	1	25-Apr-2023 19:32
Alkalinity, Total (As CaCO3)	**259**		**5.00**	**5.00**	**mg/L**	1	25-Apr-2023 19:32
FERROUS IRON BY SM3500 FE B		**Method:SM3500FED**					Analyst: MZD
Ferrous Iron	U		0.0200	0.0500	mg/L	1	14-Apr-2023 09:22
FERROUS IRON BY SM3500 FE D		**Method:SM3500FED (dissolved)**					Analyst: MZD
Ferrous Iron, Dissolved	U		0.0200	0.0500	mg/L	1	14-Apr-2023 09:30
SULFIDE BY SM4500 S2-F-2011		**Method:SM4500 S2-F**					Analyst: CD
Sulfide	U		1.70	2.00	mg/L	1	18-Apr-2023 13:38
PH BY SM4500H+ B-2011		**Method:SM4500H+ B**					Analyst: MZD
pH	**7.78**	H	**0.100**	**0.100**	**pH Units**	1	22-Apr-2023 14:02
Temp Deg C @pH	**20.9**	H	**0**	**0**	**°C**	1	22-Apr-2023 14:02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Altamira
Project: WFEC / CCR Landfill
Sample ID: MW-17
Collection Date: 12-Apr-2023 16:37

ANALYTICAL REPORT
WorkOrder:HS23040697
Lab ID:HS23040697-09
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
FERRIC IRON - BY CALCULATION BY SM3500FED		**Method:SM3500FED**					Analyst: JHD
Ferric Iron	U		0.0200	0.0500	mg/L	1	27-Apr-2023 15:25
FERRIC IRON (DISS)- BY CALCULATION BY SM3500FED		**Method:SM3500FED (dissolved)**					Analyst: JHD
Ferric Iron, Dissolved	U		0.0200	0.0500	mg/L	1	27-Apr-2023 15:26
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 25-Apr-2023		Analyst: JC
Antimony	U		0.000400	0.00200	mg/L	1	25-Apr-2023 21:16
Arsenic	**0.000406**	J	**0.000400**	**0.00200**	**mg/L**	1	25-Apr-2023 21:16
Barium	U		0.00190	0.00400	mg/L	1	25-Apr-2023 21:16
Beryllium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 21:16
Boron	**0.739**		**0.0110**	**0.0200**	**mg/L**	1	25-Apr-2023 21:16
Cadmium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 21:16
Calcium	**599**		**0.680**	**10.0**	**mg/L**	20	26-Apr-2023 11:50
Chromium	U		0.000400	0.00400	mg/L	1	25-Apr-2023 21:16
Cobalt	**0.00135**	J	**0.000200**	**0.00500**	**mg/L**	1	25-Apr-2023 21:16
Iron	U		0.0120	0.200	mg/L	1	25-Apr-2023 21:16
Lead	U		0.000600	0.00200	mg/L	1	25-Apr-2023 21:16
Lithium	**0.152**		**0.00100**	**0.00500**	**mg/L**	1	25-Apr-2023 21:16
Magnesium	**43.3**		**0.0100**	**0.200**	**mg/L**	1	25-Apr-2023 21:16
Molybdenum	U		0.000600	0.00500	mg/L	1	25-Apr-2023 21:16
Potassium	**5.92**		**0.0180**	**0.200**	**mg/L**	1	25-Apr-2023 21:16
Selenium	U		0.00110	0.00200	mg/L	1	25-Apr-2023 21:16
Sodium	**40.8**		**0.0140**	**0.200**	**mg/L**	1	25-Apr-2023 21:16
Thallium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 21:16
DISSOLVED METALS BY SW6020A		**Method:SW6020A (dissolved)**			Prep:SW3010A / 25-Apr-2023		Analyst: JC
Iron	U		0.0120	0.200	mg/L	1	25-Apr-2023 15:53
Molybdenum	U		0.000600	0.00500	mg/L	1	25-Apr-2023 15:53
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 26-Apr-2023		Analyst: JS
Mercury	U		0.0000300	0.000200	mg/L	1	26-Apr-2023 14:32
ANIONS BY E300.0, REV 2.1, 1993		**Method:E300**					Analyst: TH
Chloride	**4.11**		**0.200**	**0.500**	**mg/L**	1	14-Apr-2023 11:54
Fluoride	**0.349**		**0.0500**	**0.100**	**mg/L**	1	14-Apr-2023 11:54
Nitrogen, Nitrate (As N)	U		0.0300	0.100	mg/L	1	14-Apr-2023 11:54
Sulfate	**1,510**		**4.00**	**10.0**	**mg/L**	20	14-Apr-2023 13:15
CHEMICAL OXYGEN DEMAND BY E410.4, REV 2.0, 1993		**Method:E410.4**					Analyst: TH
Chemical Oxygen Demand	**9.00**	J	**5.00**	**15.0**	**mg/L**	1	26-Apr-2023 11:00
SPECIFIC CONDUCTANCE BY SM 2510B-2011		**Method:M2510 B**					Analyst: CD
Specific Conductivity	**2,500**		**5.00**	**5.00**	**umhos/cm @ 25.0 °C**	1	21-Apr-2023 16:54

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Altamira
Project: WFEC / CCR Landfill
Sample ID: MW-17
Collection Date: 12-Apr-2023 16:37

ANALYTICAL REPORT
WorkOrder:HS23040697
Lab ID:HS23040697-09
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: DC
Total Dissolved Solids (Residue, Filterable)	**2,050**		**5.00**	**10.0**	**mg/L**	1	17-Apr-2023 12:00
ALKALINITY BY SM 2320B-2011		**Method:SM2320B**					Analyst: JAC
Alkalinity, Bicarbonate (As CaCO3)	**230**		**5.00**	**5.00**	**mg/L**	1	25-Apr-2023 19:38
Alkalinity, Carbonate (As CaCO3)	U		5.00	5.00	mg/L	1	25-Apr-2023 19:38
Alkalinity, Hydroxide (As CaCO3)	U		5.00	5.00	mg/L	1	25-Apr-2023 19:38
Alkalinity, Total (As CaCO3)	**230**		**5.00**	**5.00**	**mg/L**	1	25-Apr-2023 19:38
FERROUS IRON BY SM3500 FE B		**Method:SM3500FED**					Analyst: MZD
Ferrous Iron	U		0.0200	0.0500	mg/L	1	14-Apr-2023 09:22
FERROUS IRON BY SM3500 FE D		**Method:SM3500FED (dissolved)**					Analyst: MZD
Ferrous Iron, Dissolved	U		0.0200	0.0500	mg/L	1	14-Apr-2023 09:30
SULFIDE BY SM4500 S2-F-2011		**Method:SM4500 S2-F**					Analyst: CD
Sulfide	U		1.70	2.00	mg/L	1	18-Apr-2023 13:38
PH BY SM4500H+ B-2011		**Method:SM4500H+ B**					Analyst: MZD
pH	**7.12**	H	**0.100**	**0.100**	**pH Units**	1	22-Apr-2023 14:02
Temp Deg C @pH	**20.9**	H	**0**	**0**	**°C**	1	22-Apr-2023 14:02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Altamira
Project: WFEC / CCR Landfill
Sample ID: MW-18
Collection Date: 12-Apr-2023 18:10

ANALYTICAL REPORT
WorkOrder:HS23040697
Lab ID:HS23040697-10
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
FERRIC IRON - BY CALCULATION BY SM3500FED		**Method:SM3500FED**					Analyst: JHD
Ferric Iron	U		0.0200	0.0500	mg/L	1	27-Apr-2023 15:25
FERRIC IRON (DISS)- BY CALCULATION BY SM3500FED		**Method:SM3500FED (dissolved)**					Analyst: JHD
Ferric Iron, Dissolved	**0.0350**	J	**0.0200**	**0.0500**	**mg/L**	1	27-Apr-2023 15:26
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 25-Apr-2023		Analyst: JC
Antimony	U		0.000400	0.00200	mg/L	1	25-Apr-2023 21:18
Arsenic	**0.00340**		**0.000400**	**0.00200**	**mg/L**	1	25-Apr-2023 21:18
Barium	**0.00256**	J	**0.00190**	**0.00400**	**mg/L**	1	25-Apr-2023 21:18
Beryllium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 21:18
Boron	**4.75**		**0.220**	**0.400**	**mg/L**	20	26-Apr-2023 11:52
Cadmium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 21:18
Calcium	**21.9**		**0.0340**	**0.500**	**mg/L**	1	25-Apr-2023 21:18
Chromium	U		0.000400	0.00400	mg/L	1	25-Apr-2023 21:18
Cobalt	U		0.000200	0.00500	mg/L	1	25-Apr-2023 21:18
Iron	U		0.0120	0.200	mg/L	1	25-Apr-2023 21:18
Lead	U		0.000600	0.00200	mg/L	1	25-Apr-2023 21:18
Lithium	**0.00273**	J	**0.00100**	**0.00500**	**mg/L**	1	25-Apr-2023 21:18
Magnesium	**0.241**		**0.0100**	**0.200**	**mg/L**	1	25-Apr-2023 21:18
Molybdenum	**0.232**		**0.000600**	**0.00500**	**mg/L**	1	25-Apr-2023 21:18
Potassium	**16.1**		**0.0180**	**0.200**	**mg/L**	1	25-Apr-2023 21:18
Selenium	**0.0197**		**0.00110**	**0.00200**	**mg/L**	1	25-Apr-2023 21:18
Sodium	**407**		**0.280**	**4.00**	**mg/L**	20	26-Apr-2023 11:52
Thallium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 21:18
DISSOLVED METALS BY SW6020A		**Method:SW6020A (dissolved)**			Prep:SW3010A / 25-Apr-2023		Analyst: JC
Iron	**0.0352**	J	**0.0120**	**0.200**	**mg/L**	1	25-Apr-2023 15:55
Molybdenum	**0.243**		**0.000600**	**0.00500**	**mg/L**	1	25-Apr-2023 15:55
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 26-Apr-2023		Analyst: JS
Mercury	U		0.0000300	0.000200	mg/L	1	26-Apr-2023 14:34
ANIONS BY E300.0, REV 2.1, 1993		**Method:E300**					Analyst: TH
Chloride	**5.70**		**0.200**	**0.500**	**mg/L**	1	14-Apr-2023 11:59
Fluoride	**1.70**		**0.0500**	**0.100**	**mg/L**	1	14-Apr-2023 11:59
Nitrogen, Nitrate (As N)	**0.0517**	J	**0.0300**	**0.100**	**mg/L**	1	14-Apr-2023 11:59
Sulfate	**971**		**4.00**	**10.0**	**mg/L**	20	14-Apr-2023 13:20
CHEMICAL OXYGEN DEMAND BY E410.4, REV 2.0, 1993		**Method:E410.4**					Analyst: TH
Chemical Oxygen Demand	**9.00**	J	**5.00**	**15.0**	**mg/L**	1	27-Apr-2023 13:00
SPECIFIC CONDUCTANCE BY SM 2510B-2011		**Method:M2510 B**					Analyst: CD
Specific Conductivity	**2,030**		**5.00**	**5.00**	**umhos/cm @ 25.0 °C**	1	21-Apr-2023 16:54

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Altamira
Project: WFEC / CCR Landfill
Sample ID: MW-18
Collection Date: 12-Apr-2023 18:10

ANALYTICAL REPORT
WorkOrder:HS23040697
Lab ID:HS23040697-10
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: DC
Total Dissolved Solids (Residue, Filterable)	**1,280**		**5.00**	**10.0**	**mg/L**	1	17-Apr-2023 12:00
ALKALINITY BY SM 2320B-2011		**Method:SM2320B**					Analyst: JAC
Alkalinity, Bicarbonate (As CaCO3)	U		5.00	5.00	mg/L	1	25-Apr-2023 19:43
Alkalinity, Carbonate (As CaCO3)	**51.6**		**5.00**	**5.00**	**mg/L**	1	25-Apr-2023 19:43
Alkalinity, Hydroxide (As CaCO3)	**12.2**		**5.00**	**5.00**	**mg/L**	1	25-Apr-2023 19:43
Alkalinity, Total (As CaCO3)	**63.8**		**5.00**	**5.00**	**mg/L**	1	25-Apr-2023 19:43
FERROUS IRON BY SM3500 FE B		**Method:SM3500FED**					Analyst: MZD
Ferrous Iron	U		0.0200	0.0500	mg/L	1	14-Apr-2023 09:22
FERROUS IRON BY SM3500 FE D		**Method:SM3500FED (dissolved)**					Analyst: MZD
Ferrous Iron, Dissolved	U		0.0200	0.0500	mg/L	1	14-Apr-2023 09:30
SULFIDE BY SM4500 S2-F-2011		**Method:SM4500 S2-F**					Analyst: CD
Sulfide	U		1.70	2.00	mg/L	1	18-Apr-2023 13:38
PH BY SM4500H+ B-2011		**Method:SM4500H+ B**					Analyst: MZD
pH	**9.96**	H	**0.100**	**0.100**	**pH Units**	1	22-Apr-2023 14:02
Temp Deg C @pH	**20.9**	H	**0**	**0**	**°C**	1	22-Apr-2023 14:02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Altamira
Project: WFEC / CCR Landfill
Sample ID: DUP-4
Collection Date: 12-Apr-2023 16:37

ANALYTICAL REPORT
WorkOrder:HS23040697
Lab ID:HS23040697-11
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
FERRIC IRON - BY CALCULATION BY SM3500FED		**Method:SM3500FED**					Analyst: JHD
Ferric Iron	U		0.0200	0.0500	mg/L	1	27-Apr-2023 15:25
FERRIC IRON (DISS)- BY CALCULATION BY SM3500FED		**Method:SM3500FED (dissolved)**					Analyst: JHD
Ferric Iron, Dissolved	U		0.0200	0.0500	mg/L	1	27-Apr-2023 15:26
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 25-Apr-2023		Analyst: JC
Antimony	U		0.000400	0.00200	mg/L	1	25-Apr-2023 21:20
Arsenic	U		0.000400	0.00200	mg/L	1	25-Apr-2023 21:20
Barium	U		0.00190	0.00400	mg/L	1	25-Apr-2023 21:20
Beryllium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 21:20
Boron	**0.713**		**0.0110**	**0.0200**	**mg/L**	1	25-Apr-2023 21:20
Cadmium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 21:20
Calcium	**537**		**0.680**	**10.0**	**mg/L**	20	26-Apr-2023 11:54
Chromium	U		0.000400	0.00400	mg/L	1	25-Apr-2023 21:20
Cobalt	**0.00123**	J	**0.000200**	**0.00500**	**mg/L**	1	25-Apr-2023 21:20
Iron	U		0.0120	0.200	mg/L	1	25-Apr-2023 21:20
Lead	U		0.000600	0.00200	mg/L	1	25-Apr-2023 21:20
Lithium	**0.143**		**0.00100**	**0.00500**	**mg/L**	1	25-Apr-2023 21:20
Magnesium	**39.0**		**0.0100**	**0.200**	**mg/L**	1	25-Apr-2023 21:20
Molybdenum	**0.000602**	J	**0.000600**	**0.00500**	**mg/L**	1	25-Apr-2023 21:20
Potassium	**5.34**		**0.0180**	**0.200**	**mg/L**	1	25-Apr-2023 21:20
Selenium	U		0.00110	0.00200	mg/L	1	25-Apr-2023 21:20
Sodium	**36.7**		**0.0140**	**0.200**	**mg/L**	1	25-Apr-2023 21:20
Thallium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 21:20
DISSOLVED METALS BY SW6020A		**Method:SW6020A (dissolved)**			Prep:SW3010A / 25-Apr-2023		Analyst: JC
Iron	**0.0149**	J	**0.0120**	**0.200**	**mg/L**	1	25-Apr-2023 15:57
Molybdenum	**0.000660**	J	**0.000600**	**0.00500**	**mg/L**	1	25-Apr-2023 15:57
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 26-Apr-2023		Analyst: JS
Mercury	U		0.0000300	0.000200	mg/L	1	26-Apr-2023 16:58
ANIONS BY E300.0, REV 2.1, 1993		**Method:E300**					Analyst: TH
Chloride	**4.11**		**0.200**	**0.500**	**mg/L**	1	14-Apr-2023 12:05
Fluoride	**0.330**		**0.0500**	**0.100**	**mg/L**	1	14-Apr-2023 12:05
Nitrogen, Nitrate (As N)	U		0.0300	0.100	mg/L	1	14-Apr-2023 12:05
Sulfate	**1,510**		**4.00**	**10.0**	**mg/L**	20	14-Apr-2023 13:26
CHEMICAL OXYGEN DEMAND BY E410.4, REV 2.0, 1993		**Method:E410.4**					Analyst: TH
Chemical Oxygen Demand	U		5.00	15.0	mg/L	1	27-Apr-2023 13:00
SPECIFIC CONDUCTANCE BY SM 2510B-2011		**Method:M2510 B**					Analyst: CD
Specific Conductivity	**2,400**		**5.00**	**5.00**	**umhos/cm @ 25.0 °C**	1	21-Apr-2023 16:54

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Altamira
Project: WFEC / CCR Landfill
Sample ID: DUP-4
Collection Date: 12-Apr-2023 16:37

ANALYTICAL REPORT
WorkOrder:HS23040697
Lab ID:HS23040697-11
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: DC
Total Dissolved Solids (Residue, Filterable)	**2,210**		**5.00**	**10.0**	**mg/L**	1	17-Apr-2023 12:00
ALKALINITY BY SM 2320B-2011		**Method:SM2320B**					Analyst: JAC
Alkalinity, Bicarbonate (As CaCO3)	**249**		**5.00**	**5.00**	**mg/L**	1	25-Apr-2023 20:02
Alkalinity, Carbonate (As CaCO3)	U		5.00	5.00	mg/L	1	25-Apr-2023 20:02
Alkalinity, Hydroxide (As CaCO3)	U		5.00	5.00	mg/L	1	25-Apr-2023 20:02
Alkalinity, Total (As CaCO3)	**249**		**5.00**	**5.00**	**mg/L**	1	25-Apr-2023 20:02
FERROUS IRON BY SM3500 FE B		**Method:SM3500FED**					Analyst: MZD
Ferrous Iron	U		0.0200	0.0500	mg/L	1	14-Apr-2023 09:22
FERROUS IRON BY SM3500 FE D		**Method:SM3500FED (dissolved)**					Analyst: MZD
Ferrous Iron, Dissolved	U		0.0200	0.0500	mg/L	1	14-Apr-2023 09:30
SULFIDE BY SM4500 S2-F-2011		**Method:SM4500 S2-F**					Analyst: CD
Sulfide	U		1.70	2.00	mg/L	1	18-Apr-2023 13:38
PH BY SM4500H+ B-2011		**Method:SM4500H+ B**					Analyst: MZD
pH	**7.14**	H	**0.100**	**0.100**	**pH Units**	1	22-Apr-2023 14:02
Temp Deg C @pH	**20.6**	H	**0**	**0**	**°C**	1	22-Apr-2023 14:02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Altamira
Project: WFEC / CCR Landfill
Sample ID: MW-7S
Collection Date: 18-Apr-2023 09:28

ANALYTICAL REPORT
WorkOrder:HS23040697
Lab ID:HS23040697-12
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
FERRIC IRON - BY CALCULATION BY SM3500FED		**Method:SM3500FED**					Analyst: JHD
Ferric Iron	U		0.0200	0.0500	mg/L	1	27-Apr-2023 15:25
FERRIC IRON (DISS)- BY CALCULATION BY SM3500FED		**Method:SM3500FED (dissolved)**					Analyst: JHD
Ferric Iron, Dissolved	U		0.0200	0.0500	mg/L	1	27-Apr-2023 15:26
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 25-Apr-2023		Analyst: JC
Antimony	U		0.000400	0.00200	mg/L	1	25-Apr-2023 21:22
Arsenic	U		0.000400	0.00200	mg/L	1	25-Apr-2023 21:22
Barium	**0.0253**		**0.00190**	**0.00400**	**mg/L**	1	25-Apr-2023 21:22
Beryllium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 21:22
Boron	**0.880**		**0.0110**	**0.0200**	**mg/L**	1	25-Apr-2023 21:22
Cadmium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 21:22
Calcium	**228**		**0.680**	**10.0**	**mg/L**	20	26-Apr-2023 11:56
Chromium	U		0.000400	0.00400	mg/L	1	25-Apr-2023 21:22
Cobalt	**0.000519**	J	**0.000200**	**0.00500**	**mg/L**	1	25-Apr-2023 21:22
Iron	U		0.0120	0.200	mg/L	1	25-Apr-2023 21:22
Lead	U		0.000600	0.00200	mg/L	1	25-Apr-2023 21:22
Lithium	**0.0536**		**0.00100**	**0.00500**	**mg/L**	1	25-Apr-2023 21:22
Magnesium	**19.2**		**0.0100**	**0.200**	**mg/L**	1	25-Apr-2023 21:22
Molybdenum	**0.000973**	J	**0.000600**	**0.00500**	**mg/L**	1	25-Apr-2023 21:22
Potassium	**4.84**		**0.0180**	**0.200**	**mg/L**	1	25-Apr-2023 21:22
Selenium	U		0.00110	0.00200	mg/L	1	25-Apr-2023 21:22
Sodium	**277**		**0.280**	**4.00**	**mg/L**	20	26-Apr-2023 11:56
Thallium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 21:22
DISSOLVED METALS BY SW6020A		**Method:SW6020A (dissolved)**			Prep:SW3010A / 25-Apr-2023		Analyst: JC
Iron	U		0.0120	0.200	mg/L	1	25-Apr-2023 15:59
Molybdenum	**0.00110**	J	**0.000600**	**0.00500**	**mg/L**	1	25-Apr-2023 15:59
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 26-Apr-2023		Analyst: JS
Mercury	U		0.0000300	0.000200	mg/L	1	26-Apr-2023 16:59
ANIONS BY E300.0, REV 2.1, 1993		**Method:E300**					Analyst: TH
Chloride	**18.9**		**0.200**	**0.500**	**mg/L**	1	19-Apr-2023 13:24
Fluoride	**0.468**		**0.0500**	**0.100**	**mg/L**	1	19-Apr-2023 13:24
Nitrogen, Nitrate (As N)	U		0.0300	0.100	mg/L	1	19-Apr-2023 13:24
Sulfate	**1,410**		**4.00**	**10.0**	**mg/L**	20	19-Apr-2023 13:30
CHEMICAL OXYGEN DEMAND BY E410.4, REV 2.0, 1993		**Method:E410.4**					Analyst: TH
Chemical Oxygen Demand	U		5.00	15.0	mg/L	1	27-Apr-2023 13:00
SPECIFIC CONDUCTANCE BY SM 2510B-2011		**Method:M2510 B**					Analyst: CD
Specific Conductivity	**2,490**		**5.00**	**5.00**	**umhos/cm @ 25.0 °C**	1	21-Apr-2023 16:54

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Altamira
Project: WFEC / CCR Landfill
Sample ID: MW-7S
Collection Date: 18-Apr-2023 09:28

ANALYTICAL REPORT
WorkOrder:HS23040697
Lab ID:HS23040697-12
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: DC
Total Dissolved Solids (Residue, Filterable)	**1,740**		**5.00**	**10.0**	**mg/L**	1	20-Apr-2023 11:00
ALKALINITY BY SM 2320B-2011		**Method:SM2320B**					Analyst: JAC
Alkalinity, Bicarbonate (As CaCO3)	**190**		**5.00**	**5.00**	**mg/L**	1	25-Apr-2023 20:12
Alkalinity, Carbonate (As CaCO3)	U		5.00	5.00	mg/L	1	25-Apr-2023 20:12
Alkalinity, Hydroxide (As CaCO3)	U		5.00	5.00	mg/L	1	25-Apr-2023 20:12
Alkalinity, Total (As CaCO3)	**190**		**5.00**	**5.00**	**mg/L**	1	25-Apr-2023 20:12
FERROUS IRON BY SM3500 FE B		**Method:SM3500FED**					Analyst: MZD
Ferrous Iron	U		0.0200	0.0500	mg/L	1	19-Apr-2023 15:10
FERROUS IRON BY SM3500 FE D		**Method:SM3500FED (dissolved)**					Analyst: MZD
Ferrous Iron, Dissolved	U		0.0200	0.0500	mg/L	1	19-Apr-2023 15:47
SULFIDE BY SM4500 S2-F-2011		**Method:SM4500 S2-F**					Analyst: CD
Sulfide	U		1.70	2.00	mg/L	1	22-Apr-2023 11:39
PH BY SM4500H+ B-2011		**Method:SM4500H+ B**					Analyst: MZD
pH	**7.41**	H	**0.100**	**0.100**	**pH Units**	1	22-Apr-2023 14:02
Temp Deg C @pH	**20.7**	H	**0**	**0**	**°C**	1	22-Apr-2023 14:02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Altamira
Project: WFEC / CCR Landfill
Sample ID: MW-19S
Collection Date: 17-Apr-2023 18:33

ANALYTICAL REPORT
WorkOrder:HS23040697
Lab ID:HS23040697-13
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
FERRIC IRON - BY CALCULATION BY SM3500FED		**Method:SM3500FED**					Analyst: JHD
Ferric Iron	U		0.0200	0.0500	mg/L	1	27-Apr-2023 15:25
FERRIC IRON (DISS)- BY CALCULATION BY SM3500FED		**Method:SM3500FED (dissolved)**					Analyst: JHD
Ferric Iron, Dissolved	U		0.0200	0.0500	mg/L	1	27-Apr-2023 15:26
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 25-Apr-2023		Analyst: JC
Antimony	U		0.000400	0.00200	mg/L	1	25-Apr-2023 19:35
Arsenic	**0.00581**		**0.000400**	**0.00200**	**mg/L**	1	25-Apr-2023 19:35
Barium	**0.0152**		**0.00190**	**0.00400**	**mg/L**	1	25-Apr-2023 19:35
Beryllium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 19:35
Boron	**7.69**		**0.220**	**0.400**	**mg/L**	20	26-Apr-2023 11:25
Cadmium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 19:35
Calcium	**38.5**		**0.0340**	**0.500**	**mg/L**	1	25-Apr-2023 19:35
Chromium	U		0.000400	0.00400	mg/L	1	25-Apr-2023 19:35
Cobalt	U		0.000200	0.00500	mg/L	1	25-Apr-2023 19:35
Iron	**0.0162**	J	**0.0120**	**0.200**	**mg/L**	1	25-Apr-2023 19:35
Lead	U		0.000600	0.00200	mg/L	1	25-Apr-2023 19:35
Lithium	**0.00216**	J	**0.00100**	**0.00500**	**mg/L**	1	25-Apr-2023 19:35
Magnesium	**0.109**	J	**0.0100**	**0.200**	**mg/L**	1	25-Apr-2023 19:35
Molybdenum	**0.362**		**0.0120**	**0.100**	**mg/L**	20	26-Apr-2023 11:25
Potassium	**32.3**		**0.0180**	**0.200**	**mg/L**	1	25-Apr-2023 19:35
Selenium	**0.00965**		**0.00110**	**0.00200**	**mg/L**	1	25-Apr-2023 19:35
Sodium	**662**		**0.280**	**4.00**	**mg/L**	20	26-Apr-2023 11:25
Thallium	**0.000269**	J	**0.000200**	**0.00200**	**mg/L**	1	25-Apr-2023 19:35
DISSOLVED METALS BY SW6020A		**Method:SW6020A (dissolved)**			Prep:SW3010A / 25-Apr-2023		Analyst: JC
Iron	U		0.0120	0.200	mg/L	1	25-Apr-2023 14:00
Molybdenum	**0.379**		**0.000600**	**0.00500**	**mg/L**	1	25-Apr-2023 14:00
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 26-Apr-2023		Analyst: JS
Mercury	U		0.0000300	0.000200	mg/L	1	26-Apr-2023 14:36
ANIONS BY E300.0, REV 2.1, 1993		**Method:E300**					Analyst: TH
Chloride	**12.8**		**0.200**	**0.500**	**mg/L**	1	19-Apr-2023 13:01
Fluoride	**1.47**		**0.0500**	**0.100**	**mg/L**	1	19-Apr-2023 13:01
Nitrogen, Nitrate (As N)	U		0.0300	0.100	mg/L	1	19-Apr-2023 13:01
Sulfate	**1,740**		**4.00**	**10.0**	**mg/L**	20	19-Apr-2023 13:18
CHEMICAL OXYGEN DEMAND BY E410.4, REV 2.0, 1993		**Method:E410.4**					Analyst: TH
Chemical Oxygen Demand	**16.0**		**5.00**	**15.0**	**mg/L**	1	27-Apr-2023 13:00
SPECIFIC CONDUCTANCE BY SM 2510B-2011		**Method:M2510 B**					Analyst: CD
Specific Conductivity	**3,270**		**5.00**	**5.00**	**umhos/cm @ 25.0 °C**	1	21-Apr-2023 16:54

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Altamira
Project: WFEC / CCR Landfill
Sample ID: MW-19S
Collection Date: 17-Apr-2023 18:33

ANALYTICAL REPORT
WorkOrder:HS23040697
Lab ID:HS23040697-13
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: DC
Total Dissolved Solids (Residue, Filterable)	**2,310**		**5.00**	**10.0**	**mg/L**	1	20-Apr-2023 11:00
ALKALINITY BY SM 2320B-2011		**Method:SM2320B**					Analyst: JAC
Alkalinity, Bicarbonate (As CaCO3)	U		5.00	5.00	mg/L	1	25-Apr-2023 18:03
Alkalinity, Carbonate (As CaCO3)	**62.4**		**5.00**	**5.00**	**mg/L**	1	25-Apr-2023 18:03
Alkalinity, Hydroxide (As CaCO3)	**62.0**		**5.00**	**5.00**	**mg/L**	1	25-Apr-2023 18:03
Alkalinity, Total (As CaCO3)	**124**		**5.00**	**5.00**	**mg/L**	1	25-Apr-2023 18:03
FERROUS IRON BY SM3500 FE B		**Method:SM3500FED**					Analyst: MZD
Ferrous Iron	**0.0630**		**0.0200**	**0.0500**	**mg/L**	1	19-Apr-2023 15:10
FERROUS IRON BY SM3500 FE D		**Method:SM3500FED (dissolved)**					Analyst: MZD
Ferrous Iron, Dissolved	U		0.0200	0.0500	mg/L	1	19-Apr-2023 15:47
SULFIDE BY SM4500 S2-F-2011		**Method:SM4500 S2-F**					Analyst: CD
Sulfide	U		1.70	2.00	mg/L	1	21-Apr-2023 18:04
PH BY SM4500H+ B-2011		**Method:SM4500H+ B**					Analyst: MZD
pH	**10.6**	H	**0.100**	**0.100**	**pH Units**	1	22-Apr-2023 14:02
Temp Deg C @pH	**20.6**	H	**0**	**0**	**°C**	1	22-Apr-2023 14:02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Weight / Prep Log

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

Batch ID: 192867 **Start Date:** 25 Apr 2023 08:30 **End Date:** 25 Apr 2023 08:30
Method: DISS METALS PREP - WATER - SW3010A **Prep Code:** 3010A DISS

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS23040697-02		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040697-04		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040697-05		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040697-08		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040697-09		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040697-10		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040697-11		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040697-12		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040697-13		10 (mL)	10 (mL)	1	120 plastic HNO3

Batch ID: 192875 **Start Date:** 25 Apr 2023 09:00 **End Date:** 25 Apr 2023 09:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS23040697-01		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040697-02		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040697-03		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040697-04		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040697-05		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040697-06		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040697-07		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040697-08		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040697-09		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040697-10		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040697-11		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040697-12		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040697-13		10 (mL)	10 (mL)	1	120 plastic HNO3

Batch ID: 192976 **Start Date:** 26 Apr 2023 08:30 **End Date:** 26 Apr 2023 08:30
Method: MERCURY PREP BY 7470A- WATER **Prep Code:** HG_WPR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS23040697-01		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040697-02		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040697-03		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040697-04		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040697-05		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040697-06		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040697-07		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040697-08		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040697-09		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040697-10		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040697-13		10 (mL)	10 (mL)	1	120 plastic HNO3

Weight / Prep Log

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

Batch ID: 192996 **Start Date:** 26 Apr 2023 12:00 **End Date:** 26 Apr 2023 12:00
Method: MERCURY PREP BY 7470A- WATER **Prep Code:** HG_WPR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS23040697-11		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040697-12		10 (mL)	10 (mL)	1	120 plastic HNO3

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 192867 (0)	**Test Name :** DISSOLVED METALS BY SW6020A				**Matrix:** Water	
HS23040697-02	MW-5S	12 Apr 2023 12:32		25 Apr 2023 08:30	25 Apr 2023 15:45	1
HS23040697-04	MW-14A	12 Apr 2023 11:06		25 Apr 2023 08:30	25 Apr 2023 15:47	1
HS23040697-05	MW-15A	12 Apr 2023 09:45		25 Apr 2023 08:30	25 Apr 2023 15:49	1
HS23040697-08	MW-16	12 Apr 2023 15:23		25 Apr 2023 08:30	25 Apr 2023 15:51	1
HS23040697-09	MW-17	12 Apr 2023 16:37		25 Apr 2023 08:30	25 Apr 2023 15:53	1
HS23040697-10	MW-18	12 Apr 2023 18:10		25 Apr 2023 08:30	25 Apr 2023 15:55	1
HS23040697-11	DUP-4	12 Apr 2023 16:37		25 Apr 2023 08:30	25 Apr 2023 15:57	1
HS23040697-12	MW-7S	18 Apr 2023 09:28		25 Apr 2023 08:30	25 Apr 2023 15:59	1
HS23040697-13	MW-19S	17 Apr 2023 18:33		25 Apr 2023 08:30	25 Apr 2023 14:00	1
Batch ID: 192875 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Water	
HS23040697-01	MW-3	12 Apr 2023 10:42		25 Apr 2023 09:00	26 Apr 2023 11:19	20
HS23040697-01	MW-3	12 Apr 2023 10:42		25 Apr 2023 09:00	25 Apr 2023 20:05	1
HS23040697-02	MW-5S	12 Apr 2023 12:32		25 Apr 2023 09:00	26 Apr 2023 11:21	20
HS23040697-02	MW-5S	12 Apr 2023 12:32		25 Apr 2023 09:00	25 Apr 2023 20:07	1
HS23040697-03	MW-13	12 Apr 2023 11:57		25 Apr 2023 09:00	26 Apr 2023 11:23	20
HS23040697-03	MW-13	12 Apr 2023 11:57		25 Apr 2023 09:00	25 Apr 2023 20:09	1
HS23040697-04	MW-14A	12 Apr 2023 11:06		25 Apr 2023 09:00	26 Apr 2023 11:40	10
HS23040697-04	MW-14A	12 Apr 2023 11:06		25 Apr 2023 09:00	25 Apr 2023 20:11	1
HS23040697-05	MW-15A	12 Apr 2023 09:45		25 Apr 2023 09:00	26 Apr 2023 11:42	20
HS23040697-05	MW-15A	12 Apr 2023 09:45		25 Apr 2023 09:00	25 Apr 2023 20:13	1
HS23040697-06	MW-20	12 Apr 2023 12:58		25 Apr 2023 09:00	26 Apr 2023 11:44	20
HS23040697-06	MW-20	12 Apr 2023 12:58		25 Apr 2023 09:00	25 Apr 2023 20:15	1
HS23040697-07	MW-21	12 Apr 2023 09:47		25 Apr 2023 09:00	26 Apr 2023 11:46	20
HS23040697-07	MW-21	12 Apr 2023 09:47		25 Apr 2023 09:00	25 Apr 2023 21:12	1
HS23040697-08	MW-16	12 Apr 2023 15:23		25 Apr 2023 09:00	26 Apr 2023 11:48	10
HS23040697-08	MW-16	12 Apr 2023 15:23		25 Apr 2023 09:00	25 Apr 2023 21:14	1
HS23040697-09	MW-17	12 Apr 2023 16:37		25 Apr 2023 09:00	26 Apr 2023 11:50	20
HS23040697-09	MW-17	12 Apr 2023 16:37		25 Apr 2023 09:00	25 Apr 2023 21:16	1
HS23040697-10	MW-18	12 Apr 2023 18:10		25 Apr 2023 09:00	26 Apr 2023 11:52	20
HS23040697-10	MW-18	12 Apr 2023 18:10		25 Apr 2023 09:00	25 Apr 2023 21:18	1
HS23040697-11	DUP-4	12 Apr 2023 16:37		25 Apr 2023 09:00	26 Apr 2023 11:54	20
HS23040697-11	DUP-4	12 Apr 2023 16:37		25 Apr 2023 09:00	25 Apr 2023 21:20	1
HS23040697-12	MW-7S	18 Apr 2023 09:28		25 Apr 2023 09:00	26 Apr 2023 11:56	20
HS23040697-12	MW-7S	18 Apr 2023 09:28		25 Apr 2023 09:00	25 Apr 2023 21:22	1
HS23040697-13	MW-19S	17 Apr 2023 18:33		25 Apr 2023 09:00	26 Apr 2023 11:25	20
HS23040697-13	MW-19S	17 Apr 2023 18:33		25 Apr 2023 09:00	25 Apr 2023 19:35	1

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 192976 (0)	**Test Name :** MERCURY BY SW7470A				**Matrix:** Water	
HS23040697-01	MW-3	12 Apr 2023 10:42		26 Apr 2023 08:30	26 Apr 2023 14:13	1
HS23040697-02	MW-5S	12 Apr 2023 12:32		26 Apr 2023 08:30	26 Apr 2023 14:14	1
HS23040697-03	MW-13	12 Apr 2023 11:57		26 Apr 2023 08:30	26 Apr 2023 14:16	1
HS23040697-04	MW-14A	12 Apr 2023 11:06		26 Apr 2023 08:30	26 Apr 2023 14:18	1
HS23040697-05	MW-15A	12 Apr 2023 09:45		26 Apr 2023 08:30	26 Apr 2023 14:19	1
HS23040697-06	MW-20	12 Apr 2023 12:58		26 Apr 2023 08:30	26 Apr 2023 14:21	1
HS23040697-07	MW-21	12 Apr 2023 09:47		26 Apr 2023 08:30	26 Apr 2023 14:29	1
HS23040697-08	MW-16	12 Apr 2023 15:23		26 Apr 2023 08:30	26 Apr 2023 14:31	1
HS23040697-09	MW-17	12 Apr 2023 16:37		26 Apr 2023 08:30	26 Apr 2023 14:32	1
HS23040697-10	MW-18	12 Apr 2023 18:10		26 Apr 2023 08:30	26 Apr 2023 14:34	1
HS23040697-13	MW-19S	17 Apr 2023 18:33		26 Apr 2023 08:30	26 Apr 2023 14:36	1
Batch ID: 192996 (0)	**Test Name :** MERCURY BY SW7470A				**Matrix:** Water	
HS23040697-11	DUP-4	12 Apr 2023 16:37		26 Apr 2023 12:00	26 Apr 2023 16:58	1
HS23040697-12	MW-7S	18 Apr 2023 09:28		26 Apr 2023 12:00	26 Apr 2023 16:59	1
Batch ID: R432628 (0)	**Test Name :** ANIONS BY E300.0, REV 2.1, 1993				**Matrix:** Water	
HS23040697-01	MW-3	12 Apr 2023 10:42			13 Apr 2023 15:23	20
HS23040697-01	MW-3	12 Apr 2023 10:42			13 Apr 2023 15:17	1
HS23040697-02	MW-5S	12 Apr 2023 12:32			13 Apr 2023 15:35	20
HS23040697-02	MW-5S	12 Apr 2023 12:32			13 Apr 2023 15:29	1
HS23040697-03	MW-13	12 Apr 2023 11:57			13 Apr 2023 15:47	20
HS23040697-03	MW-13	12 Apr 2023 11:57			13 Apr 2023 15:41	1
HS23040697-04	MW-14A	12 Apr 2023 11:06			13 Apr 2023 16:27	20
HS23040697-04	MW-14A	12 Apr 2023 11:06			13 Apr 2023 16:22	1
HS23040697-05	MW-15A	12 Apr 2023 09:45			13 Apr 2023 16:39	20
HS23040697-05	MW-15A	12 Apr 2023 09:45			13 Apr 2023 16:33	1
HS23040697-06	MW-20	12 Apr 2023 12:58			13 Apr 2023 16:51	20
HS23040697-06	MW-20	12 Apr 2023 12:58			13 Apr 2023 16:45	1
HS23040697-07	MW-21	12 Apr 2023 09:47			13 Apr 2023 17:02	20
HS23040697-07	MW-21	12 Apr 2023 09:47			13 Apr 2023 16:56	1
Batch ID: R432663 (0)	**Test Name :** FERROUS IRON BY SM3500 FE D				**Matrix:** Water	
HS23040697-02	MW-5S	12 Apr 2023 12:32			14 Apr 2023 09:30	1
HS23040697-04	MW-14A	12 Apr 2023 11:06			14 Apr 2023 09:30	1
HS23040697-05	MW-15A	12 Apr 2023 09:45			14 Apr 2023 09:30	1
HS23040697-08	MW-16	12 Apr 2023 15:23			14 Apr 2023 09:30	1
HS23040697-09	MW-17	12 Apr 2023 16:37			14 Apr 2023 09:30	1
HS23040697-10	MW-18	12 Apr 2023 18:10			14 Apr 2023 09:30	1
HS23040697-11	DUP-4	12 Apr 2023 16:37			14 Apr 2023 09:30	1

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R432664 (0)	**Test Name :** FERROUS IRON BY SM3500 FE B				**Matrix:** Water	
HS23040697-02	MW-5S	12 Apr 2023 12:32			14 Apr 2023 09:22	1
HS23040697-04	MW-14A	12 Apr 2023 11:06			14 Apr 2023 09:22	1
HS23040697-05	MW-15A	12 Apr 2023 09:45			14 Apr 2023 09:22	1
HS23040697-08	MW-16	12 Apr 2023 15:23			14 Apr 2023 09:22	1
HS23040697-09	MW-17	12 Apr 2023 16:37			14 Apr 2023 09:22	1
HS23040697-10	MW-18	12 Apr 2023 18:10			14 Apr 2023 09:22	1
HS23040697-11	DUP-4	12 Apr 2023 16:37			14 Apr 2023 09:22	1
Batch ID: R432738 (0)	**Test Name :** ANIONS BY E300.0, REV 2.1, 1993				**Matrix:** Water	
HS23040697-08	MW-16	12 Apr 2023 15:23			14 Apr 2023 13:09	20
HS23040697-08	MW-16	12 Apr 2023 15:23			14 Apr 2023 11:48	1
HS23040697-09	MW-17	12 Apr 2023 16:37			14 Apr 2023 13:15	20
HS23040697-09	MW-17	12 Apr 2023 16:37			14 Apr 2023 11:54	1
HS23040697-10	MW-18	12 Apr 2023 18:10			14 Apr 2023 13:20	20
HS23040697-10	MW-18	12 Apr 2023 18:10			14 Apr 2023 11:59	1
HS23040697-11	DUP-4	12 Apr 2023 16:37			14 Apr 2023 13:26	20
HS23040697-11	DUP-4	12 Apr 2023 16:37			14 Apr 2023 12:05	1
Batch ID: R432824 (0)	**Test Name :** TOTAL DISSOLVED SOLIDS BY SM2540C-2011				**Matrix:** Water	
HS23040697-01	MW-3	12 Apr 2023 10:42			14 Apr 2023 13:07	1
HS23040697-02	MW-5S	12 Apr 2023 12:32			14 Apr 2023 13:07	1
HS23040697-03	MW-13	12 Apr 2023 11:57			14 Apr 2023 13:07	1
HS23040697-04	MW-14A	12 Apr 2023 11:06			14 Apr 2023 13:07	1
HS23040697-05	MW-15A	12 Apr 2023 09:45			14 Apr 2023 13:07	1
HS23040697-06	MW-20	12 Apr 2023 12:58			14 Apr 2023 13:07	1
Batch ID: R432930 (0)	**Test Name :** TOTAL DISSOLVED SOLIDS BY SM2540C-2011				**Matrix:** Water	
HS23040697-07	MW-21	12 Apr 2023 09:47			17 Apr 2023 12:00	1
HS23040697-08	MW-16	12 Apr 2023 15:23			17 Apr 2023 12:00	1
HS23040697-09	MW-17	12 Apr 2023 16:37			17 Apr 2023 12:00	1
HS23040697-10	MW-18	12 Apr 2023 18:10			17 Apr 2023 12:00	1
HS23040697-11	DUP-4	12 Apr 2023 16:37			17 Apr 2023 12:00	1
Batch ID: R432939 (0)	**Test Name :** SULFIDE BY SM4500 S2-F-2011				**Matrix:** Water	
HS23040697-02	MW-5S	12 Apr 2023 12:32			18 Apr 2023 13:38	1
HS23040697-04	MW-14A	12 Apr 2023 11:06			18 Apr 2023 13:38	1
HS23040697-05	MW-15A	12 Apr 2023 09:45			18 Apr 2023 13:38	1
HS23040697-08	MW-16	12 Apr 2023 15:23			18 Apr 2023 13:38	1
HS23040697-09	MW-17	12 Apr 2023 16:37			18 Apr 2023 13:38	1
HS23040697-10	MW-18	12 Apr 2023 18:10			18 Apr 2023 13:38	1
HS23040697-11	DUP-4	12 Apr 2023 16:37			18 Apr 2023 13:38	1

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R433149 (0)	**Test Name :** ANIONS BY E300.0, REV 2.1, 1993				**Matrix:** Water	
HS23040697-12	MW-7S	18 Apr 2023 09:28			19 Apr 2023 13:30	20
HS23040697-12	MW-7S	18 Apr 2023 09:28			19 Apr 2023 13:24	1
HS23040697-13	MW-19S	17 Apr 2023 18:33			19 Apr 2023 13:18	20
HS23040697-13	MW-19S	17 Apr 2023 18:33			19 Apr 2023 13:01	1
Batch ID: R433182 (0)	**Test Name :** FERROUS IRON BY SM3500 FE B				**Matrix:** Water	
HS23040697-13	MW-19S	17 Apr 2023 18:33			19 Apr 2023 15:10	1
Batch ID: R433183 (0)	**Test Name :** FERROUS IRON BY SM3500 FE D				**Matrix:** Water	
HS23040697-12	MW-7S	18 Apr 2023 09:28			19 Apr 2023 15:47	1
HS23040697-13	MW-19S	17 Apr 2023 18:33			19 Apr 2023 15:47	1
Batch ID: R433330 (0)	**Test Name :** SPECIFIC CONDUCTANCE BY SM 2510B-2011				**Matrix:** Water	
HS23040697-01	MW-3	12 Apr 2023 10:42			21 Apr 2023 16:54	1
HS23040697-02	MW-5S	12 Apr 2023 12:32			21 Apr 2023 16:54	1
HS23040697-03	MW-13	12 Apr 2023 11:57			21 Apr 2023 16:54	1
HS23040697-04	MW-14A	12 Apr 2023 11:06			21 Apr 2023 16:54	1
HS23040697-05	MW-15A	12 Apr 2023 09:45			21 Apr 2023 16:54	1
HS23040697-06	MW-20	12 Apr 2023 12:58			21 Apr 2023 16:54	1
HS23040697-07	MW-21	12 Apr 2023 09:47			21 Apr 2023 16:54	1
HS23040697-08	MW-16	12 Apr 2023 15:23			21 Apr 2023 16:54	1
HS23040697-09	MW-17	12 Apr 2023 16:37			21 Apr 2023 16:54	1
HS23040697-10	MW-18	12 Apr 2023 18:10			21 Apr 2023 16:54	1
HS23040697-11	DUP-4	12 Apr 2023 16:37			21 Apr 2023 16:54	1
HS23040697-12	MW-7S	18 Apr 2023 09:28			21 Apr 2023 16:54	1
HS23040697-13	MW-19S	17 Apr 2023 18:33			21 Apr 2023 16:54	1
Batch ID: R433336 (0)	**Test Name :** SULFIDE BY SM4500 S2-F-2011				**Matrix:** Water	
HS23040697-13	MW-19S	17 Apr 2023 18:33			21 Apr 2023 18:04	1
Batch ID: R433352 (0)	**Test Name :** SULFIDE BY SM4500 S2-F-2011				**Matrix:** Water	
HS23040697-12	MW-7S	18 Apr 2023 09:28			22 Apr 2023 11:39	1

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R433354 (0)	**Test Name :** PH BY SM4500H+ B-2011				**Matrix:** Water	
HS23040697-01	MW-3	12 Apr 2023 10:42			22 Apr 2023 14:02	1
HS23040697-02	MW-5S	12 Apr 2023 12:32			22 Apr 2023 14:02	1
HS23040697-03	MW-13	12 Apr 2023 11:57			22 Apr 2023 14:02	1
HS23040697-04	MW-14A	12 Apr 2023 11:06			22 Apr 2023 14:02	1
HS23040697-05	MW-15A	12 Apr 2023 09:45			22 Apr 2023 14:02	1
HS23040697-06	MW-20	12 Apr 2023 12:58			22 Apr 2023 14:02	1
HS23040697-07	MW-21	12 Apr 2023 09:47			22 Apr 2023 14:02	1
HS23040697-08	MW-16	12 Apr 2023 15:23			22 Apr 2023 14:02	1
HS23040697-09	MW-17	12 Apr 2023 16:37			22 Apr 2023 14:02	1
HS23040697-10	MW-18	12 Apr 2023 18:10			22 Apr 2023 14:02	1
HS23040697-11	DUP-4	12 Apr 2023 16:37			22 Apr 2023 14:02	1
HS23040697-12	MW-7S	18 Apr 2023 09:28			22 Apr 2023 14:02	1
HS23040697-13	MW-19S	17 Apr 2023 18:33			22 Apr 2023 14:02	1
Batch ID: R433412 (0)	**Test Name :** TOTAL DISSOLVED SOLIDS BY SM2540C-2011				**Matrix:** Water	
HS23040697-12	MW-7S	18 Apr 2023 09:28			20 Apr 2023 11:00	1
HS23040697-13	MW-19S	17 Apr 2023 18:33			20 Apr 2023 11:00	1
Batch ID: R433630 (0)	**Test Name :** ALKALINITY BY SM 2320B-2011				**Matrix:** Water	
HS23040697-02	MW-5S	12 Apr 2023 12:32			25 Apr 2023 19:17	1
HS23040697-04	MW-14A	12 Apr 2023 11:06			25 Apr 2023 19:22	1
HS23040697-05	MW-15A	12 Apr 2023 09:45			25 Apr 2023 19:27	1
HS23040697-08	MW-16	12 Apr 2023 15:23			25 Apr 2023 19:32	1
HS23040697-09	MW-17	12 Apr 2023 16:37			25 Apr 2023 19:38	1
HS23040697-10	MW-18	12 Apr 2023 18:10			25 Apr 2023 19:43	1
HS23040697-11	DUP-4	12 Apr 2023 16:37			25 Apr 2023 20:02	1
HS23040697-12	MW-7S	18 Apr 2023 09:28			25 Apr 2023 20:12	1
HS23040697-13	MW-19S	17 Apr 2023 18:33			25 Apr 2023 18:03	1
Batch ID: R433632 (0)	**Test Name :** CHEMICAL OXYGEN DEMAND BY E410.4, REV 2.0, 1993				**Matrix:** Water	
HS23040697-01	MW-3	12 Apr 2023 10:42			26 Apr 2023 11:00	1
HS23040697-02	MW-5S	12 Apr 2023 12:32			26 Apr 2023 11:00	1
HS23040697-03	MW-13	12 Apr 2023 11:57			26 Apr 2023 11:00	1
HS23040697-04	MW-14A	12 Apr 2023 11:06			26 Apr 2023 11:00	1
HS23040697-05	MW-15A	12 Apr 2023 09:45			26 Apr 2023 11:00	1
HS23040697-06	MW-20	12 Apr 2023 12:58			26 Apr 2023 11:00	1
HS23040697-07	MW-21	12 Apr 2023 09:47			26 Apr 2023 11:00	1
HS23040697-08	MW-16	12 Apr 2023 15:23			26 Apr 2023 11:00	1
HS23040697-09	MW-17	12 Apr 2023 16:37			26 Apr 2023 11:00	1
Batch ID: R433664 (0)	**Test Name :** FERROUS IRON BY SM3500 FE B				**Matrix:** Water	
HS23040697-12	MW-7S	18 Apr 2023 09:28			19 Apr 2023 15:10	1

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R433770 (0)	**Test Name :** FERRIC IRON - BY CALCULATION BY SM3500FED				**Matrix:** Water	
HS23040697-02	MW-5S	12 Apr 2023 12:32			27 Apr 2023 15:25	1
HS23040697-04	MW-14A	12 Apr 2023 11:06			27 Apr 2023 15:25	1
HS23040697-05	MW-15A	12 Apr 2023 09:45			27 Apr 2023 15:25	1
HS23040697-08	MW-16	12 Apr 2023 15:23			27 Apr 2023 15:25	1
HS23040697-09	MW-17	12 Apr 2023 16:37			27 Apr 2023 15:25	1
HS23040697-10	MW-18	12 Apr 2023 18:10			27 Apr 2023 15:25	1
HS23040697-11	DUP-4	12 Apr 2023 16:37			27 Apr 2023 15:25	1
HS23040697-12	MW-7S	18 Apr 2023 09:28			27 Apr 2023 15:25	1
HS23040697-13	MW-19S	17 Apr 2023 18:33			27 Apr 2023 15:25	1
Batch ID: R433771 (0)	**Test Name :** FERRIC IRON (DISS)- BY CALCULATION BY SM3500FED				**Matrix:** Water	
HS23040697-02	MW-5S	12 Apr 2023 12:32			27 Apr 2023 15:26	1
HS23040697-04	MW-14A	12 Apr 2023 11:06			27 Apr 2023 15:26	1
HS23040697-05	MW-15A	12 Apr 2023 09:45			27 Apr 2023 15:26	1
HS23040697-08	MW-16	12 Apr 2023 15:23			27 Apr 2023 15:26	1
HS23040697-09	MW-17	12 Apr 2023 16:37			27 Apr 2023 15:26	1
HS23040697-10	MW-18	12 Apr 2023 18:10			27 Apr 2023 15:26	1
HS23040697-11	DUP-4	12 Apr 2023 16:37			27 Apr 2023 15:26	1
HS23040697-12	MW-7S	18 Apr 2023 09:28			27 Apr 2023 15:26	1
HS23040697-13	MW-19S	17 Apr 2023 18:33			27 Apr 2023 15:26	1
Batch ID: R433776 (0)	**Test Name :** CHEMICAL OXYGEN DEMAND BY E410.4, REV 2.0, 1993				**Matrix:** Water	
HS23040697-10	MW-18	12 Apr 2023 18:10			27 Apr 2023 13:00	1
HS23040697-11	DUP-4	12 Apr 2023 16:37			27 Apr 2023 13:00	1
HS23040697-12	MW-7S	18 Apr 2023 09:28			27 Apr 2023 13:00	1
HS23040697-13	MW-19S	17 Apr 2023 18:33			27 Apr 2023 13:00	1

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

QC BATCH REPORT

Batch ID: 192867 (0) **Instrument: ICPMS06** **Method: DISSOLVED METALS BY SW6020A (DISSOLVED)**

MBLK Sample ID: **MBLKF1-192867** Units: **mg/L** Analysis Date: **25-Apr-2023 13:56**
Client ID: Run ID: **ICPMS06_433539** SeqNo: **7259952** PrepDate: **25-Apr-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Iron	U	0.200								
Molybdenum	U	0.00500								

MBLK Sample ID: **MBLK-192867** Units: **mg/L** Analysis Date: **25-Apr-2023 13:54**
Client ID: Run ID: **ICPMS06_433539** SeqNo: **7259951** PrepDate: **25-Apr-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Iron	U	0.200								
Molybdenum	U	0.00500								

LCS Sample ID: **LCS-192867** Units: **mg/L** Analysis Date: **25-Apr-2023 13:58**
Client ID: Run ID: **ICPMS06_433539** SeqNo: **7259953** PrepDate: **25-Apr-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Iron	4.63	0.200	5	0	92.6	80 - 120				
Molybdenum	0.04633	0.00500	0.05	0	92.7	80 - 120				

MS Sample ID: **HS23040697-13MS** Units: **mg/L** Analysis Date: **25-Apr-2023 14:04**
Client ID: **MW-19S** Run ID: **ICPMS06_433539** SeqNo: **7259956** PrepDate: **25-Apr-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Iron	4.614	0.200	5	0	92.3	75 - 125				
Molybdenum	0.4362	0.00500	0.05	0.3787	115	75 - 125				O

MSD Sample ID: **HS23040697-13MSD** Units: **mg/L** Analysis Date: **25-Apr-2023 14:06**
Client ID: **MW-19S** Run ID: **ICPMS06_433539** SeqNo: **7259957** PrepDate: **25-Apr-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Iron	4.578	0.200	5	0	91.6	75 - 125	4.614	0.794	20	
Molybdenum	0.4408	0.00500	0.05	0.3787	124	75 - 125	0.4362	1.06	20	O

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

QC BATCH REPORT

Batch ID: 192867 (0) **Instrument:** ICPMS06 **Method:** DISSOLVED METALS BY SW6020A (DISSOLVED)

PDS Sample ID: **HS23040697-13PDS** Units: **mg/L** Analysis Date: **25-Apr-2023 14:08**
Client ID: **MW-19S** Run ID: **ICPMS06_433539** SeqNo: **7259958** PrepDate: **25-Apr-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Iron	9.991	0.200	10	0.007917	99.8	75 - 125				
Molybdenum	0.4758	0.00500	0.1	0.3787	97.1	75 - 125				

SD Sample ID: **HS23040697-13SD** Units: **mg/L** Analysis Date: **25-Apr-2023 14:02**
Client ID: **MW-19S** Run ID: **ICPMS06_433539** SeqNo: **7259955** PrepDate: **25-Apr-2023** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Iron	U	1.00					0.007917	0	10	
Molybdenum	0.3763	0.0250					0.3787	0.631	10	

The following samples were analyzed in this batch:

HS23040697-02	HS23040697-04	HS23040697-05	HS23040697-08
HS23040697-09	HS23040697-10	HS23040697-11	HS23040697-12
HS23040697-13			

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

QC BATCH REPORT

Batch ID: 192875 (0) **Instrument: ICPMS06** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-192875** Units: **mg/L** Analysis Date: **25-Apr-2023 19:31**
Client ID: Run ID: **ICPMS06_433539** SeqNo: **7261201** PrepDate: **25-Apr-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	U	0.00200								
Arsenic	U	0.00200								
Barium	U	0.00400								
Beryllium	U	0.00200								
Boron	U	0.0200								
Cadmium	U	0.00200								
Calcium	U	0.500								
Chromium	U	0.00400								
Cobalt	U	0.00500								
Iron	U	0.200								
Lead	U	0.00200								
Lithium	U	0.00500								
Magnesium	0.01066	0.200								J
Molybdenum	U	0.00500								
Potassium	U	0.200								
Selenium	U	0.00200								
Sodium	U	0.200								
Thallium	U	0.00200								

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

QC BATCH REPORT

Batch ID: 192875 (0) **Instrument: ICPMS06** **Method: ICP-MS METALS BY SW6020A**

LCS Sample ID: **LCS-192875** Units: **mg/L** Analysis Date: **25-Apr-2023 19:33**
Client ID: Run ID: **ICPMS06_433539** SeqNo: **7261202** PrepDate: **25-Apr-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.04522	0.00200	0.05	0	90.4	80 - 120				
Arsenic	0.04801	0.00200	0.05	0	96.0	80 - 120				
Barium	0.04699	0.00400	0.05	0	94.0	80 - 120				
Beryllium	0.04826	0.00200	0.05	0	96.5	80 - 120				
Boron	0.4826	0.0200	0.5	0	96.5	80 - 120				
Cadmium	0.05007	0.00200	0.05	0	100	80 - 120				
Calcium	4.468	0.500	5	0	89.4	80 - 120				
Chromium	0.04634	0.00400	0.05	0	92.7	80 - 120				
Cobalt	0.0475	0.00500	0.05	0	95.0	80 - 120				
Iron	4.702	0.200	5	0	94.0	80 - 120				
Lead	0.04712	0.00200	0.05	0	94.2	80 - 120				
Lithium	0.09909	0.00500	0.1	0	99.1	80 - 120				
Magnesium	4.762	0.200	5	0	95.2	80 - 120				
Molybdenum	0.04774	0.00500	0.05	0	95.5	80 - 120				
Potassium	4.675	0.200	5	0	93.5	80 - 120				
Selenium	0.0501	0.00200	0.05	0	100	80 - 120				
Sodium	4.72	0.200	5	0	94.4	80 - 120				
Thallium	0.04183	0.00200	0.05	0	83.7	80 - 120				

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

QC BATCH REPORT

Batch ID: 192875 (0) **Instrument: ICPMS06** **Method: ICP-MS METALS BY SW6020A**

MS Sample ID: **HS23040697-13MS** Units: **mg/L** Analysis Date: **25-Apr-2023 19:39**
Client ID: **MW-19S** Run ID: **ICPMS06_433539** SeqNo: **7261205** PrepDate: **25-Apr-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.04186	0.00200	0.05	0.000092	83.5	80 - 120				
Arsenic	0.05475	0.00200	0.05	0.00581	97.9	80 - 120				
Barium	0.06255	0.00400	0.05	0.01522	94.6	80 - 120				
Beryllium	0.0444	0.00200	0.05	0.000018	88.8	80 - 120				
Boron	7.202	0.0200	0.5	6.628	115	80 - 120				EO
Cadmium	0.04887	0.00200	0.05	0.000106	97.5	80 - 120				
Calcium	42.86	0.500	5	38.55	86.2	80 - 120				O
Chromium	0.04674	0.00400	0.05	-0.000405	94.3	80 - 120				
Cobalt	0.04666	0.00500	0.05	0.000159	93.0	80 - 120				
Iron	4.668	0.200	5	0.01618	93.0	80 - 120				
Lead	0.04811	0.00200	0.05	0.000078	96.1	80 - 120				
Lithium	0.0913	0.00500	0.1	0.002155	89.1	80 - 120				
Magnesium	5.029	0.200	5	0.1086	98.4	80 - 120				
Molybdenum	0.4268	0.00500	0.05	0.3884	76.9	80 - 120				SO
Potassium	36.98	0.200	5	32.27	94.2	80 - 120				O
Selenium	0.05512	0.00200	0.05	0.009646	90.9	80 - 120				
Sodium	624.7	0.200	5	610.8	279	80 - 120				SEO
Thallium	0.04362	0.00200	0.05	0.000269	86.7	80 - 120				

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

QC BATCH REPORT

Batch ID: 192875 (0) **Instrument: ICPMS06** **Method: ICP-MS METALS BY SW6020A**

MSD Sample ID: **HS23040697-13MSD** Units: **mg/L** Analysis Date: **26-Apr-2023 11:08**
Client ID: **MW-19S** Run ID: **ICPMS06_433624** SeqNo: **7262040** PrepDate: **25-Apr-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.04455	0.00200	0.05	0	89.1	80 - 120	0.04186	6.22	20	
Arsenic	0.0566	0.00200	0.05	0.00581	102	80 - 120	0.05475	3.32	20	
Barium	0.06254	0.00400	0.05	0.01522	94.6	80 - 120	0.06255	0.0112	20	
Beryllium	0.04664	0.00200	0.05	0	93.3	80 - 120	0.0444	4.91	20	
Boron	6.942	0.0200	0.5	6.628	62.9	80 - 120	7.202	3.67	20	SEO
Cadmium	0.04749	0.00200	0.05	0	95.0	80 - 120	0.04887	2.86	20	
Calcium	43.62	0.500	5	38.55	101	80 - 120	42.86	1.76	20	O
Chromium	0.04682	0.00400	0.05	0	93.6	80 - 120	0.04674	0.173	20	
Cobalt	0.04793	0.00500	0.05	0	95.9	80 - 120	0.04666	2.69	20	
Iron	4.751	0.200	5	0.01618	94.7	80 - 120	4.668	1.76	20	
Lead	0.04889	0.00200	0.05	0	97.8	80 - 120	0.04811	1.61	20	
Lithium	0.09163	0.00500	0.1	0.002155	89.5	80 - 120	0.0913	0.367	20	
Magnesium	4.973	0.200	5	0.1086	97.3	80 - 120	5.029	1.11	20	
Molybdenum	0.4171	0.00500	0.05	0.3884	57.5	80 - 120	0.4268	2.3	20	SO
Potassium	37.96	0.200	5	32.27	114	80 - 120	36.98	2.62	20	O
Selenium	0.05929	0.00200	0.05	0.009646	99.3	80 - 120	0.05512	7.3	20	
Sodium	607.5	0.200	5	610.8	-65.4	80 - 120	624.7	2.8	20	SEO
Thallium	0.04465	0.00200	0.05	0.000269	88.8	80 - 120	0.04362	2.32	20	

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

QC BATCH REPORT

Batch ID: 192875 (0) **Instrument: ICPMS06** **Method: ICP-MS METALS BY SW6020A**

PDS Sample ID: **HS23040697-13PDS** Units: **mg/L** Analysis Date: **25-Apr-2023 19:43**
Client ID: **MW-19S** Run ID: **ICPMS06_433539** SeqNo: **7261207** PrepDate: **25-Apr-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.0752	0.00200	0.1	0.000092	75.1	75 - 125				
Arsenic	0.1005	0.00200	0.1	0.00581	94.7	75 - 125				
Barium	0.1036	0.00400	0.1	0.01522	88.4	75 - 125				
Beryllium	0.08407	0.00200	0.1	0.000018	84.1	75 - 125				
Cadmium	0.09366	0.00200	0.1	0.000106	93.6	75 - 125				
Calcium	47.27	0.500	10	38.55	87.2	75 - 125				
Chromium	0.09484	0.00400	0.1	-0.000405	95.2	75 - 125				
Cobalt	0.09513	0.00500	0.1	0.000159	95.0	75 - 125				
Iron	9.362	0.200	10	0.01618	93.5	75 - 125				
Lead	0.09323	0.00200	0.1	0.000078	93.1	75 - 125				
Lithium	0.08976	0.00500	0.1	0.002155	87.6	70 - 125				
Magnesium	10.39	0.200	10	0.1086	103	75 - 125				
Potassium	43.36	0.200	10	32.27	111	75 - 125				
Selenium	0.1068	0.00200	0.1	0.009646	97.2	75 - 125				
Thallium	0.0948	0.00200	0.1	0.000269	94.5	75 - 125				

PDS Sample ID: **HS23040697-13PDS** Units: **mg/L** Analysis Date: **26-Apr-2023 11:29**
Client ID: **MW-19S** Run ID: **ICPMS06_433624** SeqNo: **7262176** PrepDate: **25-Apr-2023** DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	17.85	0.400	10	7.69	102	75 - 125				
Molybdenum	2.347	0.100	2	0.3623	99.2	75 - 125				
Sodium	832.8	4.00	200	661.8	85.5	75 - 125				

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

QC BATCH REPORT

Batch ID: 192875 (0) **Instrument: ICPMS06** **Method: ICP-MS METALS BY SW6020A**

SD Sample ID: **HS23040697-13SD** Units: **mg/L** Analysis Date: **25-Apr-2023 19:37**
Client ID: **MW-19S** Run ID: **ICPMS06_433539** SeqNo: **7261204** PrepDate: **25-Apr-2023** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Antimony	U	0.0100					0.000092	0	10	
Arsenic	0.005485	0.0100					0.00581	0	10	J
Barium	0.01497	0.0200					0.01522	0	10	J
Beryllium	U	0.0100					0.000018	0	10	
Cadmium	U	0.0100					0.000106	0	10	
Calcium	37.52	2.50					38.55	2.66	10	
Chromium	U	0.0200					-0.000405	0	10	
Cobalt	U	0.0250					0.000159	0	10	
Iron	U	1.00					0.01618	0	10	
Lead	U	0.0100					0.000078	0	10	
Lithium	U	0.0250					0.002155	0	10	
Magnesium	0.1126	1.00					0.1086	0	10	J
Potassium	31.86	1.00					32.27	1.25	10	
Selenium	0.008557	0.0100					0.009646	0	10	J
Thallium	U	0.0100					0.000269	0	10	

SD Sample ID: **HS23040697-13SD** Units: **mg/L** Analysis Date: **26-Apr-2023 11:27**
Client ID: **MW-19S** Run ID: **ICPMS06_433624** SeqNo: **7262175** PrepDate: **25-Apr-2023** DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Boron	8.303	2.00					7.69	7.96	10	
Molybdenum	0.3706	0.500					0.3623	0	10	J
Sodium	663.3	20.0					661.8	0.226	10	

The following samples were analyzed in this batch:

HS23040697-01	HS23040697-02	HS23040697-03	HS23040697-04
HS23040697-05	HS23040697-06	HS23040697-07	HS23040697-08
HS23040697-09	HS23040697-10	HS23040697-11	HS23040697-12
HS23040697-13			

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

QC BATCH REPORT

Batch ID: 192976 (0) **Instrument: HG04** **Method: MERCURY BY SW7470A**

MBLK Sample ID: **MBLK-192976** Units: **mg/L** Analysis Date: **26-Apr-2023 14:09**
Client ID: Run ID: **HG04_433673** SeqNo: **7263158** PrepDate: **26-Apr-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	U	0.000200								

LCS Sample ID: **LCS-192976** Units: **mg/L** Analysis Date: **26-Apr-2023 14:11**
Client ID: Run ID: **HG04_433673** SeqNo: **7263159** PrepDate: **26-Apr-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00501	0.000200	0.005	0	100	80 - 120				

MS Sample ID: **HS23040697-13MS** Units: **mg/L** Analysis Date: **26-Apr-2023 14:37**
Client ID: **MW-19S** Run ID: **HG04_433673** SeqNo: **7263173** PrepDate: **26-Apr-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00482	0.000200	0.005	0.000014	96.1	75 - 125				

MSD Sample ID: **HS23040697-13MSD** Units: **mg/L** Analysis Date: **26-Apr-2023 14:39**
Client ID: **MW-19S** Run ID: **HG04_433673** SeqNo: **7263174** PrepDate: **26-Apr-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00437	0.000200	0.005	0.000014	87.1	75 - 125	0.00482	9.79	20	

The following samples were analyzed in this batch:

HS23040697-01	HS23040697-02	HS23040697-03	HS23040697-04
HS23040697-05	HS23040697-06	HS23040697-07	HS23040697-08
HS23040697-09	HS23040697-10	HS23040697-13	

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

QC BATCH REPORT

Batch ID: 192996 (0) **Instrument: HG04** **Method: MERCURY BY SW7470A**

MBLK Sample ID: **MBLK-192996** Units: **mg/L** Analysis Date: **26-Apr-2023 16:54**
Client ID: Run ID: **HG04_433673** SeqNo: **7263475** PrepDate: **26-Apr-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	U	0.000200								

LCS Sample ID: **LCS-192996** Units: **mg/L** Analysis Date: **26-Apr-2023 16:56**
Client ID: Run ID: **HG04_433673** SeqNo: **7263476** PrepDate: **26-Apr-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00497	0.000200	0.005	0	99.4	80 - 120				

MS Sample ID: **HS23041012-06MS** Units: **mg/L** Analysis Date: **26-Apr-2023 17:24**
Client ID: Run ID: **HG04_433673** SeqNo: **7263489** PrepDate: **26-Apr-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.0051	0.000200	0.005	0.000003	102	75 - 125				

MSD Sample ID: **HS23041012-06MSD** Units: **mg/L** Analysis Date: **26-Apr-2023 17:26**
Client ID: Run ID: **HG04_433673** SeqNo: **7263490** PrepDate: **26-Apr-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00492	0.000200	0.005	0.000003	98.3	75 - 125	0.0051	3.59	20	

The following samples were analyzed in this batch: HS23040697-11 HS23040697-12

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

QC BATCH REPORT

Batch ID: R432628 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY E300.0, REV 2.1, 1993**

MBLK Sample ID: **MBLK** Units: **mg/L** Analysis Date: **13-Apr-2023 12:00**
Client ID: Run ID: **ICS-Integrion_432628** SeqNo: **7236424** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	U	0.500								
Fluoride	U	0.100								
Nitrogen, Nitrate (As N)	U	0.100								
Sulfate	U	0.500								

LCS Sample ID: **LCS** Units: **mg/L** Analysis Date: **13-Apr-2023 12:06**
Client ID: Run ID: **ICS-Integrion_432628** SeqNo: **7236425** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.68	0.500	20	0	98.4	90 - 110				
Fluoride	4.036	0.100	4	0	101	90 - 110				
Nitrogen, Nitrate (As N)	3.962	0.100	4	0	99.1	90 - 110				
Sulfate	19.55	0.500	20	0	97.8	90 - 110				

MS Sample ID: **HS23040694-02MS** Units: **mg/L** Analysis Date: **13-Apr-2023 12:18**
Client ID: Run ID: **ICS-Integrion_432628** SeqNo: **7236427** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	21.86	0.500	10	12.16	97.0	80 - 120				
Fluoride	2.095	0.100	2	0.302	89.6	80 - 120				
Nitrogen, Nitrate (As N)	1.827	0.100	2	0	91.3	80 - 120				
Sulfate	1696	0.500	10	1763	-672	80 - 120				SEO

MS Sample ID: **HS23040411-01MS** Units: **mg/L** Analysis Date: **13-Apr-2023 17:54**
Client ID: Run ID: **ICS-Integrion_432628** SeqNo: **7236472** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	609.2	5.00	100	536.6	72.6	80 - 120				SO
Fluoride	24.99	1.00	20	4.704	101	80 - 120				
Nitrogen, Nitrate (As N)	29.92	1.00	20	10.5	97.1	80 - 120				
Sulfate	933.2	5.00	100	905	28.3	80 - 120				SO

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

QC BATCH REPORT

Batch ID: R432628 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY E300.0, REV 2.1, 1993**

MSD Sample ID: **HS23040694-02MSD** Units: **mg/L** Analysis Date: **13-Apr-2023 12:24**
Client ID: Run ID: **ICS-Integrion_432628** SeqNo: **7236428** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	21.99	0.500	10	12.16	98.3	80 - 120	21.86	0.597	20	
Fluoride	2.345	0.100	2	0.302	102	80 - 120	2.095	11.3	20	
Nitrogen, Nitrate (As N)	1.837	0.100	2	0	91.9	80 - 120	1.827	0.568	20	
Sulfate	1698	0.500	10	1763	-652	80 - 120	1696	0.122	20	SEO

MSD Sample ID: **HS23040411-01MSD** Units: **mg/L** Analysis Date: **13-Apr-2023 18:00**
Client ID: Run ID: **ICS-Integrion_432628** SeqNo: **7236473** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	608.9	5.00	100	536.6	72.3	80 - 120	609.2	0.0558	20	SO
Fluoride	25.07	1.00	20	4.704	102	80 - 120	24.99	0.332	20	
Nitrogen, Nitrate (As N)	29.95	1.00	20	10.5	97.2	80 - 120	29.92	0.104	20	
Sulfate	930.2	5.00	100	905	25.2	80 - 120	933.2	0.328	20	SO

The following samples were analyzed in this batch: HS23040697-01 HS23040697-02 HS23040697-03 HS23040697-04 HS23040697-05 HS23040697-06 HS23040697-07

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

QC BATCH REPORT

Batch ID: R432663 (0) **Instrument:** UV-2450 **Method:** FERROUS IRON BY SM3500 FE D (DISSOLVED)

MBLK Sample ID: **MBLK-R432663** Units: **mg/L** Analysis Date: **14-Apr-2023 09:30**
Client ID: Run ID: **UV-2450_432663** SeqNo: **7237219** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ferrous Iron, Dissolved	U	0.0500								

LCS Sample ID: **LCS-R432663** Units: **mg/L** Analysis Date: **14-Apr-2023 09:30**
Client ID: Run ID: **UV-2450_432663** SeqNo: **7237218** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ferrous Iron, Dissolved	0.254	0.0500	0.25	0	102	80 - 120				

MS Sample ID: **HS23040697-04MS** Units: **mg/L** Analysis Date: **14-Apr-2023 09:30**
Client ID: **MW-14A** Run ID: **UV-2450_432663** SeqNo: **7237221** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ferrous Iron, Dissolved	0.253	0.0500	0.25	-0.005	103	80 - 120				

MSD Sample ID: **HS23040697-04MSD** Units: **mg/L** Analysis Date: **14-Apr-2023 09:30**
Client ID: **MW-14A** Run ID: **UV-2450_432663** SeqNo: **7237220** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ferrous Iron, Dissolved	0.257	0.0500	0.25	-0.005	105	80 - 120	0.253	1.57	20	

The following samples were analyzed in this batch: HS23040697-02 HS23040697-04 HS23040697-05 HS23040697-08 HS23040697-09 HS23040697-10 HS23040697-11

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

QC BATCH REPORT

Batch ID: R432664 (0) **Instrument: UV-2450** **Method: FERROUS IRON BY SM3500 FE B**

MBLK Sample ID: **MBLK-R432664** Units: **mg/L** Analysis Date: **14-Apr-2023 09:22**
Client ID: Run ID: **UV-2450_432664** SeqNo: **7237241** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ferrous Iron	U	0.0500				80 - 120				

LCS Sample ID: **LCS-R432664** Units: **mg/L** Analysis Date: **14-Apr-2023 09:22**
Client ID: Run ID: **UV-2450_432664** SeqNo: **7237240** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ferrous Iron	0.254	0.0500	0.25	0	102	80 - 120				

MS Sample ID: **HS23040698-03MS** Units: **mg/L** Analysis Date: **14-Apr-2023 09:22**
Client ID: Run ID: **UV-2450_432664** SeqNo: **7238794** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ferrous Iron	0.241	0.0500	0.25	0.015	90.4	75 - 125				

MSD Sample ID: **HS23040698-03MSD** Units: **mg/L** Analysis Date: **14-Apr-2023 09:22**
Client ID: Run ID: **UV-2450_432664** SeqNo: **7238793** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ferrous Iron	0.236	0.0500	0.25	0.015	88.4	75 - 125	0.241	2.1	20	

The following samples were analyzed in this batch:

HS23040697-02	HS23040697-04	HS23040697-05	HS23040697-08
HS23040697-09	HS23040697-10	HS23040697-11	

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

QC BATCH REPORT

Batch ID: R432738 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY E300.0, REV 2.1, 1993**

MBLK Sample ID: **MBLK** Units: **mg/L** Analysis Date: **14-Apr-2023 14:36**
Client ID: Run ID: **ICS-Integrion_432738** SeqNo: **7239550** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	U	0.500								
Fluoride	U	0.100								
Nitrogen, Nitrate (As N)	U	0.100								
Nitrogen, Nitrite (As N)	U	0.100								
Sulfate	U	0.500								

LCS Sample ID: **LCS** Units: **mg/L** Analysis Date: **14-Apr-2023 14:44**
Client ID: Run ID: **ICS-Integrion_432738** SeqNo: **7239551** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.5	0.500	20	0	97.5	90 - 110				
Fluoride	4.074	0.100	4	0	102	90 - 110				
Nitrogen, Nitrate (As N)	3.936	0.100	4	0	98.4	90 - 110				
Nitrogen, Nitrite (As N)	3.943	0.100	4	0	98.6	90 - 110				
Sulfate	19.2	0.500	20	0	96.0	90 - 110				

MS Sample ID: **HS23040723-01MS** Units: **mg/L** Analysis Date: **14-Apr-2023 14:24**
Client ID: Run ID: **ICS-Integrion_432738** SeqNo: **7239548** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	57.35	0.500	10	49.54	78.1	80 - 120				SO
Fluoride	2.653	0.100	2	0.551	105	80 - 120				
Nitrogen, Nitrate (As N)	3.546	0.100	2	1.569	98.9	80 - 120				
Nitrogen, Nitrite (As N)	1.847	0.100	2	0	92.4	80 - 120				
Sulfate	59.31	0.500	10	53.38	59.3	80 - 120				SO

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

QC BATCH REPORT

Batch ID: R432738 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY E300.0, REV 2.1, 1993**

MSD Sample ID: **HS23040723-01MSD** Units: **mg/L** Analysis Date: **14-Apr-2023 14:30**
Client ID: Run ID: **ICS-Integrion_432738** SeqNo: **7239549** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	57.34	0.500	10	49.54	78.0	80 - 120	57.35	0.0122	20	SO
Fluoride	2.623	0.100	2	0.551	104	80 - 120	2.653	1.14	20	
Nitrogen, Nitrate (As N)	3.544	0.100	2	1.569	98.8	80 - 120	3.546	0.0536	20	
Nitrogen, Nitrite (As N)	1.841	0.100	2	0	92.0	80 - 120	1.847	0.347	20	
Sulfate	59.26	0.500	10	53.38	58.8	80 - 120	59.31	0.0852	20	SO

The following samples were analyzed in this batch: HS23040697-08 HS23040697-09 HS23040697-10 HS23040697-11

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

QC BATCH REPORT

Batch ID: R432824 (0) **Instrument:** Balance1 **Method:** TOTAL DISSOLVED SOLIDS BY SM2540C-2011

MBLK Sample ID: **WBLK-04142023** Units: **mg/L** Analysis Date: **14-Apr-2023 13:07**
Client ID: Run ID: **Balance1_432824** SeqNo: **7241643** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	U	10.0								

LCS Sample ID: **LCS-04142023** Units: **mg/L** Analysis Date: **14-Apr-2023 13:07**
Client ID: Run ID: **Balance1_432824** SeqNo: **7241642** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	1060	10.0	1000	0	106	85 - 115				

DUP Sample ID: **HS23040697-05DUP** Units: **mg/L** Analysis Date: **14-Apr-2023 13:07**
Client ID: **MW-15A** Run ID: **Balance1_432824** SeqNo: **7241632** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	2240	10.0					2236	0.179	20	

DUP Sample ID: **HS23040694-02DUP** Units: **mg/L** Analysis Date: **14-Apr-2023 13:07**
Client ID: Run ID: **Balance1_432824** SeqNo: **7241624** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	3240	10.0					3220	0.619	20	

The following samples were analyzed in this batch: HS23040697-01 HS23040697-02 HS23040697-03 HS23040697-04 HS23040697-05 HS23040697-06

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

QC BATCH REPORT

Batch ID: R432930 (0) **Instrument:** Balance1 **Method:** TOTAL DISSOLVED SOLIDS BY SM2540C-2011

MBLK Sample ID: **WBLK-04172023** Units: **mg/L** Analysis Date: **17-Apr-2023 12:00**
Client ID: Run ID: **Balance1_432930** SeqNo: **7244542** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	U	10.0								

LCS Sample ID: **LCS-04172023** Units: **mg/L** Analysis Date: **17-Apr-2023 12:00**
Client ID: Run ID: **Balance1_432930** SeqNo: **7244541** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	1074	10.0	1000	0	107	85 - 115				

DUP Sample ID: **HS23040897-02DUP** Units: **mg/L** Analysis Date: **17-Apr-2023 12:00**
Client ID: Run ID: **Balance1_432930** SeqNo: **7244536** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	728	10.0					730	0.274	20	

DUP Sample ID: **HS23040808-01DUP** Units: **mg/L** Analysis Date: **17-Apr-2023 12:00**
Client ID: Run ID: **Balance1_432930** SeqNo: **7244527** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	786	10.0					784	0.255	20	

The following samples were analyzed in this batch: HS23040697-07 HS23040697-08 HS23040697-09 HS23040697-10 HS23040697-11

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

QC BATCH REPORT

Batch ID: R432939 (0) **Instrument:** WetChem_HS **Method:** SULFIDE BY SM4500 S2-F-2011

MBLK Sample ID: **MBLK-R432939** Units: **mg/L** Analysis Date: **18-Apr-2023 13:38**
Client ID: Run ID: **WetChem_HS_432939** SeqNo: **7244807** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfide	U	2.00								

LCS Sample ID: **LCS-R432939** Units: **mg/L** Analysis Date: **18-Apr-2023 13:38**
Client ID: Run ID: **WetChem_HS_432939** SeqNo: **7244806** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfide	22.4	2.00	25	0	89.6	85 - 115				

LCSD Sample ID: **LCSD-R432939** Units: **mg/L** Analysis Date: **18-Apr-2023 13:38**
Client ID: Run ID: **WetChem_HS_432939** SeqNo: **7244805** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfide	22.2	2.00	25	0	88.8	85 - 115	22.4	0.897	20	

MS Sample ID: **HS23040697-02MS** Units: **mg/L** Analysis Date: **18-Apr-2023 13:38**
Client ID: **MW-5S** Run ID: **WetChem_HS_432939** SeqNo: **7244808** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfide	22.4	2.00	25	-2.6	100	80 - 120				

The following samples were analyzed in this batch: HS23040697-02 HS23040697-04 HS23040697-05 HS23040697-08 HS23040697-09 HS23040697-10 HS23040697-11

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

QC BATCH REPORT

Batch ID: R433149 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY E300.0, REV 2.1, 1993**

MBLK Sample ID: **MBLK** Units: **mg/L** Analysis Date: **19-Apr-2023 11:18**
Client ID: Run ID: **ICS-Integrion_433149** SeqNo: **7249953** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	U	0.500								
Fluoride	U	0.100								
Nitrogen, Nitrate (As N)	U	0.100								
Nitrogen, Nitrite (As N)	U	0.100								
Nitrate/Nitrite (as N)	U	0.200								
Sulfate	U	0.500								

LCS Sample ID: **LCS** Units: **mg/L** Analysis Date: **19-Apr-2023 11:24**
Client ID: Run ID: **ICS-Integrion_433149** SeqNo: **7249954** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	20.2	0.500	20	0	101	90 - 110				
Fluoride	4.12	0.100	4	0	103	90 - 110				
Nitrogen, Nitrate (As N)	4.088	0.100	4	0	102	90 - 110				
Nitrogen, Nitrite (As N)	4.04	0.100	4	0	101	90 - 110				
Nitrate/Nitrite (as N)	8.128	0.200	8	0	102	90 - 110				
Sulfate	19.9	0.500	20	0	99.5	90 - 110				

MS Sample ID: **HS23040697-13MS** Units: **mg/L** Analysis Date: **19-Apr-2023 13:06**
Client ID: **MW-19S** Run ID: **ICS-Integrion_433149** SeqNo: **7249966** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	22.48	0.500	10	12.79	96.9	80 - 120				
Fluoride	3.324	0.100	2	1.474	92.5	80 - 120				
Nitrogen, Nitrate (As N)	1.815	0.100	2	0	90.7	80 - 120				
Nitrogen, Nitrite (As N)	0.4816	0.100	2	0	24.1	80 - 120				S
Nitrate/Nitrite (as N)	2.296	0.200	4	0	57.4	80 - 120				S
Sulfate	1400	0.500	10	1470	-695	80 - 120				SEO

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

QC BATCH REPORT

Batch ID: R433149 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY E300.0, REV 2.1, 1993**

MS Sample ID: **HS23040356-02MS** Units: **mg/L** Analysis Date: **19-Apr-2023 14:56**
Client ID: Run ID: **ICS-Integrion_433149** SeqNo: **7249980** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	25.06	0.500	10	15	101	80 - 120				
Fluoride	2.487	0.100	2	0.4276	103	80 - 120				
Nitrogen, Nitrate (As N)	2.563	0.100	2	0.4626	105	80 - 120				
Nitrogen, Nitrite (As N)	1.299	0.100	2	0	65.0	80 - 120				S
Nitrate/Nitrite (as N)	3.862	0.200	4	0.4626	85.0	80 - 120				
Sulfate	659.4	0.500	10	670.2	-108	80 - 120				SEO

MSD Sample ID: **HS23040697-13MSD** Units: **mg/L** Analysis Date: **19-Apr-2023 13:12**
Client ID: **MW-19S** Run ID: **ICS-Integrion_433149** SeqNo: **7249967** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	22.48	0.500	10	12.79	96.8	80 - 120	22.48	0.00445	20	
Fluoride	3.473	0.100	2	1.474	100.0	80 - 120	3.324	4.4	20	
Nitrogen, Nitrate (As N)	1.814	0.100	2	0	90.7	80 - 120	1.815	0.0496	20	
Nitrogen, Nitrite (As N)	0.4803	0.100	2	0	24.0	80 - 120	0.4816	0.27	20	S
Nitrate/Nitrite (as N)	2.294	0.200	4	0	57.4	80 - 120	2.296	0.0958	20	S
Sulfate	1399	0.500	10	1470	-706	80 - 120	1400	0.081	20	SEO

MSD Sample ID: **HS23040356-02MSD** Units: **mg/L** Analysis Date: **19-Apr-2023 15:02**
Client ID: Run ID: **ICS-Integrion_433149** SeqNo: **7249981** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	24.98	0.500	10	15	99.7	80 - 120	25.06	0.344	20	
Fluoride	2.519	0.100	2	0.4276	105	80 - 120	2.487	1.27	20	
Nitrogen, Nitrate (As N)	2.563	0.100	2	0.4626	105	80 - 120	2.563	0.0117	20	
Nitrogen, Nitrite (As N)	1.283	0.100	2	0	64.1	80 - 120	1.299	1.3	20	S
Nitrate/Nitrite (as N)	3.845	0.200	4	0.4626	84.6	80 - 120	3.862	0.444	20	
Sulfate	656.1	0.500	10	670.2	-142	80 - 120	659.4	0.508	20	SEO

The following samples were analyzed in this batch: HS23040697-12 HS23040697-13

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

QC BATCH REPORT

Batch ID: R433182 (0) **Instrument:** UV-2450 **Method:** FERROUS IRON BY SM3500 FE B

MBLK Sample ID: **MBLK-R433182** Units: **mg/L** Analysis Date: **19-Apr-2023 15:10**
Client ID: Run ID: **UV-2450_433182** SeqNo: **7250680** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ferrous Iron	U	0.0500				80 - 120				

LCS Sample ID: **LCS-R433182** Units: **mg/L** Analysis Date: **19-Apr-2023 15:10**
Client ID: Run ID: **UV-2450_433182** SeqNo: **7250679** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ferrous Iron	0.265	0.0500	0.25	0	106	80 - 120				

MS Sample ID: **HS23040697-13MS** Units: **mg/L** Analysis Date: **19-Apr-2023 15:10**
Client ID: **MW-19S** Run ID: **UV-2450_433182** SeqNo: **7250682** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ferrous Iron	0.266	0.0500	0.25	0.063	81.2	75 - 125				

MSD Sample ID: **HS23040697-13MSD** Units: **mg/L** Analysis Date: **19-Apr-2023 15:10**
Client ID: **MW-19S** Run ID: **UV-2450_433182** SeqNo: **7250681** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ferrous Iron	0.265	0.0500	0.25	0.063	80.8	75 - 125	0.266	0.377	20	

The following samples were analyzed in this batch: HS23040697-13

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

QC BATCH REPORT

Batch ID: R433183 (0) **Instrument:** UV-2450 **Method:** FERROUS IRON BY SM3500 FE D (DISSOLVED)

MBLK Sample ID: **MBLK-R433183** Units: **mg/L** Analysis Date: **19-Apr-2023 15:47**
Client ID: Run ID: **UV-2450_433183** SeqNo: **7250698** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ferrous Iron, Dissolved	U	0.0500								

LCS Sample ID: **LCS-R433183** Units: **mg/L** Analysis Date: **19-Apr-2023 15:47**
Client ID: Run ID: **UV-2450_433183** SeqNo: **7250697** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ferrous Iron, Dissolved	0.269	0.0500	0.25	0	108	80 - 120				

MS Sample ID: **HS23040697-13MS** Units: **mg/L** Analysis Date: **19-Apr-2023 15:47**
Client ID: **MW-19S** Run ID: **UV-2450_433183** SeqNo: **7250700** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ferrous Iron, Dissolved	0.27	0.0500	0.25	0.018	101	80 - 120				

MSD Sample ID: **HS23040697-13MSD** Units: **mg/L** Analysis Date: **19-Apr-2023 15:47**
Client ID: **MW-19S** Run ID: **UV-2450_433183** SeqNo: **7250699** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ferrous Iron, Dissolved	0.267	0.0500	0.25	0.018	99.6	80 - 120	0.27	1.12	20	

The following samples were analyzed in this batch: HS23040697-12 HS23040697-13

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

QC BATCH REPORT

Batch ID: R433330 (0) **Instrument:** WetChem_HS **Method:** SPECIFIC CONDUCTANCE BY SM 2510B-2011

MBLK Sample ID: **MBLK-R433330** Units: **umhos/cm @ 25.0 °C** Analysis Date: **21-Apr-2023 16:54**
Client ID: Run ID: **WetChem_HS_433330** SeqNo: **7254411** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	U	5.00								

LCS Sample ID: **LCS-R433330** Units: **umhos/cm @ 25.0 °C** Analysis Date: **21-Apr-2023 16:54**
Client ID: Run ID: **WetChem_HS_433330** SeqNo: **7254410** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	1370	5.00	1413	0	97.0	80 - 120				

DUP Sample ID: **HS23040697-13DUP** Units: **umhos/cm @ 25.0 °C** Analysis Date: **21-Apr-2023 16:54**
Client ID: **MW-19S** Run ID: **WetChem_HS_433330** SeqNo: **7254412** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	3290	5.00					3270	0.61	20	

The following samples were analyzed in this batch:

HS23040697-01	HS23040697-02	HS23040697-03	HS23040697-04
HS23040697-05	HS23040697-06	HS23040697-07	HS23040697-08
HS23040697-09	HS23040697-10	HS23040697-11	HS23040697-12
HS23040697-13			

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

QC BATCH REPORT

Batch ID: R433336 (0) **Instrument:** WetChem_HS **Method:** SULFIDE BY SM4500 S2-F-2011

MBLK Sample ID: **MBLK-R433336** Units: **mg/L** Analysis Date: **21-Apr-2023 18:04**
Client ID: Run ID: **WetChem_HS_433336** SeqNo: **7254543** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfide	U	2.00								

LCS Sample ID: **LCS-R433336** Units: **mg/L** Analysis Date: **21-Apr-2023 18:04**
Client ID: Run ID: **WetChem_HS_433336** SeqNo: **7254542** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfide	22.08	2.00	25	0	88.3	85 - 115				

LCSD Sample ID: **LCSD-R433336** Units: **mg/L** Analysis Date: **21-Apr-2023 18:04**
Client ID: Run ID: **WetChem_HS_433336** SeqNo: **7254541** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfide	21.88	2.00	25	0	87.5	85 - 115	22.08	0.91	20	

MS Sample ID: **HS23040697-13MS** Units: **mg/L** Analysis Date: **21-Apr-2023 18:04**
Client ID: **MW-19S** Run ID: **WetChem_HS_433336** SeqNo: **7254544** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfide	22.08	2.00	25	-2.32	97.6	80 - 120				

The following samples were analyzed in this batch: HS23040697-13

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

QC BATCH REPORT

Batch ID: R433352 (0) **Instrument: WetChem_HS** **Method: SULFIDE BY SM4500 S2-F-2011**

MBLK Sample ID: **MBLK-R433352** Units: **mg/L** Analysis Date: **22-Apr-2023 11:39**
Client ID: Run ID: **WetChem_HS_433352** SeqNo: **7255088** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfide	U	2.00								

LCS Sample ID: **LCS-R433352** Units: **mg/L** Analysis Date: **22-Apr-2023 11:39**
Client ID: Run ID: **WetChem_HS_433352** SeqNo: **7255087** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfide	22.08	2.00	25	0	88.3	85 - 115				

LCSD Sample ID: **LCSD-R433352** Units: **mg/L** Analysis Date: **22-Apr-2023 11:39**
Client ID: Run ID: **WetChem_HS_433352** SeqNo: **7255086** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfide	21.88	2.00	25	0	87.5	85 - 115	22.08	0.91	20	

MS Sample ID: **HS23041012-06MS** Units: **mg/L** Analysis Date: **22-Apr-2023 11:39**
Client ID: Run ID: **WetChem_HS_433352** SeqNo: **7255090** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfide	22.08	2.00	25	-2.72	99.2	80 - 120				

MSD Sample ID: **HS23041012-06MSD** Units: **mg/L** Analysis Date: **22-Apr-2023 11:39**
Client ID: Run ID: **WetChem_HS_433352** SeqNo: **7255089** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfide	22.08	2.00	25	-2.72	99.2	80 - 120	22.08	0	20	

The following samples were analyzed in this batch: HS23040697-12

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

QC BATCH REPORT

Batch ID: **R433354 (0)** **Instrument:** **WetChem_HS** **Method:** **PH BY SM4500H+ B-2011**

DUP Sample ID: **HS23040697-13DUP** Units: **pH Units** Analysis Date: **22-Apr-2023 14:02**
Client ID: **MW-19S** Run ID: **WetChem_HS_433354** SeqNo: **7255166** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	10.64	0.100					10.6	0.377	10	
Temp Deg C @pH	20.6	0					20.6	0	10	

The following samples were analyzed in this batch:

HS23040697-01	HS23040697-02	HS23040697-03	HS23040697-04
HS23040697-05	HS23040697-06	HS23040697-07	HS23040697-08
HS23040697-09	HS23040697-10	HS23040697-11	HS23040697-12
HS23040697-13			

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

QC BATCH REPORT

Batch ID: R433412 (0) **Instrument:** Balance1 **Method:** TOTAL DISSOLVED SOLIDS BY SM2540C-2011

MBLK Sample ID: **WBLK-04202023** Units: **mg/L** Analysis Date: **20-Apr-2023 11:00**
Client ID: Run ID: **Balance1_433412** SeqNo: **7256671** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	U	10.0								

LCS Sample ID: **LCS-04202023** Units: **mg/L** Analysis Date: **20-Apr-2023 11:00**
Client ID: Run ID: **Balance1_433412** SeqNo: **7256670** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	1082	10.0	1000	0	108	85 - 115				

DUP Sample ID: **HS23041120-11DUP** Units: **mg/L** Analysis Date: **20-Apr-2023 11:00**
Client ID: Run ID: **Balance1_433412** SeqNo: **7256667** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	678	10.0					680	0.295	20	

DUP Sample ID: **HS23040697-13DUP** Units: **mg/L** Analysis Date: **20-Apr-2023 11:00**
Client ID: **MW-19S** Run ID: **Balance1_433412** SeqNo: **7256651** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	2310	10.0					2310	0	20	

The following samples were analyzed in this batch: HS23040697-12 HS23040697-13

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

QC BATCH REPORT

Batch ID: R433630 (0) **Instrument:** Skalar 03 **Method:** ALKALINITY BY SM 2320B-2011

MBLK Sample ID: **MBLK-04252023** Units: **mg/L** Analysis Date: **25-Apr-2023 17:46**
Client ID: Run ID: **Skalar 03_433630** SeqNo: **7262133** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	U	5.00								
Alkalinity, Carbonate (As CaCO3)	U	5.00								
Alkalinity, Hydroxide (As CaCO3)	U	5.00								
Alkalinity, Total (As CaCO3)	U	5.00								

LCS Sample ID: **LCS-04252023** Units: **mg/L** Analysis Date: **25-Apr-2023 17:52**
Client ID: Run ID: **Skalar 03_433630** SeqNo: **7262134** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Carbonate (As CaCO3)	930.2	5.00	1000	0	93.0	85 - 115				
Alkalinity, Total (As CaCO3)	930.7	5.00	1000	0	93.1	85 - 115				

LCSD Sample ID: **LCSD-04252023** Units: **mg/L** Analysis Date: **25-Apr-2023 17:59**
Client ID: Run ID: **Skalar 03_433630** SeqNo: **7262135** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Carbonate (As CaCO3)	927.8	5.00	1000	0	92.8	85 - 115	930.2	0.258	20	
Alkalinity, Total (As CaCO3)	928.6	5.00	1000	0	92.9	85 - 115	930.7	0.226	20	

DUP Sample ID: **HS23040697-13DUP** Units: **mg/L** Analysis Date: **25-Apr-2023 18:07**
Client ID: **MW-19S** Run ID: **Skalar 03_433630** SeqNo: **7262137** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	U	5.00					0	0	20	
Alkalinity, Carbonate (As CaCO3)	55.4	5.00					62.4	11.9	20	
Alkalinity, Hydroxide (As CaCO3)	64.1	5.00					62	3.33	20	
Alkalinity, Total (As CaCO3)	119.5	5.00					124.4	4.02	20	

The following samples were analyzed in this batch:

HS23040697-02	HS23040697-04	HS23040697-05	HS23040697-08
HS23040697-09	HS23040697-10	HS23040697-11	HS23040697-12
HS23040697-13			

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

QC BATCH REPORT

Batch ID: R433632 (0) **Instrument:** WetChem_HS **Method:** CHEMICAL OXYGEN DEMAND BY E410.4, REV 2.0, 1993

MBLK Sample ID: **MBLK-R433632** Units: **mg/L** Analysis Date: **26-Apr-2023 11:00**
Client ID: Run ID: **WetChem_HS_433632** SeqNo: **7262199** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	U	15.0								

LCS Sample ID: **LCS-R433632** Units: **mg/L** Analysis Date: **26-Apr-2023 11:00**
Client ID: Run ID: **WetChem_HS_433632** SeqNo: **7262198** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	98	15.0	100	0	98.0	85 - 115				

MS Sample ID: **HS23040694-02MS** Units: **mg/L** Analysis Date: **26-Apr-2023 11:00**
Client ID: Run ID: **WetChem_HS_433632** SeqNo: **7262201** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	52	15.0	50	5	94.0	80 - 120				

MSD Sample ID: **HS23040694-02MSD** Units: **mg/L** Analysis Date: **26-Apr-2023 11:00**
Client ID: Run ID: **WetChem_HS_433632** SeqNo: **7262200** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	53	15.0	50	5	96.0	80 - 120	52	1.9	20	

The following samples were analyzed in this batch:

HS23040697-01	HS23040697-02	HS23040697-03	HS23040697-04
HS23040697-05	HS23040697-06	HS23040697-07	HS23040697-08
HS23040697-09			

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

QC BATCH REPORT

Batch ID: R433664 (0) **Instrument:** UV-2450 **Method:** FERROUS IRON BY SM3500 FE B

MBLK Sample ID: **MBLK-R433664** Units: **mg/L** Analysis Date: **19-Apr-2023 15:10**
Client ID: Run ID: **UV-2450_433664** SeqNo: **7262960** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ferrous Iron	U	0.0500				80 - 120				

LCS Sample ID: **LCS-R433664** Units: **mg/L** Analysis Date: **19-Apr-2023 15:10**
Client ID: Run ID: **UV-2450_433664** SeqNo: **7262959** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ferrous Iron	0.265	0.0500	0.25	0	106	80 - 120				

MS Sample ID: **HS23040697-13MS** Units: **mg/L** Analysis Date: **19-Apr-2023 15:10**
Client ID: **MW-19S** Run ID: **UV-2450_433664** SeqNo: **7262965** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ferrous Iron	0.266	0.0500	0.25	0.063	81.2	75 - 125				

MSD Sample ID: **HS23040697-13MSD** Units: **mg/L** Analysis Date: **19-Apr-2023 15:10**
Client ID: **MW-19S** Run ID: **UV-2450_433664** SeqNo: **7262964** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ferrous Iron	0.265	0.0500	0.25	0.063	80.8	75 - 125	0.266	0.377	20	

The following samples were analyzed in this batch: HS23040697-12

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: HS23040697

QC BATCH REPORT

Batch ID: R433776 (0) **Instrument:** WetChem_HS **Method:** CHEMICAL OXYGEN DEMAND BY E410.4, REV 2.0, 1993

MBLK Sample ID: **MBLK-R433776** Units: **mg/L** Analysis Date: **27-Apr-2023 13:00**
Client ID: Run ID: **WetChem_HS_433776** SeqNo: **7265697** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	U	15.0								

LCS Sample ID: **LCS-R433776** Units: **mg/L** Analysis Date: **27-Apr-2023 13:00**
Client ID: Run ID: **WetChem_HS_433776** SeqNo: **7265696** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	99	15.0	100	0	99.0	85 - 115				

MS Sample ID: **HS23040697-13MS** Units: **mg/L** Analysis Date: **27-Apr-2023 13:00**
Client ID: **MW-19S** Run ID: **WetChem_HS_433776** SeqNo: **7265699** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	63	15.0	50	16	94.0	80 - 120				

MSD Sample ID: **HS23040697-13MSD** Units: **mg/L** Analysis Date: **27-Apr-2023 13:00**
Client ID: **MW-19S** Run ID: **WetChem_HS_433776** SeqNo: **7265698** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	64	15.0	50	16	96.0	80 - 120	63	1.57	20	

The following samples were analyzed in this batch: HS23040697-10 HS23040697-11 HS23040697-12 HS23040697-13

Client: Altamira
Project: WFEC / CCR Landfill
WorkOrder: **HS23040697**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	88-00356	27-Mar-2024
California	2919; 2024	30-Apr-2024
Dept of Defense	L23-358	31-May-2025
Florida	E87611-37	30-Jun-2023
Illinois	2000322023-11	30-Jun-2024
Kansas	E-10352; 2022-2023	31-Jul-2023
Louisiana	03087, 2022-2023	30-Jun-2023
Maryland	343, 2022-2023	30-Jun-2023
North Carolina	624-2023	31-Dec-2023
Oklahoma	2022-141	31-Aug-2023
Texas	T104704231-23-31	30-Apr-2024
Utah	TX026932022-13	31-Jul-2023

Sample Receipt Checklist

Work Order ID: HS23040697 **Date/Time Received:** **13-Apr-2023 09:00**

Client Name: Enviro Clean Services-Tulsa **Received by:** **Corey Grandits**

Completed By:	/S/ Corey Grandits	13-Apr-2023 11:30	**Reviewed by:**	/S/ Anna Kinchen	17-Apr-2023 10:03
	eSignature	Date/Time		eSignature	Date/Time

Matrices: **W** Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	1.6UC/1.1C	IR31
Cooler(s)/Kit(s):	46956	
Date/Time sample(s) sent to storage:	4/13/23	

Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Sample Receipt Checklist

Work Order ID: HS23040697 **Date/Time Received:** **13-Apr-2023 09:00**

Client Name: Enviro Clean Services-Tulsa **Received by:** **Corey Grandits**

Completed By:	/S/ Corey Grandits	14-Apr-2023 10:32	**Reviewed by:**		
	eSignature	Date/Time		eSignature	Date/Time

Matrices: **W** Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	1.7UC/1.2C	IR31
Cooler(s)/Kit(s):	Red	
Date/Time sample(s) sent to storage:	4/14/23	

Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Sample Receipt Checklist

Work Order ID: HS23040697 **Date/Time Received:** **13-Apr-2023 09:00**

Client Name: Enviro Clean Services-Tulsa **Received by:** **Corey Grandits**

Completed By:	/S/ Corey Grandits	19-Apr-2023 11:56	**Reviewed by:**	/S/ Anna Kinchen	24-Apr-2023 13:40
	eSignature	Date/Time		eSignature	Date/Time

Matrices: **W** Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	4.0UC/3.5C	IR31
Cooler(s)/Kit(s):	Red	
Date/Time sample(s) sent to storage:	4/19/23	

Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY RECORD

ALTAMIRA
formerly known as Enviro Clean Cardinal

PROJECT NUMBER: WFEE160023.0004

PROJECT NAME: ALL ON SAME WO
WFEC, CCR LANDFILL

COC: 1 of X

CLIENT CONTACT: HEATHER TIFFANY

CLIENT EMAIL: HEATHER.TIFFANY@ALTAMIRA-US.COM

CLIENT PHONE: 618 2021

LABORATORY / LAB PM: ALS/ANNA KINCHEN

CLIENT ADDRESS: OKC, OK 73105

TAT: STD

LAB ADDRESS: ALS/HOUSTON

SPECIAL INSTRUCTIONS: * APP A & **APPB - SEE PROJECT NOTES

SHIPMENT METHOD: FEDEX

TRACKING: 6230 2987 3452

PARAMETERS

NO.	SAMPLE DESCRIPTION	DATE	TIME	MATRIX	PRES.	NUMBER OF CONTAINERS	FIELD FILTERED (YES / NO)	APP A *	APP B **	NITRATE	COD	SP. COND.	Fe, TOTAL	FERROUS Fe, FERRIC	DISS Fe, FERROUS	DISS Fe, NO FERRIC Fe	Ca, Mg, NA	SULFIDE	ALK, HCO3, CO3, HYDROXIDE	HOLD
1	MW-3	4/12/23	1042	W	2,3,9		Y	X	X	X	X	X								
2	MW-5S	4/12/23	1232		1,2,3,4,9			X	—	—	—	—	—	—	—	—	→		X	
3	~~MW-7S~~				↓			X	—	—	—	—	—	—	—	—	→		X	
4	MW-13	4/12/23	1157		2,3,9		Y	X	X	X	X	X								
5	MW-14A	4/12/23	1106		1,2,3,4,9		Y	X	—	—	—	—	—	—	—	—	→		X	
6	MW-15A	4/12/23	945				Y	X	—	—	—	—	—	—	—	—	→		X	
7	MW-16							X	—	—	—	—	—	—	—	—	→		X	
8	~~MW-17~~							X	—	—	—	—	—	—	—	—	→		X	
9	~~MW-18~~							X	—	—	—	—	—	—	—	—	→		X	
10	~~MW-19S~~				↓			X	—	—	—	—	—	—	—	—	→		X	
11	MW-20	4/12/23	1258		2,3,9		Y	X	X	X	X	X								
12	MW-21	4/12/23	947	↓	2,3,9		Y	X	X	X	X	X								
				W																

HS23040697
Altamira
WFEC / CCR Landfill

SAMPLER(S) NAME: Bradley VanCleave / Pasha Khlystov

DATE: 4/12/23 TIME: 1400

Total # of Containers:

SAMPLER(S) SIGNATURE: Bradley VanCleave Pasha Khlystov

DATE: 4/12/23 TIME: 1400

RELINQUISHED BY: DATE: 4/12/23 TIME: 1400

RECEIVED BY: DATE: TIME:

LOGGED BY: DATE: TIME:

COOLER TEMP:

PRESERVATION KEY: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7- 4 Degrees C 8-9035 9-Other :

POINT OF ORIGIN: ☐ Norman ☒ Oklahoma City ☐ Tulsa ☐ Yukon ☐ Midland ☐ Other :

ALTAMIRA-US, LLC

16951 1251 1.6*

CHAIN OF CUSTODY RECORD

ALTAMIRA
formerly known as Enviro Clean Cardinal

PROJECT NUMBER: WFEE160823/0004
PROJECT NAME: ALLON SAME WO WFEC/CCR, LANDFILL
COC: 2 of X
CLIENT CONTACT: HEATHER TIFFANY
CLIENT EMAIL: HEATHER.TIFFANY@ALTAMIRA-US.COM LABDATA
CLIENT PHONE: 405.618.2021
LABORATORY / LAB PM: ALS/ANNA KINCITEN
CLIENT ADDRESS: OKC, OK 73105
TAT: STD
LAB ADDRESS: HOUSTON
SPECIAL INSTRUCTIONS: *APP A & APP B** SEE PROJECT NOTES
SHIPMENT METHOD: FEDEX
TRACKING:

PARAMETERS

NO.	SAMPLE DESCRIPTION	DATE	TIME	MATRIX	PRES.	NUMBER OF CONTAINERS	FIELD FILTERED (YES / NO)	APP A *	APP B *	NITRATE	COD	SP. COND.	Fe, TOTAL	FERROUS & Fe, FERRIC	DISS Fe, FERROUS DISS Fe, FERRIC	K, MG, NA	SULFIDE	ALK, HCO3, CO3, HYDROXIDE	HOLD
1	MW-3			W	2,3,9			X	X	X	X	X							
2	MW-5S				1,2,3,4,9			X									→	X	
3	MW-7S				↓			X									→	X	
4	MW-13				2,3,9			X	X	X	X	X							
5	MW-14A				1,2,3,4,9			X									→	X	
6	MW-15A							X									→	X	
7	MW-16	4/12/23	1523					X									→	X	
8	MW-17	4/12/23	1637					X									→	X	
9	MW-18	4/12/23	1810					X									→	X	
10	MW-19S				↓			X									→	X	
11	MW-20				2,3,9			X	X	X	X	X							
12	MW-21			↓	2,3,9			X	X	X	X	X							
13	Dup 4	4/12/23	1637																
14																			
15																			

SAMPLER(S) NAME: Bradley VanCleave
DATE: 4/13/23 TIME: 1800
Total # of Containers:
SAMPLER(S) SIGNATURE: Bradley VanCleave
DATE: 4/13/23 TIME: 1800

RELINQUISHED BY: DATE: 4/15/23 TIME: (Red)
RECEIVED BY: DATE: TIME:
LOGGED BY: DATE: TIME:
COOLER TEMP:

PRESERVATIVE CODES: 5-Na2S2O3 6-NaHSO4 7- 4 Degrees C 8-9035 9-Other :
POTABLE: Tulsa Yukon Midland Other :

HS23040697
Altamira
WFEC / CCR Landfill
ALTAMIRA-US, LLC

CHAIN OF CUSTODY RECORD

ALTAMIRA
formerly known as Enviro Clean Cardinal

PROJECT NUMBER: WFEC160023/0004
PROJECT NAME: ALLON SAME COC WFEC/CCR, LANDFILL
COC: 3 of 3
CLIENT CONTACT: HEATHER TIFFANY
CLIENT EMAIL: HEATHER.TIFFANY@ALTAMIRA-US.COM
CLIENT PHONE: 405.618.2021
LABORATORY / LAB PM: ALS/ANNA KINCHEN
CLIENT ADDRESS: OKC, OK, 73105
TAT: STD
LAB ADDRESS: ALS/HOUSTON
SPECIAL INSTRUCTIONS: *APPA & **APPB SEE PROJECT NOTES
SHIPMENT METHOD: FEDEX
TRACKING: 6230 2997 3522

PARAMETERS

NO.	SAMPLE DESCRIPTION	DATE	TIME	MATRIX	PRES.	NUMBER OF CONTAINERS	FIELD FILTERED (YES / NO)	APP A**	APP B***	NITRATE	COD	SP. COND.	Fe, TOTAL	Fe, FERROUS & Fe, FERRIC	DISS Fe, FERROUS DISS Fe, NO. FERRIC Fe	K, Mg, Na	CHLORIDE	ALK, HCO3, CO3, HYDROXIDE	HOLD
1	MW-3			W															
2	MW-5S																		
3	MW-7S	4/18/23	928		1,2,3,4,9	7	Y												
4	MW-13																		
5	MW-14																		
6	MW-15A																		
7	MW-16																		
8	MW-17																		
9	MW-18																		
10	MW-19S	4/17/23	1833		~~1833~~	BV	Y												
11	MW-20																		
12	MW-21																		
13	MW-19S MS	4/17/23	1833	W	~~1833~~	7	Y												
14	MW-19S MSD	4/17/23	1833	W	1,2,3,4,9	7	Y												
15	Temp Blank			W		1													

HS23040697
Altamira
WFEC / CCR Landfill

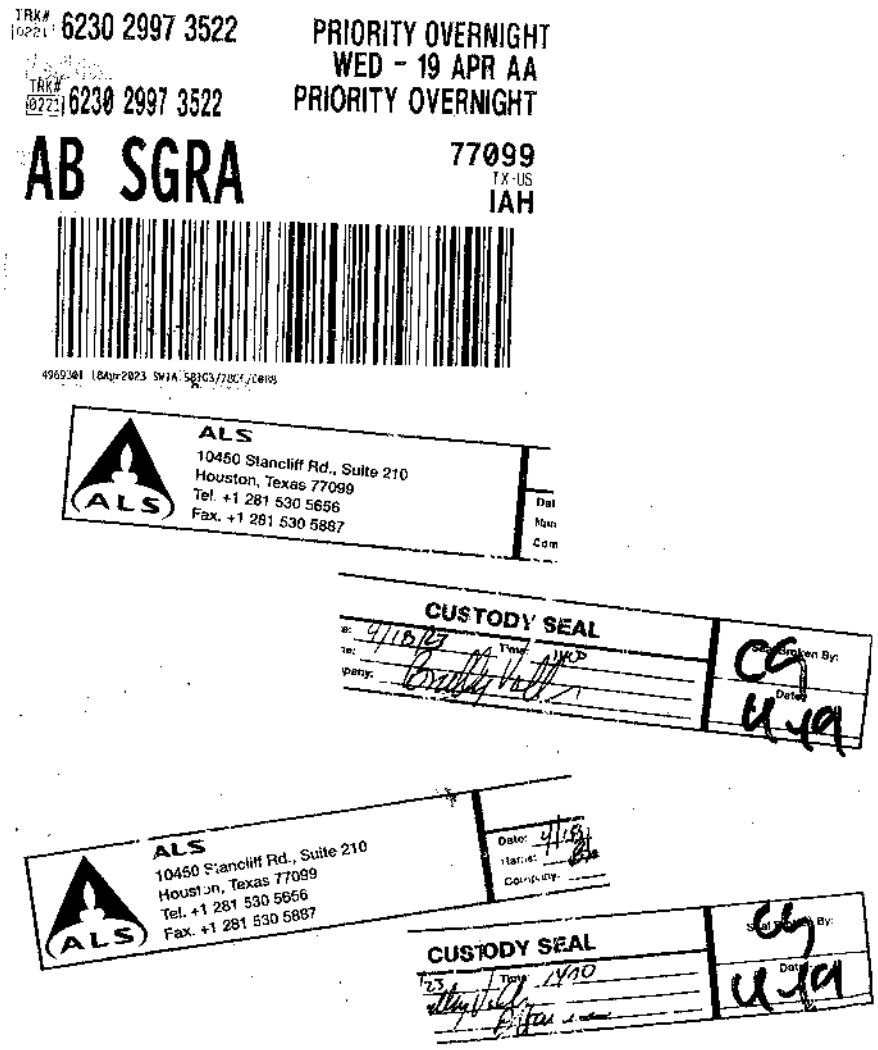
SAMPLER(S) NAME: Bradley VanCleave
DATE: 4/18/23 TIME: 1400
Total # of Containers:
SAMPLER(S) SIGNATURE:
DATE: 4/18/23 TIME: 1400

RELINQUISHED BY: DATE: 4/18/23 TIME: 1400
RECEIVED BY: DATE: TIME:
LOGGED BY: DATE: TIME:
COOLER TEMP:

PRESERVATION KEY: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7- 4 Degrees C 8-9035 9-Other: None, ZnAc

POINT OF ORIGIN: ☐ Norman ☒ Oklahoma City ☐ Tulsa ☐ Yukon ☐ Midland ☐ Other:

ALTAMIRA-US, LLC



ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

Red

CUSTODY SEAL
Date: 4/13/23 Time: 1300
Name:
Company:

Seal Broken By:
Date: 04/14/23

Red

ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

Red

4/13/23 CUSTODY SEAL
Date:
Time: 1300
Name:
Company:

Seal Broken By:
Date: 04/14/23

Red

ORIGIN ID:SGRA (918) 794-7829
HEATHER TIFFANY
ALTAMIRA
2670 TRENTON RD

NORMAN, OK 73069
UNITED STATES US

SHIP DATE: 28MAR23
ACTWGT: 1.00 LB MAN
CAD: 0221247/CAFE3702
DIMS: 19x16x13 IN

TO SHIPPING DEPT
ALS LABORATORY GROUP
10450 STANCLIFF RD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: WFEC/AZR MW-2 INJECT/ODEC=BQ 91859/-AK

RMA:

FedEx Express

FedEx
TRK# 6230 2997 4058
0221

FRI - 14 APR 10:30A
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US
IAH

ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

CUSTODY SEAL
Date: 4/12/23 Time: 1400
Name:
Company:
Seal Broken By:
Date:

FedEx
TRK# 0221 6230 2997 3452
THU - 13 APR AA
PRIORITY OVERNIGHT
AB SGRA
77099
TX-US
IAH

ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

CUSTODY SEAL
Date: 4/12/23 Time: 1400
Name:
Company:
Seal Broken By:
Date:

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Altamira
Address : 525 Central Park Dr
Suite 500
Oklahoma City, Oklahoma 73105

Report Date: May 25, 2023

Contact: Heather Tiffany
Project: Radiochemistry

Client Sample ID: MW-3
Sample ID: 618855002
Matrix: Water
Collect Date: 12-APR-23
Receive Date: 19-APR-23
Collector: Client

Project: ALMI00122
Client ID: ALMI001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
EPA 904.0 Radium-228 in Drinking Water "As Received"														
Radium-228	U	0.827	+/-0.615	0.987	+/-0.629	1.00	pCi/L			JE1	05/12/23	1607	2416327	1
Radium-226+Radium-228 Calculation "See Parent Products"														
Radium-226+228 Sum		0.907	+/-0.622		+/-0.636		pCi/L			NXL1	05/25/23	1326	2416325	2
Rad Radium-226														
Radium-226 in Drinking Water EPA 903.1 (De-emanation) "As Received"														
Radium-226	U	0.0804	+/-0.0924	0.141	+/-0.0936	1.00	pCi/L			LXP1	05/25/23	0757	2416323	3

The following Analytical Methods were performed

Method	Description
1	EPA 904.0/ EPA 9320
2	Calculation
3	EPA 903.1

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium Carrier	EPA 904.0 Radium-228 in Drinking Water "As Received"	2416327	92	(25%-125%)
Yttrium Carrier	EPA 904.0 Radium-228 in Drinking Water "As Received"	2416327	54.9	(25%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Altamira
Address : 525 Central Park Dr
Suite 500
Oklahoma City, Oklahoma 73105

Report Date: May 25, 2023

Contact: Heather Tiffany
Project: Radiochemistry

Client Sample ID: MW-5S
Sample ID: 618855005
Matrix: Water
Collect Date: 12-APR-23
Receive Date: 19-APR-23
Collector: Client

Project: ALMI00122
Client ID: ALMI001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
EPA 904.0 Radium-228 in Drinking Water "As Received"														
Radium-228	U	0.241	+/-0.399	0.697	+/-0.401	1.00	pCi/L			JE1	05/12/23	1122	2416327	1
Radium-226+Radium-228 Calculation "See Parent Products"														
Radium-226+228 Sum		0.334	+/-0.410		+/-0.412		pCi/L			NXL1	05/25/23	1326	2416325	2
Rad Radium-226														
Radium-226 in Drinking Water EPA 903.1 (De-emanation) "As Received"														
Radium-226	U	0.0929	+/-0.0928	0.121	+/-0.0938	1.00	pCi/L			LXP1	05/25/23	0833	2416323	3

The following Analytical Methods were performed

Method	Description
1	EPA 904.0/ EPA 9320
2	Calculation
3	EPA 903.1

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium Carrier	EPA 904.0 Radium-228 in Drinking Water "As Received"	2416327	82.8	(25%-125%)
Yttrium Carrier	EPA 904.0 Radium-228 in Drinking Water "As Received"	2416327	81.4	(25%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Altamira
Address : 525 Central Park Dr
Suite 500
Oklahoma City, Oklahoma 73105

Report Date: May 30, 2023

Contact: Heather Tiffany
Project: Radiochemistry

Client Sample ID: MW-7S
Sample ID: 619994002
Matrix: Water
Collect Date: 18-APR-23
Receive Date: 27-APR-23
Collector: Client

Project: ALMI00122
Client ID: ALMI001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
GFPC Ra228, Liquid "As Received"														
Radium-228		1.65	+/-1.08	1.63	+/-1.16	3.00	pCi/L			JE1	05/24/23	1550	2423918	1
Radium-226+Radium-228 Calculation "See Parent Products"														
Radium-226+228 Sum		2.32	+/-1.16		+/-1.24		pCi/L			NXL1	05/30/23	1641	2429540	2
Rad Radium-226														
Lucas Cell, Ra226, Liquid "As Received"														
Radium-226		0.669	+/-0.419	0.529	+/-0.448	1.00	pCi/L			LXP1	05/18/23	1009	2423869	3

The following Analytical Methods were performed

Method	Description
1	EPA 904.0/SW846 9320 Modified
2	Calculation
3	EPA 903.1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2423918	74.8	(15%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Altamira
Address : 525 Central Park Dr
Suite 500
Oklahoma City, Oklahoma 73105

Report Date: May 25, 2023

Contact: Heather Tiffany
Project: Radiochemistry

Client Sample ID: MW-13
Sample ID: 618855006
Matrix: Water
Collect Date: 12-APR-23
Receive Date: 19-APR-23
Collector: Client

Project: ALMI00122
Client ID: ALMI001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
EPA 904.0 Radium-228 in Drinking Water "As Received"														
Radium-228		1.31	+/-0.470	0.576	+/-0.516	1.00	pCi/L			JE1	05/12/23	1127	2416327	1
Radium-226+Radium-228 Calculation "See Parent Products"														
Radium-226+228 Sum		1.38	+/-0.478		+/-0.523		pCi/L			NXL1	05/25/23	1326	2416325	2
Rad Radium-226														
Radium-226 in Drinking Water EPA 903.1 (De-emanation) "As Received"														
Radium-226	U	0.0643	+/-0.0864	0.146	+/-0.0870	1.00	pCi/L			LXP1	05/25/23	0833	2416323	3

The following Analytical Methods were performed

Method	Description
1	EPA 904.0/ EPA 9320
2	Calculation
3	EPA 903.1

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium Carrier	EPA 904.0 Radium-228 in Drinking Water "As Received"	2416327	87.4	(25%-125%)
Yttrium Carrier	EPA 904.0 Radium-228 in Drinking Water "As Received"	2416327	81.4	(25%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Altamira
Address : 525 Central Park Dr
Suite 500
Oklahoma City, Oklahoma 73105

Report Date: May 30, 2023

Contact: Heather Tiffany
Project: Radiochemistry

Client Sample ID: MW-14A
Sample ID: 619993001
Matrix: Water
Collect Date: 12-APR-23
Receive Date: 27-APR-23
Collector: Client

Project: ALMI00122
Client ID: ALMI001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
GFPC Ra228, Liquid "As Received"														
Radium-228		2.08	+/-1.16	1.66	+/-1.27	3.00	pCi/L			JE1	05/24/23	1550	2423918	1
Radium-226+Radium-228 Calculation "See Parent Products"														
Radium-226+228 Sum		2.70	+/-1.21		+/-1.33		pCi/L			NXL1	05/30/23	1641	2429540	2
Rad Radium-226														
Lucas Cell, Ra226, Liquid "As Received"														
Radium-226		0.621	+/-0.363	0.366	+/-0.385	1.00	pCi/L			LXP1	05/18/23	0919	2423869	3

The following Analytical Methods were performed

Method	Description
1	EPA 904.0/SW846 9320 Modified
2	Calculation
3	EPA 903.1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2423918	74.6	(15%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Altamira
Address : 525 Central Park Dr
Suite 500
Oklahoma City, Oklahoma 73105

Report Date: May 25, 2023

Contact: Heather Tiffany
Project: Radiochemistry

Client Sample ID: MW-15A
Sample ID: 618855007
Matrix: Water
Collect Date: 12-APR-23
Receive Date: 19-APR-23
Collector: Client

Project: ALMI00122
Client ID: ALMI001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
EPA 904.0 Radium-228 in Drinking Water "As Received"														
Radium-228		1.50	+/-0.700	0.993	+/-0.743	1.00	pCi/L			JE1	05/12/23	1607	2416327	1
Radium-226+Radium-228 Calculation "See Parent Products"														
Radium-226+228 Sum		1.57	+/-0.708		+/-0.751		pCi/L			NXL1	05/25/23	1326	2416325	2
Rad Radium-226														
Radium-226 in Drinking Water EPA 903.1 (De-emanation) "As Received"														
Radium-226	U	0.0711	+/-0.107	0.190	+/-0.108	1.00	pCi/L			LXP1	05/25/23	0833	2416323	3

The following Analytical Methods were performed

Method	Description
1	EPA 904.0/ EPA 9320
2	Calculation
3	EPA 903.1

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium Carrier	EPA 904.0 Radium-228 in Drinking Water "As Received"	2416327	82.9	(25%-125%)
Yttrium Carrier	EPA 904.0 Radium-228 in Drinking Water "As Received"	2416327	53.3	(25%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Altamira
Address : 525 Central Park Dr
Suite 500
Oklahoma City, Oklahoma 73105

Report Date: June 19, 2023

Contact: Heather Tiffany
Project: Radiochemistry

Client Sample ID: MW-16
Sample ID: 618844006
Matrix: Ground Water
Collect Date: 12-APR-23
Receive Date: 19-APR-23
Collector: Client

Project: ALMI00122
Client ID: ALMI001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
EPA 904.0 Radium-228 in Drinking Water "As Received"														
Radium-228	U	0.612	+/-0.453	0.709	+/-0.463	1.00	pCi/L			JE1	05/15/23	1133	2416326	1
Radium-226+Radium-228 Calculation "See Parent Products"														
Radium-226+228 Sum		0.612	+/-0.464		+/-0.474		pCi/L		1	TON1	06/15/23	1120	2416324	2
Rad Radium-226														
Radium-226 in Drinking Water EPA 903.1 (De-emanation) "As Received"														
Radium-226	U	0.000	+/-0.102	0.235	+/-0.102	1.00	pCi/L			LXP1	05/17/23	0857	2416321	3

The following Analytical Methods were performed

Method	Description
1	EPA 904.0/ EPA 9320
2	Calculation
3	EPA 903.1

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium Carrier	EPA 904.0 Radium-228 in Drinking Water "As Received"	2416326	94.3	(25%-125%)
Yttrium Carrier	EPA 904.0 Radium-228 in Drinking Water "As Received"	2416326	73.9	(25%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Altamira
Address : 525 Central Park Dr
Suite 500
Oklahoma City, Oklahoma 73105

Report Date: June 19, 2023

Contact: Heather Tiffany
Project: Radiochemistry

Client Sample ID: MW-17
Sample ID: 618844002
Matrix: Ground Water
Collect Date: 12-APR-23
Receive Date: 19-APR-23
Collector: Client

Project: ALMI00122
Client ID: ALMI001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
EPA 904.0 Radium-228 in Drinking Water "As Received"														
Radium-228	U	0.514	+/-0.600	1.01	+/-0.605	1.00	pCi/L			JE1	05/15/23	1136	2416326	1
Radium-226+Radium-228 Calculation "See Parent Products"														
Radium-226+228 Sum		0.557	+/-0.605		+/-0.610		pCi/L		1	TON1	06/15/23	1120	2416324	2
Rad Radium-226														
Radium-226 in Drinking Water EPA 903.1 (De-emanation) "As Received"														
Radium-226	U	0.0432	+/-0.0793	0.152	+/-0.0799	1.00	pCi/L			LXP1	05/17/23	0820	2416321	3

The following Analytical Methods were performed

Method	Description
1	EPA 904.0/ EPA 9320
2	Calculation
3	EPA 903.1

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium Carrier	EPA 904.0 Radium-228 in Drinking Water "As Received"	2416326	92.3	(25%-125%)
Yttrium Carrier	EPA 904.0 Radium-228 in Drinking Water "As Received"	2416326	32.7	(25%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Altamira
Address : 525 Central Park Dr
Suite 500
Oklahoma City, Oklahoma 73105

Report Date: June 19, 2023

Contact: Heather Tiffany
Project: Radiochemistry

Client Sample ID: Dup 4
Sample ID: 618844004
Matrix: Ground Water
Collect Date: 12-APR-23
Receive Date: 19-APR-23
Collector: Client

Project: ALMI00122
Client ID: ALMI001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
EPA 904.0 Radium-228 in Drinking Water "As Received"														
Radium-228	U	0.368	+/-0.510	0.877	+/-0.513	1.00	pCi/L			JE1	05/15/23	1137	2416326	1
Radium-226+Radium-228 Calculation "See Parent Products"														
Radium-226+228 Sum		0.368	+/-0.518		+/-0.521		pCi/L		1	TON1	06/15/23	1120	2416324	2
Rad Radium-226														
Radium-226 in Drinking Water EPA 903.1 (De-emanation) "As Received"														
Radium-226	U	-0.0459	+/-0.0900	0.254	+/-0.0901	1.00	pCi/L			LXP1	05/17/23	0820	2416321	3

The following Analytical Methods were performed

Method	Description
1	EPA 904.0/ EPA 9320
2	Calculation
3	EPA 903.1

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium Carrier	EPA 904.0 Radium-228 in Drinking Water "As Received"	2416326	89.9	(25%-125%)
Yttrium Carrier	EPA 904.0 Radium-228 in Drinking Water "As Received"	2416326	55.9	(25%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Altamira
Address : 525 Central Park Dr
Suite 500
Oklahoma City, Oklahoma 73105

Report Date: June 19, 2023

Contact: Heather Tiffany
Project: Radiochemistry

Client Sample ID: MW-18
Sample ID: 618844001
Matrix: Ground Water
Collect Date: 12-APR-23
Receive Date: 19-APR-23
Collector: Client

Project: ALMI00122
Client ID: ALMI001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
EPA 904.0 Radium-228 in Drinking Water "As Received"														
Radium-228	U	-0.0214	+/-0.472	0.921	+/-0.472	1.00	pCi/L			JE1	05/15/23	1133	2416326	1
Radium-226+Radium-228 Calculation "See Parent Products"														
Radium-226+228 Sum		0.590	+/-0.629		+/-0.635		pCi/L		1	TON1	06/15/23	1120	2416324	2
Rad Radium-226														
Radium-226 in Drinking Water EPA 903.1 (De-emanation) "As Received"														
Radium-226		0.590	+/-0.416	0.526	+/-0.426	1.00	pCi/L			LXP1	06/13/23	0807	2438523	3

The following Analytical Methods were performed

Method	Description
1	EPA 904.0/ EPA 9320
2	Calculation
3	EPA 903.1

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium Carrier	EPA 904.0 Radium-228 in Drinking Water "As Received"	2416326	92.9	(25%-125%)
Yttrium Carrier	EPA 904.0 Radium-228 in Drinking Water "As Received"	2416326	44.1	(25%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Altamira
Address : 525 Central Park Dr
Suite 500
Oklahoma City, Oklahoma 73105

Report Date: May 30, 2023

Contact: Heather Tiffany
Project: Radiochemistry

Client Sample ID: MW-19S
Sample ID: 619993004
Matrix: Water
Collect Date: 17-APR-23
Receive Date: 27-APR-23
Collector: Client

Project: ALMI00122
Client ID: ALMI001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
GFPC Ra228, Liquid "As Received"														
Radium-228	U	-3.26	+/-0.968	2.44	+/-0.968	3.00	pCi/L			JE1	05/24/23	1550	2423918	1
Radium-226+Radium-228 Calculation "See Parent Products"														
Radium-226+228 Sum		0.376	+/-1.03		+/-1.03		pCi/L			NXL1	05/30/23	1641	2429540	2
Rad Radium-226														
Lucas Cell, Ra226, Liquid "As Received"														
Radium-226	U	0.376	+/-0.338	0.514	+/-0.343	1.00	pCi/L			LXP1	05/18/23	1009	2423869	3

The following Analytical Methods were performed

Method	Description
1	EPA 904.0/SW846 9320 Modified
2	Calculation
3	EPA 903.1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2423918	82.3	(15%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Altamira
Address : 525 Central Park Dr
Suite 500
Oklahoma City, Oklahoma 73105

Report Date: June 19, 2023

Contact: Heather Tiffany
Project: Radiochemistry

Client Sample ID: MW-20
Sample ID: 618844005
Matrix: Ground Water
Collect Date: 12-APR-23
Receive Date: 19-APR-23
Collector: Client

Project: ALMI00122
Client ID: ALMI001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
EPA 904.0 Radium-228 in Drinking Water "As Received"														
Radium-228	U	0.342	+/-0.428	0.726	+/-0.432	1.00	pCi/L			JE1	05/15/23	1137	2416326	1
Radium-226+Radium-228 Calculation "See Parent Products"														
Radium-226+228 Sum		0.453	+/-0.442		+/-0.446		pCi/L		1	TON1	06/15/23	1120	2416324	2
Rad Radium-226														
Radium-226 in Drinking Water EPA 903.1 (De-emanation) "As Received"														
Radium-226	U	0.111	+/-0.110	0.160	+/-0.113	1.00	pCi/L			LXP1	05/17/23	0820	2416321	3

The following Analytical Methods were performed

Method	Description
1	EPA 904.0/ EPA 9320
2	Calculation
3	EPA 903.1

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium Carrier	EPA 904.0 Radium-228 in Drinking Water "As Received"	2416326	84.4	(25%-125%)
Yttrium Carrier	EPA 904.0 Radium-228 in Drinking Water "As Received"	2416326	71.6	(25%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Altamira
Address : 525 Central Park Dr
Suite 500
Oklahoma City, Oklahoma 73105

Report Date: May 25, 2023

Contact: Heather Tiffany
Project: Radiochemistry

Client Sample ID: MW-21
Sample ID: 618855001
Matrix: Water
Collect Date: 12-APR-23
Receive Date: 19-APR-23
Collector: Client

Project: ALMI00122
Client ID: ALMI001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
EPA 904.0 Radium-228 in Drinking Water "As Received"														
Radium-228		2.36	+/-0.828	1.06	+/-0.911	1.00	pCi/L			JE1	05/12/23	1122	2416327	1
Radium-226+Radium-228 Calculation "See Parent Products"														
Radium-226+228 Sum		2.51	+/-0.838		+/-0.922		pCi/L			NXL1	05/25/23	1326	2416325	2
Rad Radium-226														
Radium-226 in Drinking Water EPA 903.1 (De-emanation) "As Received"														
Radium-226	U	0.153	+/-0.135	0.190	+/-0.137	1.00	pCi/L			LXP1	05/25/23	0757	2416323	3

The following Analytical Methods were performed

Method	Description
1	EPA 904.0/ EPA 9320
2	Calculation
3	EPA 903.1

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium Carrier	EPA 904.0 Radium-228 in Drinking Water "As Received"	2416327	92.4	(25%-125%)
Yttrium Carrier	EPA 904.0 Radium-228 in Drinking Water "As Received"	2416327	49.3	(25%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

ATTACHMENT B

DATA SUMMARY TABLES
(LANDFILL CCR UNIT)

ATTACHMENT B
GROUNDWATER SAMPLE DATA TO DATE FOR LANDFILL CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID:	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	MW-3	DUP 2	MW-3	MW-3	MW-3 (Shallow)	MW-3 (Deep)
				Sample Date:	25-May-16	27-Jul-16	28-Sep-16	1-Dec-16	31-Jan-17	5-Apr-17	6-Jun-17	6-Jun-17	8-Aug-17	17-May-18	1-Aug-18	9-Aug-18
Detection Monitoring Parameters				***Units***	BACKGROUND 1	BACKGROUND 2	BACKGROUND 3	BACKGROUND 4	BACKGROUND 5	BACKGROUND 6	BACKGROUND 7		BACKGROUND 8	DETECTION MON. #1	EVALUATION SAMPLE	VERIFICATION SAMPLE
Boron	None	1.896	Not Applicable	mg/L	1.09	1.17	1.1	1.7	1.28 J*	0.88	1.15	1.2	1.06	1.23	1.12	1.25
Calcium	None	670.30	Not Applicable	mg/L	255	296	242	405	227	357	315	309	371	227	205	255
Chloride	250	18.51	Not Applicable	mg/L	13.6	12.4	13.8	13.7	14.2 J*	14.9	13.7	13.3 J*	13.2	13.4	14.3	13.4
Fluoride	4	0.6359	Not Applicable	mg/L	0.211	0.442	0.407	0.392	0.399	0.3	0.384	0.354 J*	0.331	0.324	0.338	0.291
pH (laboratory)	6.5 - 8.5	6.485 - 8.018	Not Applicable	S.U.	7.25	7.86	7.6	7.4	7.2	7.1	7.1	7	7	7.3	7.4	7.3
Sulfate	250	1,396	Not Applicable	mg/L	1350	1230	1230	1220	1140	1250	1230	1250	1070	1170	1190	1170
Total Dissolved Solids	500	2,191	Not Applicable	mg/L	2030	2060	1960	1990	2080	2090	2150	2200	2090	2180	2150	2160
Assessment Monitoring Parameters																
Antimony	0.006	Not Applicable	0.006 (MCL)	mg/L	<0.000500	<0.000500	<0.000800	<0.00400	<0.000800	<0.000800	<0.000800	<0.00400	<0.000800	---	---	---
Arsenic	0.010	Not Applicable	0.01 (MCL)	mg/L	0.00196 J	0.00117 J	0.00103 J	<0.00200	0.000602 J	0.00136 J	<0.000400	<0.00400	0.00172 J	---	---	---
Barium	2	Not Applicable	2 (MCL)	mg/L	0.0122	0.0118	0.0114	0.0207	0.0115	0.0116	0.0114	0.0134	0.118	---	---	---
Beryllium	0.004	Not Applicable	0.004 (MCL)	mg/L	<0.00100	<0.00100	<0.000100	<0.000500	<0.000100	<0.000100	<0.000100	<0.000500	<0.00100	---	---	---
Cadmium	0.005	Not Applicable	0.005 (MCL)	mg/L	<0.000400	<0.000400	<0.000100	<0.000500	<0.000100	<0.000100	<0.000100	<0.00100	<0.00100	---	---	---
Chromium	0.1	Not Applicable	0.1 (MCL)	mg/L	<0.000500	<0.000500	<0.000500	<0.00250	<0.000500	<0.000500	<0.000500	<0.00500	<0.000500	---	---	---
Cobalt	None	Not Applicable	0.006 (ODEQ)	mg/L	<0.000500	<0.000500	0.000239 J	<0.000500	0.000168 J	0.000138 J	<0.000100	<0.00100	0.000153 J	---	---	---
Fluoride	4	Not Applicable	4 (MCL)	mg/L	0.211	0.442	0.407	0.392	0.399	0.3	0.384	0.354 J*	0.331	0.324	0.338	0.291
Lead	0.015	Not Applicable	0.015 (MCL)	mg/L	<0.000200	<0.000200	<0.000100	<0.000500	<0.000100	<0.000100	<0.000100	<0.000500	<0.000100	---	---	---
Lithium	None	Not Applicable	0.235 (UTL)	mg/L	0.158	0.138	0.141	0.247 J	0.148	0.137	0.14	0.151 J	0.165	---	0.125	0.129
Mercury	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	---	---	---
Molybdenum	None	Not Applicable	0.1 (ODEQ)	mg/L	<0.000500	<0.000500	<0.00100	<0.00500	<0.00100	<0.00100	<0.00100	<0.0100	<0.00100	---	<0.00100	<0.00100
Selenium	0.05	Not Applicable	0.05 (MCL)	mg/L	<0.000600	<0.000600	<0.000300	<0.00150	0.000345 J	<0.000300	0.00353	<0.00300	<0.000300	---	---	---
Thallium	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000500	<0.000500	<0.000800	<0.00400	<0.000800	<0.000800	<0.000800	<0.00400	<0.000800	---	---	---
Ra-226 + Ra-228 (combined)	5	Not Applicable	5 (MCL)	pCi/L	1.07 +/- 0.292	0.868 +/- 0.271	1.05 +/- 0.330	1.67 +/- 0.473	1.09 +/- 0.303	0.899 +/- 0.276	2.03 +/- 0.371	0.843 +/- 0.246	0.967 +/- 0.277	---	---	---
Other Parameters																
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<5.00	---	---	---
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	299	---	---	---
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<5.00	---	---	---
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	23.1	---	---	---
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Potassium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	8.45	---	---	---
Sodium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	697	---	---	---
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	---	---	---	---	---	---	---	---	---	---	---	---
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																
Temperature	None	Not Applicable	Not Applicable	ºC	21.87	24.83	22.37	18.81	20.98	17.2	23.35	---	22.32	23.87	26.5	21.31
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	7.12	7.05	7.06	7.04	7.04	6.27	6.98	---	6.96	7.14	6.7	6.75
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	2342	2807	2804	2810	2804	2805	2767	---	2762	2758	2880	2864
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	0.49	0.26	0.09	0.2	0.3	0.59	0.36	---	0.09	0.7	2.1	3.76
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	-27.5	-74.7	-92.1	-245.4	-171.1	241.7	-45	---	46.8	-46.3	-11.5	25
Turbidity	None	Not Applicable	Not Applicable	NTU	0.89	0.18	0.18	0.91	0.36	0.15	0.44	---	0.33	0.29	0.02	0.02

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT B
GROUNDWATER SAMPLE DATA TO DATE FOR LANDFILL CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID:	MW-3			MW-3	MW-3	MW-3	MW-3	DUP 3	MW-3	MW-3	MW-3		MW-3	MW-3
				Sample Date:	4-Oct-18	11-Jan-19		24-Apr-19	2-Oct-19	17-Jun-20	8-Oct-20		31-Mar-21	13-Oct-21	30-Mar-22	6-Jun-22	5-Oct-22	12-Apr-23
Detection Monitoring Parameters				***Units***	INITIAL ASSESSMENT MON.	INITIAL ASSESSMENT MON. (RESAMPLE) UNFILTERED	FILTERED	FIRST 2019 ASSESSMENT MON.	SECOND 2019 ASSESSMENT MON.	FIRST 2020 ASSESSMENT MON.	SECOND 2020 ASSESSMENT MON.		FIRST 2021 ASSESSMENT MON.	SECOND 2021 ASSESSMENT MON.	FIRST 2022 ASSESSMENT MON.	FIRST 2022 ASSESSMENT MON. (RESAMPLE)	SECOND 2022 ASSESSMENT MON.	FIRST 2023 ASSESSMENT MON.
Boron	None	1.896	Not Applicable	mg/L	1.06 #	1.05	1	1.39	1.06	1.16	0.903	0.946	1.01	0.939	1.06	---	1.09	2.28
Calcium	None	670.30	Not Applicable	mg/L	206 #	198	225	225	213	214	183	181	207	155	210	---	184	295
Chloride	250	18.51	Not Applicable	mg/L	13.8 #	13.4	16.3	13	13.7	13.7	13.8	13.8	14	12.7	13^	12.1	12.5	9.95
Fluoride	4	0.6359	Not Applicable	mg/L	0.318 #	0.373	0.52	0.396 J	0.319	0.203	0.328	0.337	0.376	0.258	2.12^	0.36	0.238	0.333
pH (laboratory)	6.5 - 8.5	6.485 - 8.018	Not Applicable	S.U.	7.7 #	7.19	---	7.64	7.07	6.9	7.36	7.5	7.24	5.99	1.61^	7.51	7.33	7.26
Sulfate	250	1,396	Not Applicable	mg/L	1270 #	1220	1450	1150	1210	1240	1320	1290	1260	1,200	1790^	1090	1,050	1,480
Total Dissolved Solids	500	2,191	Not Applicable	mg/L	2130 #	2110	2060	2100	2110	2150	2020	2010	2030	1,970	2700^	1860	1,900	1,960
Assessment Monitoring Parameters																		
Antimony	0.006	Not Applicable	0.006 (MCL)	mg/L	<0.0008 #	<0.000400	<0.000400	<0.000400	0.000410 J	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	---	<0.000400	<0.000400
Arsenic	0.010	Not Applicable	0.01 (MCL)	mg/L	<0.004 #	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	0.000474 J	0.000464 J	0.000471 J	0.000422 J	0.000576 J	---	<0.000400	0.000762 J
Barium	2	Not Applicable	2 (MCL)	mg/L	0.00954 J #	0.0101	0.011	0.0128	0.0112	0.013	0.0159	0.0158	0.0141	0.0136	0.0133	---	0.0108	0.0194
Beryllium	0.004	Not Applicable	0.004 (MCL)	mg/L	<0.001 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200	<0.000200
Cadmium	0.005	Not Applicable	0.005 (MCL)	mg/L	<0.0001 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200	<0.000200
Chromium	0.1	Not Applicable	0.1 (MCL)	mg/L	<0.005 #	<0.000400	<0.000400	<0.000400	0.00142 J	<0.000400	<0.000400	<0.000400	<0.000400	0.000467 J	<0.000400	---	<0.000400	<0.000400
Cobalt	None	Not Applicable	0.006 (ODEQ)	mg/L	0.000162 J #	<0.000200	0.000208 J	0.000232 J	0.000259 J	0.000289 J	<0.000200	<0.000200	<0.000200	<0.000200	0.000765 J	---	<0.000200	0.000730 J
Fluoride	4	Not Applicable	4 (MCL)	mg/L	0.318 #	0.373	0.52	0.396 J	0.319	0.203	0.328	0.337	0.376	0.258	2.12^	0.360	0.238	0.333
Lead	0.015	Not Applicable	0.015 (MCL)	mg/L	<0.0001 #	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	---	<0.000600	<0.000600
Lithium	None	Not Applicable	0.235 (UTL)	mg/L	0.147 J #	0.152	0.148	0.148	0.136	0.145	0.118	0.122	0.138	0.137	0.142	---	0.13	0.133
Mercury	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.0001 #	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	0.0000760 J	0.0000610 J	<0.0000300	---	<0.0000300	<0.0000300
Molybdenum	None	Not Applicable	0.1 (ODEQ)	mg/L	<0.001 #	0.000613 J	0.000622 J	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	0.000629 J	<0.000600	---	<0.000600	<0.000600
Selenium	0.05	Not Applicable	0.05 (MCL)	mg/L	<0.0003 #	<0.00110	<0.0011	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	---	<0.00110	<0.00110
Thallium	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.0008 #	0.000560 J	0.000499 J	<0.000200	0.000466 J	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200	<0.000200
Ra-226 + Ra-228 (combined)	5	Not Applicable	5 (MCL)	pCi/L	1.45 +/- 0.444 #	<0.67	---	<0.69	<0.79	1.02	1.65	1.7	1.43	<0.96	<0.81	---	3.46	0.907 +/- 0.622
Other Parameters																		
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	<5 #	<5	---	<5.00	<5.00	---	<5.00	<5.00	<5.00	12.0 J	5.0 J	15.0	12.0 J	10.0 J
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	<5	---	---	---	---	---	---	---	---	---	---	---	---
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	318	---	---	---	---	---	---	---	---	---	---	---	---
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	<5	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	23.7	25.3	---	---	---	---	---	---	---	---	---	---	---
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	<0.05 #	0.47	0.488	1.57	0.2	<0.0300	<0.0300	<0.0300	<0.0600	<0.0600	670	0.137	0.0481 J	<0.0300
Potassium	None	Not Applicable	Not Applicable	mg/L	---	8.17	8.4	---	---	---	---	---	---	---	---	---	---	---
Sodium	None	Not Applicable	Not Applicable	mg/L	---	388	429	---	---	---	---	---	---	---	---	---	---	---
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	2520 #	2730	---	---	---	---	2980	2970	2630	2680	20,900	3,030	2660	2,820
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																		
Temperature	None	Not Applicable	Not Applicable	ºC	23.1	13.1	---	18.31	24.37	23.62	23.8	---	15.9	20.4	16.4	25	22.9	19.3
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	6.95	6.93	---	7.31	7.18	7.15	7.22	---	7.04	7.11	7.29	7.24	7.04	5.71
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	2814	2699	---	2778	2797	2576	2670	---	2666	2,676	2,098	2,496	2,485	2,391
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	0.59	0.7	---	1.26	6.86	3.85	0.35	---	0.57	0.54	0.32	0.82	0.38	0.3
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	-37	-12	---	-54.6	-34.4	-24.6	-102.6	---	-15.4	-47.3	-115.9	30.4	-78.5	18.8
Turbidity	None	Not Applicable	Not Applicable	NTU	4.23	1.8	1.04	0.57	1.14	3.36	1.3	---	3.11	2.50	0.33	3.10	2.65	3.65

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT B
GROUNDWATER SAMPLE DATA TO DATE FOR LANDFILL CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID: / Sample Date:	MW-5S / 13-Dec-16	DUP 3 / 13-Dec-16	MW-5S / 25-Jan-17	MW-5S / 3-Feb-17	MW-5S / 29-Mar-17	MW-5S / 7-Apr-17	MW-5S / 1-Jun-17	MW-5S / 9-Jun-17	MW-5S / 14-Aug-17	MW-5S / 22-May-18	MW-5S (Shallow) / 1-Aug-18	MW-5S (Deep) / 10-Aug-18
					BACKGROUND 1		BACKGROUND 2	BACKGROUND 3	BACKGROUND 4	BACKGROUND 5	BACKGROUND 6	BACKGROUND 7	BACKGROUND 8	DETECTION MON. #1	EVALUATION SAMPLE	VERIFICATION SAMPLE
Detection Monitoring Parameters				***Units***												
Boron	None	1.896	Not Applicable	mg/L	3.56	4.37	3.02	3.2	3.87	2.34	1.32	1.86	1.29	1.05	1.06	3.09
Calcium	None	670.30	Not Applicable	mg/L	32.9	28.1	27.8	29.9	30.8	37.9	54.7	58.2	46.6	74.7	59.1	24.9 J
Chloride	250	18.51	Not Applicable	mg/L	33.2	30.5	33.2	11.3	28.2	29.8	22.3	13.3	18.7	25	18.7	26.1
Fluoride	4	0.6359	Not Applicable	mg/L	1.84 J*	1.91	1.6	1.59	1.32	1.39	1.06	1.07	1.17	1.38	1.02	1.5
pH (laboratory)	6.5 - 8.5	6.485 - 8.018	Not Applicable	S.U.	8.2	8.3	7.9	7.8	7.8	7.9	7.4	7.5	7.5	7.6	7.7	8
Sulfate	250	626	Not Applicable	mg/L	527	540	504	501	415	469	326	321	301	369	294	384
Total Dissolved Solids	500	1,334	Not Applicable	mg/L	1230	1180	1200	1210	1070	1060	948	1010	980	950	880	1150
Assessment Monitoring Parameters																
Antimony	0.006	Not Applicable	0.006 (MCL)	mg/L	<0.00400	<0.000800	<0.000800	<0.000800	<0.000800	<0.000800	<0.000800	<0.00400	<0.000800	---	---	---
Arsenic	0.010	Not Applicable	0.01 (MCL)	mg/L	0.00202 J	0.00132 J	0.00187 J	0.00209	0.00147 J	0.00117 J	0.00115 J	<0.00200	0.00564 J	---	---	---
Barium	2	Not Applicable	2 (MCL)	mg/L	0.0267	0.0165	0.0212	0.0192	0.0144	0.0177	0.0183	0.023	0.0186	---	---	---
Beryllium	0.004	Not Applicable	0.004 (MCL)	mg/L	<0.000500	<0.000100	<0.000100	<0.000100	<0.00250	0.000419 U	<0.000100	<0.000500	<0.000100	---	---	---
Cadmium	0.005	Not Applicable	0.005 (MCL)	mg/L	<0.000500	<0.000100	<0.000100	<0.000100	0.000111 J	<0.000100	<0.000100	<0.000500	<0.000100	---	---	---
Chromium	0.1	Not Applicable	0.1 (MCL)	mg/L	<0.00250	0.000839 J	<0.000500	<0.00500	U (0.000520)	0.000761 J	<0.000500	<0.00250	U (0.00143)	---	---	---
Cobalt	None	Not Applicable	0.006 (ODEQ)	mg/L	0.000833 J	<0.000100	0.000214 J	<0.00100	0.00109 J	0.000123 J	<0.000100	0.00122 J	0.000338 J	---	---	---
Fluoride	4	Not Applicable	4 (MCL)	mg/L	1.84 J*	1.91	1.6	1.59	1.32	1.39	1.06	1.07	1.17	1.38	1.02	1.5
Lead	0.015	Not Applicable	0.015 (MCL)	mg/L	<0.000500	<0.000100	0.000126 J	0.000238 J	0.000218 J	0.000177 J	0.000142 J	<0.000500	0.000110 J	---	---	---
Lithium	None	Not Applicable	0.235 (UTL)	mg/L	0.0598 J	0.0582	0.0562	0.0617	0.0511	0.0523	0.0469 J	0.0588 J	0.0518	---	0.05	0.0486
Mercury	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	---	---	---
Molybdenum	None	Not Applicable	0.1 (ODEQ)	mg/L	0.00880 J	0.00781	0.00745	0.00606	0.0118 J*	0.00722	0.00828	0.00980 J	0.00737	---	0.00497	0.00387
Selenium	0.05	Not Applicable	0.05 (MCL)	mg/L	<0.00150	<0.00150	<0.000300	0.000938 J	0.00234 J	<0.000300	0.000449 J	<0.00150	<0.000300	---	---	---
Thallium	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.00400	<0.000800	<0.000800	<0.000800	<0.000800	<0.000800	<0.000800	<0.00400	<0.000800	---	---	---
Ra-226 + Ra-228 (combined)	5	Not Applicable	5 (MCL)	pCi/L	1.25 +/- 0.479	0.738 +/- 0.354	1.55 +/- 0.466	0.863 +/- 0.332	1.06 +/- 0.305	0.597 +/- 0.264	1.71 +/- 0.392	0.684 +/- 0.239	0.827 +/- 0.274	---	---	---
Other Parameters																
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<5.00	---	---	---
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	418	---	---	---
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<5.00	---	---	---
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	5.19	---	---	---
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Potassium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	4.14	---	---	---
Sodium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	307	---	---	---
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	---	---	---	---	---	---	---	---	---	---	---	---
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																
Temperature	None	Not Applicable	Not Applicable	ºC	17.94	---	16.45	14.65	20.07	19.17	20.47	21.58	22.46	20.24	25.07	23.59
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	7.9	---	7.84	7.79	7.72	7.76	7.51	7.73	7.79	7.85	7.19	7.62
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	1899	---	1919	1905	1734	1764	1615	1718	1760	1516	1483	1843
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	0.94	---	0.39	0.33	0.37	0.27	0.07	0.07	0.05	0.13	5.05	1.37
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	-110.4	---	-157	-82.1	-61.6	-33.2	-79.7	27.3	21.5	-104.7	142.8	-40.1
Turbidity	None	Not Applicable	Not Applicable	NTU	37	---	4.09	2.45	0.83	1.98	1.52	1.01	1.14	0.41	0.02	1.12

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT B
GROUNDWATER SAMPLE DATA TO DATE FOR LANDFILL CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID:	MW-5S	MW-5S		MW-5S	MW-5S	MW-5S	MW-5S	MW-5S	MW-5S	MW-5S		MW-5S	MW-5S
				Sample Date:	2-Oct-18	10-Jan-19		23-Apr-19	2-Oct-19	18-Jun-20	8-Jun-20	1-Apr-21	14-Oct-21	31-Mar-22	7-Jun-22	6-Oct-22	12-Apr-23
Detection Monitoring Parameters				***Units***	INITIAL ASSESSMENT MON.	INITIAL ASSESSMENT MON. (RESAMPLE) UNFILTERED	FILTERED	FIRST 2019 ASSESSMENT MON.	SECOND 2019 ASSESSMENT MON.	FIRST 2020 ASSESSMENT MON.	SECOND 2020 ASSESSMENT MON.	FIRST 2021 ASSESSMENT MON.	SECOND 2021 ASSESSMENT MON.	FIRST 2022 ASSESSMENT MON.	FIRST 2022 ASSESSMENT MON. (RESAMPLE)	SECOND 2022 ASSESSMENT MON.	FIRST 2023 ASSESSMENT MON.
Boron	None	1.896	Not Applicable	mg/L	2.82 #	2.73	1.82	1.87	2.49	0.811	2.57	2.04	1.82	1.64	---	2.94	2.21
Calcium	None	670.30	Not Applicable	mg/L	25 #	27.7	27.8	57	22.5	68.2	19.6	33.4	21.0	53.8	---	24.1	37
Chloride	250	18.51	Not Applicable	mg/L	28.3 #	30.5	29.9	21.8	25.1	19.5	25.6	23.9	26.4	23^	24.1	25.6	23.8
Fluoride	4	0.6359	Not Applicable	mg/L	1.54 #	1.54	1.5	1.11	1.54	0.824	1.51	1.24	1.57	3.24^	1.41	1.4	1.25
pH (laboratory)	6.5 - 8.5	6.485 - 8.018	Not Applicable	S.U.	8.7 #	7.65	---	8.11	7.55	7.65	8.21	7.9	8.16	1.68^	8.19	7.89	7.73
Sulfate	250	626	Not Applicable	mg/L	447 #	457	472	394	434	408	485	477	499	1540^	503	482	556
Total Dissolved Solids	500	1,334	Not Applicable	mg/L	1140 #	1120	1210	1090	1180	904	1080	1140	1140	1540^	1170	1100	1100
Assessment Monitoring Parameters																	
Antimony	0.006	Not Applicable	0.006 (MCL)	mg/L	<0.0008 #	0.00122 J	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	---	<0.000400	<0.000400
Arsenic	0.010	Not Applicable	0.01 (MCL)	mg/L	0.661 #	0.000737 J	0.000765 J	0.000523 J	0.000736 J	<0.000400	0.000453 J	<0.000400	<0.000400	0.000423 J	---	0.000433 J	<0.000400
Barium	2	Not Applicable	2 (MCL)	mg/L	0.012 #	0.012	0.0116	0.0141	0.00928	0.021	0.00787	0.00867	0.00732	0.0113	---	0.00653	0.00789
Beryllium	0.004	Not Applicable	0.004 (MCL)	mg/L	<0.0005 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200	<0.000200
Cadmium	0.005	Not Applicable	0.005 (MCL)	mg/L	<0.0001 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200	<0.000200
Chromium	0.1	Not Applicable	0.1 (MCL)	mg/L	0.832 #	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	---	<0.000400	<0.000400
Cobalt	None	Not Applicable	0.006 (ODEQ)	mg/L	<0.0001 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	0.000237 J	---	<0.000200	<0.000200
Fluoride	4	Not Applicable	4 (MCL)	mg/L	1.54 #	1.54	1.5	1.11	1.54	0.824	1.51	1.24	1.57	3.24^	1.41	1.4	1.25
Lead	0.015	Not Applicable	0.015 (MCL)	mg/L	<0.0001 #	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	---	<0.000600	<0.000600
Lithium	None	Not Applicable	0.235 (UTL)	mg/L	0.0691 J #	0.0644	0.0642	0.0604	0.0536	0.049	0.0546	0.0496	0.0532	0.0654	---	0.0572	0.0520
Mercury	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.0001 #	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	0.0000870 J	<0.0000300	<0.0000300	---	<0.0000300	<0.0000300
Molybdenum	None	Not Applicable	0.1 (ODEQ)	mg/L	<0.005 #	0.00512	0.00335 J	0.00485 J	0.00315 J	0.00361 J	0.00244 J	0.00234 J	0.00387 J	0.00257 J	---	0.00210 J	0.00211 J
Selenium	0.05	Not Applicable	0.05 (MCL)	mg/L	<0.0003 #	<0.0011	<0.0011	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	---	<0.00110	<0.00110
Thallium	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.0008 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200	<0.000200
Ra-226 + Ra-228 (combined)	5	Not Applicable	5 (MCL)	pCi/L	0.611 +/- 0.249 #	<0.79	---	<0.64	1.44	1.25	1.15	0.95	1.28	<0.79	---	1.69	0.334 +/- 0.410
Other Parameters																	
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	<5.00 #	<5.00	---	<5.00	<5.00	---	<5.00	<5.00	6.00 J	<5.00^	17.0	7.00 J	5.00 J
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	412	444	405	470	<5^	419	430	292
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	12.6	---	---	---	15	20.5	<5	9.52	<5^	<5	<5	<5.0
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	427	---	---	---	397	424	405	460	<5^	419	430	292
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	<5	---	---	---	<5	<5	<5	<5.00	<5^	<5	<5	<5.0
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	<0.0120	<0.0120	0.0170 J	0.0270 J	0.0435 J^	0.0311 J	<0.0120	0.0165 J
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	<0.0120	<0.0120	<0.0120	<0.0120	<0.0120^	0.0138 J	<0.0120	<0.0120
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	0.029(J)	<0.0200	<0.020	<0.0200	<0.02^	<0.02	<0.02	<0.02
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	<0.020	<0.020 H	<0.02^	<0.02	<0.02	<0.02
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	<0.020	0.0270 J	0.0435 J^	0.0311 J	<0.02	<0.02
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	<0.020	<0.020	<0.02^	<0.02	<0.02	<0.02
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	5.73	5.58	---	---	5.16	4.38	4.53	4.60	5.79	---	4.79	5.72
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	0.00308(J)	0.00244 J	0.00287 J	0.00296 J	0.00248 J	---	0.00232 J	0.00207 J
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	0.089 J #	0.964	0.916	0.665	0.212	<0.0300	<0.0300	00287 J	0.0984 J	705^	0.0996 J,H	0.243	0.467
Potassium	None	Not Applicable	Not Applicable	mg/L	---	4.49	4.27	---	---	3.48	3.94	3.25	3.96	3.74	---	4.17	3.84
Sodium	None	Not Applicable	Not Applicable	mg/L	---	405	257	---	---	277	335	312	243	341	---	387	371
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	1730 #	1870	---	---	---	---	1960	1770	1820	15600^	2,280	1990	1,880
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	<1	1.97	<1	<1.00	<1^	<1	<1	<1.70
Field Parameters																	
Temperature	None	Not Applicable	Not Applicable	ºC	25.3	13.4	---	18.78	25.18	24.37	21.5	14.7	23.7	16.4	19.8	24.9	20.9
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	7.61	7.56	---	7.95	7.91	7.9	7.83	7.74	7.85	7.77	7.9	7.73	7.61
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	1871	1791	---	1669	1826	1665	1794	1745	1,863	1372	1,820	1,884	1,789
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	0.21	0.63	---	0.85	0.45	1.89	0.32	0.81	0.36	0.31	2.7	0.44	0.37
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	-125.1	-30.9	---	19.7	-54.1	-48.2	168.1	283.3	-59.9	46.2	20.5	-33.9	54.1
Turbidity	None	Not Applicable	Not Applicable	NTU	3.3	4.51	1.27	1.16	0.94	2.88	1.97	2.85	2.16	1.61	1.72	2.71	2.13

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT B
GROUNDWATER SAMPLE DATA TO DATE FOR LANDFILL CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID:	MW-7S	MW-7S	MW-7S	MW-7S	MW-7S	MW-7S	DUP 1	MW-7S	MW-7S	MW-7S	MW-7S (Shallow)	DUP1 (Shallow)	MW-7S (Deep)
				Sample Date:	13-Dec-16	25-Jan-17	3-Feb-17	29-Mar-17	7-Apr-17	31-May-17	31-May-17	9-Jun-17	10-Aug-17	17-May-18	3-Aug-18	3-Aug-18	10-Aug-18
Detection Monitoring Parameters				***Units***	BACKGROUND 1	BACKGROUND 2	BACKGROUND 3	BACKGROUND 4	BACKGROUND 5	BACKGROUND 6		BACKGROUND 7	BACKGROUND 8	DETECTION MON. #1	EVALUATION SAMPLE		VERIFICATION SAMPLE
Boron	None	1.896	Not Applicable	mg/L	3.8	0.891	0.557	<0.875	0.382	1.7	1.92	1.84	2.21	1.25	0.283	0.279	3.31
Calcium	None	670.30	Not Applicable	mg/L	53.8	349	267	411	415	71	168	175	80.6	178	90.3	88.8	142
Chloride	250	18.51	Not Applicable	mg/L	17.7	23.8	19.8	17.5	21.8	14.9	15.5	16.3	16.2	17.6	16.4	16.5	17
Fluoride	4	0.6359	Not Applicable	mg/L	1.02 J*	0.569	0.497	0.368	0.425	0.607	0.58	0.579	0.744	0.509	0.771	0.733	0.664
pH (laboratory)	6.5 - 8.5	6.485 - 8.018	Not Applicable	S.U.	8.4	7.3	7.3	7.2	7.5	7.5	7.4	7.3	7.4	7.6	7.6	7.8	7.7
Sulfate	250	1,281	Not Applicable	mg/L	465	907	893	893	1120	587	606	619	450	860	545	545	623
Total Dissolved Solids	500	1,863	Not Applicable	mg/L	1070	1570	1570	1530	1610	1220	1230	1300	1120	1600	1210	1180	1330
Assessment Monitoring Parameters																	
Antimony	0.006	Not Applicable	0.006 (MCL)	mg/L	0.00634 J	<0.000800	<0.000800	<0.000800	<0.000800	<0.000800	<0.000800	<0.00400	<0.000800	---	---	---	---
Arsenic	0.010	Not Applicable	0.01 (MCL)	mg/L	0.00201 J	0.000728 J	0.000766 J	0.00176 J	0.00176 J	0.00137 J	0.00128 J	0.00310 J	0.00150 J	---	---	---	---
Barium	2	Not Applicable	2 (MCL)	mg/L	0.0411	0.0462	0.0427	0.036	0.0335	0.0292	0.0346	0.0446	0.0308	---	---	---	---
Beryllium	0.004	Not Applicable	0.004 (MCL)	mg/L	<0.000500	<0.000100	<0.000100	<0.00250	<0.000100	<0.000100	<0.000100	<0.000500	<0.000100	---	---	---	---
Cadmium	0.005	Not Applicable	0.005 (MCL)	mg/L	<0.000500	<0.000100	<0.000100	0.000115 J	<0.000100	<0.000100	<0.000100	<0.000500	<0.000100	---	---	---	---
Chromium	0.1	Not Applicable	0.1 (MCL)	mg/L	U (0.00333)	0.000680 J	<0.00500	<0.000500	<0.000500	0.000731 J	<0.000500	<0.00250	U (0.000637)	---	---	---	---
Cobalt	None	Not Applicable	0.006 (ODEQ)	mg/L	0.00120 J	0.000648 J	<0.00100	0.000735 J	0.000439 J	0.000349 J	0.000333 J	0.00208 J	0.000696 J	---	---	---	---
Fluoride	4	Not Applicable	4 (MCL)	mg/L	1.02 J*	0.569	0.497	0.368	0.425	0.607	0.58	0.579	0.744	0.509	0.771	0.733	0.664
Lead	0.015	Not Applicable	0.015 (MCL)	mg/L	<0.000500	0.000333 J	<0.000100	0.000157 J	<0.000100	<0.000100	<0.000100	<0.000500	<0.000100	---	---	---	---
Lithium	None	Not Applicable	0.235 (UTL)	mg/L	0.0697 J	0.0462 J	0.0499 J	0.0395 J	0.0400 J	0.0637	0.07	0.0766 J	0.0609	---	0.0667	0.0656	0.0613
Mercury	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000150	<0.000150	<0.000150	<0.000150	<0.000100	<0.000150	<0.000150	<0.000150	<0.000150	---	---	---	---
Molybdenum	None	Not Applicable	0.1 (ODEQ)	mg/L	<0.00500	0.00174 J	0.00160 J	<0.00500	0.00153 J	0.00186 J	0.00179 J	<0.00500	0.00171 J	---	0.00127 J	0.00128 J	<0.00100
Selenium	0.05	Not Applicable	0.05 (MCL)	mg/L	U (0.00158)	<0.000300	0.00103 J	<0.00150	<0.000300	<0.000300	<0.000300	<0.00150	<0.000300	---	---	---	---
Thallium	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.00400	<0.000800	<0.000800	<0.000800	<0.000800	<0.000800	<0.000800	<0.00400	<0.000800	---	---	---	---
Ra-226 + Ra-228 (combined)	5	Not Applicable	5 (MCL)	pCi/L	1.13 +/- 1.07 U	1.51 +/- 0.445	1.15 +/- 0.362	0.649 +/- 0.257	0.808 +/- 0.292	0.531 +/- 0.268	0.559 +/- 0.233	0.952 +/- 0.279	0.891 +/- 0.247	---	---	---	---
Other Parameters																	
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<5.00	---	---	---	---
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	311	---	---	---	---
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<5.00	---	---	---	---
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	10.7	---	---	---	---
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Potassium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	4.95	---	---	---	---
Sodium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	273	---	---	---	---
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	---	---	---	---	---	---	---	---	---	---	---	---	---
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																	
Temperature	None	Not Applicable	Not Applicable	ºC	16.83	14.77	15.53	18.89	16.83	21.67	---	19.85	24.46	19.6	29.34	---	25.21
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	7.88	7.17	7.2	7.18	7.22	7.27	---	7.19	7.22	7.4	6.92	---	7.22
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	1614	2010	2029	2216	2205	1925	---	1929	1680	2101	1822	---	1932
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	0.47	0.43	0.19	0.27	0.25	0.09	---	0.05	0.08	0.22	1.61	---	2.95
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	-165.8	-141	-164.4	-68	-104	-196	---	107.4	57.6	-58.8	-20.8	---	-30.7
Turbidity	None	Not Applicable	Not Applicable	NTU	81.8	33.7	3.34	1.12	8.31	1.82	---	1.12	3.45	2.29	3.37	---	1.76

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT B
GROUNDWATER SAMPLE DATA TO DATE FOR LANDFILL CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID:	MW-7S	MW-7S		MW-7S	MW-7S	MW-7S	MW-7S	MW-7S	DUP 2	MW-7S	MW-7S		MW-7S	DUP 3	MW-7S
				Sample Date:	4-Oct-18	10-Jan-19		23-Apr-19	1-Oct-19	17-Jun-20	9-Oct-20	30-Mar-21		15-Oct-21	31-Mar-22	Jun-22	5-Oct-22		18-Apr-23
Detection Monitoring Parameters				***Units***	INITIAL ASSESSMENT MON.	INITIAL ASSESSMENT MON. (RESAMPLE) UNFILTERED	FILTERED	FIRST 2019 ASSESSMENT MON.	SECOND 2019 ASSESSMENT MON.	FIRST 2020 ASSESSMENT MON.	SECOND 2020 ASSESSMENT MON.	FIRST 2021 ASSESSMENT MON.		SECOND 2021 ASSESSMENT MON.	FIRST 2022 ASSESSMENT MON.	FIRST 2022 ASSESSMENT MON. (RESAMPLE)	SECOND 2022 ASSESSMENT MON.		FIRST 2023 ASSESSMENT MON.
Boron	None	1.896	Not Applicable	mg/L	2.7 #	0.839	1.12	0.848	1.99	1.33	2.29	0.677	0.681	2.18	0.646	---	2.7	3.07	0.880
Calcium	None	670.30	Not Applicable	mg/L	76 #	277	293	271	81.1	160	90.2	254	219	97.1	302	---	100	111	228
Chloride	250	18.51	Not Applicable	mg/L	16.1 #	18.7	19.7	19.7	16.3	18	16.9	20.5	19.4	16.8	19.9	---	16.9	16.7	18.9
Fluoride	4	0.6359	Not Applicable	mg/L	0.764 #	0.422	0.35	0.376	0.729	0.479	0.713	0.444	0.415	0.746	0.515	---	0.711	0.824	0.468
pH (laboratory)	6.5 - 8.5	6.485 - 8.018	Not Applicable	S.U.	8 #	7.34	---	7.82	7.39	7.55	7.79	7.32	7.53	7.84	7.88	---	7.81	8.01	7.41
Sulfate	250	1,281	Not Applicable	mg/L	1600 #	1200	1110	1040	633	970	759	1200	1190	690	1190	---	687	687	1,410
Total Dissolved Solids	500	1,863	Not Applicable	mg/L	1230 #	1670	1890	1890	1270	1680	1340	2060	2000	1290	1920	---	1350	1260	1,740
Assessment Monitoring Parameters																			
Antimony	0.006	Not Applicable	0.006 (MCL)	mg/L	<0.0008 #	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	---	<0.000400	<0.000400	<0.000400
Arsenic	0.010	Not Applicable	0.01 (MCL)	mg/L	<0.004 #	0.000413 J	<0.000400	0.00116 J	0.000412 J	0.000650 J	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	---	<0.000400	<0.000400	<0.000400
Barium	2	Not Applicable	2 (MCL)	mg/L	0.021 #	0.0371	0.0387	0.0372	0.0139	0.0244	0.0142	0.0295	0.0302	0.0154	0.0336	---	0.0148	0.0167	0.0253
Beryllium	0.004	Not Applicable	0.004 (MCL)	mg/L	<0.001 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200	<0.000200	<0.000200
Cadmium	0.005	Not Applicable	0.005 (MCL)	mg/L	<0.0001 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200	<0.000200	<0.000200
Chromium	0.1	Not Applicable	0.1 (MCL)	mg/L	<0.005 #	<0.000400	<0.000400	<0.000400	0.000994 J	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	0.000494 J	---	0.000669 J	0.00143 J	<0.000400
Cobalt	None	Not Applicable	0.006 (ODEQ)	mg/L	0.000222 J #	0.000270 J	0.000304 J	0.00153 J	<0.000200	0.000838 J	<0.000200	<0.000200	<0.000200	0.000259 J	0.00110 J	---	<0.000200	0.000215 J	0.000519 J
Fluoride	4	Not Applicable	4 (MCL)	mg/L	0.764 #	0.422	0.35	0.376	0.729	0.479	0.713	0.444	0.415	0.746	0.515	---	0.711	0.824	0.468
Lead	0.015	Not Applicable	0.015 (MCL)	mg/L	<0.0001 #	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	---	<0.000600	<0.000600	<0.000600
Lithium	None	Not Applicable	0.235 (UTL)	mg/L	0.0714 J #	0.0558	0.0606	0.0593	0.0608	0.0681	0.065	0.0472	0.0468	0.0645	0.0533	---	0.0685	0.0778	0.0536
Mercury	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.0001 #	<0.0000300	<0.0000300	<0.0000300	<0.0000300	0.0000350 J	<0.0000300	0.000104 J	0.0000320 J	<0.0000300	<0.0000300	---	<0.0000300	<0.0000300	<0.0000300
Molybdenum	None	Not Applicable	0.1 (ODEQ)	mg/L	<0.01 #	0.00105 J	0.00107 J	0.000952 J	0.000798 J	0.00105 J	0.00106 J	0.000755 J	0.000763 J	0.00115 J	0.000973 J	---	0.00103 J	0.00134 J	0.000973 J
Selenium	0.05	Not Applicable	0.05 (MCL)	mg/L	<0.0003 #	<0.0011	<0.0011	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	---	<0.00110	<0.00110	<0.00110
Thallium	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.0008 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200	<0.000200	<0.000200
Ra-226 + Ra-228 (combined)	5	Not Applicable	5 (MCL)	pCi/L	2.07 +/- 0.453 #	1.34	---	0.9	<0.71	1.05	1.2	1.73	1.92	1.95	1.11	---	1.38	2.72	2.32 +/- 1.16
Other Parameters																			
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	<5 #	5.0 J	---	<5.00	<5.00	---	8.00 J	<5.00	<5.00	7.00 J	<5.00	---	<5.00	16	<5.00
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	264	315	180	177	343	205	---	32.6	297	190
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	<5	---	---	---	<5	<5	<5	<5	<5.00	<5	---	<5.00	7.48	<5.00
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	222	---	---	---	264	315	180	177	343	205	---	32.6	289	190
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	<5	---	---	---	<5	<5	<5	<5	<5.00	<5	---	<5.00	<5.00	<5.00
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	0.278	0.111 J	0.0145 J	0.0156 J	0.310	<0.0120	---	0.158 J	0.186 J	<0.012
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	0.034(J)	0.235	0.0154 J	0.0234 J	0.134 J	<0.0120	---	0.113 J	0.0883 J	<0.012
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	0.306	0.216	<0.02	<0.02	0.207	<0.02	---	0.127	0.107	<0.02
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	<0.02	<0.02	<0.0200 H	<0.02	---	0.114	<0.0200	<0.02
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	<0.02	<0.02	0.103	<0.02	---	0.0310 J	0.079	<0.02
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	<0.02	0.0234 J	0.134	<0.02	---	<0.02	0.0883	<0.02
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	19	18.7	---	---	17.1	12	16.9	17.4	12.2	20	---	12.2	13.8	19.2
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	0.000987(J)	0.00103 J	0.000846 J	0.000941 J	0.00121 J	0.000830 J	---	0.00112 J	0.00108 J	0.00110 J
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	0.118 #	0.557	0.644	<0.0300	<0.0300	<0.0300	<0.0300	<0.0600	<0.0600	0.0940 J	0.0613 J	---	0.155	0.147	<0.0300
Potassium	None	Not Applicable	Not Applicable	mg/L	---	4.67	4.79	---	---	5.33	5.1	4.06	4.18	5.14	4.56	---	5.34	6	4.84
Sodium	None	Not Applicable	Not Applicable	mg/L	---	274	294	---	---	313	272	230	197	261	272	---	313	352	277
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	1610 #	2240	---	---	---	---	2110	2380	2380	1860	2,530	---	2,000	2050	2,490
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	<1	1.48	<1	<1	<1.00	<1	---	<1	<1	<1.7
Field Parameters																			
Temperature	None	Not Applicable	Not Applicable	ºC	25	12.8	---	17.92	25.27	21.95	23.1	16.8	---	22.5	14.2	---	26.8	---	18.5
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	7.35	7.08	---	7.42	7.53	7.37	7.52	7.24	---	7.47	7.32	---	7.37	---	7.22
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	1887	2180	---	2326	1944	2097	1945	2377	---	1,973	2,385	---	2,015	---	2,344
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	0.45	0.23	---	0.84	0.51	0.49	0.33	0.31	---	0.30	0.38	---	0.39	---	0.21
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	-129.1	-6.3	---	-61.6	-133.8	-67.6	-90.1	83.3	---	-107.8	-30.3	---	-179.9	---	62.0
Turbidity	None	Not Applicable	Not Applicable	NTU	8.01	0.67	0.64	0.71	0.88	2.49	0.85	5.81	---	3.15	2.42	---	2.91	---	2.12

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT B
GROUNDWATER SAMPLE DATA TO DATE FOR LANDFILL CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID: / Sample Date: / Units	MW-13 25-May-16	DUP-2 25-May-16	MW-13 26-Jul-16	MW-13 27-Sep-16	MW-13 29-Nov-16	MW-13 30-Jan-17	MW-13 30-Mar-17	MW-13 6-Jun-17	MW-13 4-Aug-17	MW-13 21-May-18	MW-13 (Shallow) 1-Aug-18	MW-13 (Deep) 9-Aug-18
					BACKGROUND 1		BACKGROUND 2	BACKGROUND 3	BACKGROUND 4	BACKGROUND 5	BACKGROUND 6	BACKGROUND 7	BACKGROUND 8	DETECTION MON. #1	EVALUATION SAMPLE	VERIFICATION SAMPLE
Detection Monitoring Parameters																
Boron	None	Background Well (Not Applicable)	Not Applicable	mg/L	1.38	1.4	1.1	1.36	1.41	1.43	2	1.34	1.24	1.3	1.41	3.86
Calcium	None		Not Applicable	mg/L	341	362	440	302	306	485	343	421	313	251	249	284
Chloride	250		Not Applicable	mg/L	13.7	13.5	13.1	14.0 J	12.5	12.6	12.2	13	12.1 J*	13.4	13.6	33.2
Fluoride	4		Not Applicable	mg/L	0.192	0.183	0.389	0.674	0.324	0.395	0.181	0.329	0.248 J*	0.281	0.364	0.743
pH (laboratory)	6.5 - 8.5		Not Applicable	S.U.	7.16	7.28	7.84	7.7	7.3	7.1	7	6.9	6.9	7	7.5	7.7
Sulfate	250		Not Applicable	mg/L	1570	1,680 J*	1450	1360	1340	1320	1360	1320	1,350 J*	1320	1250	1440
Total Dissolved Solids	500		Not Applicable	mg/L	2220	2190	2340	2,380 J	2230	2230	2250	2410	2370	2400	2130	2560
Assessment Monitoring Parameters																
Antimony	0.006	Not Applicable	Background Well (Not Applicable)	mg/L	<0.000500	<0.000500	<0.000500	<0.000800	<0.000800	<0.000800	<0.00400	<0.000800	<0.000800	---	---	---
Arsenic	0.010	Not Applicable		mg/L	0.00394	0.00377	0.00244	0.00177 J	0.00180 J	0.00170 J	<0.00200	<0.000400	0.0057	---	---	---
Barium	2	Not Applicable		mg/L	0.0267	0.0263	0.0259	0.0198	0.0184	0.0182	0.033	0.0168	0.0177	---	---	---
Beryllium	0.004	Not Applicable		mg/L	<0.00100	<0.00100	<0.00100	<0.000100	<0.000100	<0.000100	<0.000500	<0.000100	<0.000100	---	---	---
Cadmium	0.005	Not Applicable		mg/L	<0.000400	<0.000400	<0.000400	<0.000100	<0.000100	<0.000100	<0.000500	<0.000100	<0.000100	---	---	---
Chromium	0.1	Not Applicable		mg/L	<0.000500	0.000637 J	<0.000500	<0.000500	0.00109 J	<0.000500	<0.00250	<0.000500	<0.000500	---	---	---
Cobalt	None	Not Applicable		mg/L	<0.000500	0.000507 J	<0.000500	0.000376 J	0.000366 J	0.000329 J	<0.000500	0.000519 J	0.000275 J	---	---	---
Fluoride	4	Not Applicable		mg/L	0.192	0.183	0.389	0.674	0.324	0.395	0.181	0.329	0.248 J*	0.281	0.364	0.743
Lead	0.015	Not Applicable		mg/L	<0.000200	<0.000200	<0.000200	<0.000100	<0.000100	<0.000100	<0.000500	<0.000100	<0.000100	---	---	---
Lithium	None	Not Applicable		mg/L	0.176	0.179	0.184	0.156	0.156	0.173	0.0449 J	0.157	0.164	---	0.14	0.115
Mercury	0.002	Not Applicable		mg/L	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	---	---	---
Molybdenum	None	Not Applicable		mg/L	0.0097	0.0092	0.00557	0.029	0.00444	0.00393	0.00345	0.00316	0.00286	---	0.00211	0.0022
Selenium	0.05	Not Applicable		mg/L	<0.000600	<0.000600	<0.000600	<0.000300	0.000512 J	<0.000300	<0.00150	0.00402	U (0.00192)	---	---	---
Thallium	0.002	Not Applicable		mg/L	<0.000500	<0.000500	<0.000500	<0.000800	<0.000800	<0.000800	<0.00400	<0.000800	<0.000800	---	---	---
Ra-226 + Ra-228 (combined)	5	Not Applicable		pCi/L	1.96 +/- 0.373	1.57 +/- 0.321	1.50 +/- 0.327	1.43 +/- 0.352	1.75 +/- 0.486	1.41 +/- 0.357	1.73 +/- 0.350	1.75 +/- 0.389	1.51 +/- 0.320	---	---	---
Other Parameters																
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<5.00	---	---	---
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	307	---	---	---
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<5.00	---	---	---
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	26.4	---	---	---
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Potassium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	8.32	---	---	---
Sodium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	349	---	---	---
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	---	---	---	---	---	---	---	---	---	---	---	---
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																
Temperature	None	Not Applicable	Not Applicable	ºC	21.68	---	21.6	21.3	20.26	20.49	19.38	22.73	22.75	21.37	27.06	25.52
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	7.08	---	7.23	7.02	6.99	6.96	7.05	6.97	6.94	7.07	6.72	6.49
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	2507	---	2939	2622	3002	2967	3006	2990	2920	2887	3010	3213
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	0.41	---	0.28	0.09	0.35	0.33	0.3	0.18	0.09	1.25	2.22	1.37
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	0.6	---	-103.3	-136.8	-178.8	-179.1	-93.3	-10.6	-68.7	-48.9	49.1	187.6
Turbidity	None	Not Applicable	Not Applicable	NTU	4.12	---	1.91	0.26	1.14	0.5	1.38	1.93	0.87	0.28	0.02	0.02

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT B
GROUNDWATER SAMPLE DATA TO DATE FOR LANDFILL CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID:	MW-13	MW-13		DUP 2		MW-13	MW-13	MW-13	MW-13	MW-13	MW-13	MW-13		MW-13
				Sample Date:	4-Oct-18	11-Jan-19				25-Apr-19	3-Oct-19	17-Jun-20	14-Oct-20	31-Mar-21	15-Oct-21	1-Apr-22	1-Jun-22	5-Oct-22
Detection Monitoring Parameters				***Units***	INITIAL ASSESSMENT MON.	INITIAL ASSESSMENT MON. (RESAMPLE) UNFILTERED	FILTERED	FILTERED	UNFILTERED	FIRST 2019 ASSESSMENT MON.	SECOND 2019 ASSESSMENT MON.	FIRST 2020 ASSESSMENT MON.	SECOND 2020 ASSESSMENT MON.	FIRST 2021 ASSESSMENT MON.	SECOND 2021 ASSESSMENT MON.	FIRST 2022 ASSESSMENT MON.	FIRST 2022 ASSESSMENT MON. (RESAMPLE)	SECOND 2022 ASSESSMENT MON.
Boron	None	Background Well (Not Applicable)	Not Applicable	mg/L	2.01 #	2.14	1.67	1.76	1.72	3.07	2.01	1.39	1.48	1.66	1.43	3.00	---	3.08
Calcium	None		Not Applicable	mg/L	299 #	270	360	334	348	130	182	243	242	284	237	116	---	135
Chloride	250		Not Applicable	mg/L	12.8 #	15.1	13.7	13.8	13.1	28.2	17.3	13.8	13.9	13.8	14.8	30.0	---	14.4
Fluoride	4		Not Applicable	mg/L	0.285 #	0.342	0.99	0.31	0.444	0.652	0.422	0.231	0.257	0.344	0.294	0.453 J	---	0.263
pH (laboratory)	6.5 - 8.5		Not Applicable	S.U.	7.6 #	7.16	---	7.35	---	7.95	6.75	6.71	7.55	7.32	7.57	7.91	---	7.33
Sulfate	250		Not Applicable	mg/L	1400 #	1450	1420	1450	1440	1450	1380	1390	1480	1470	1570	1,510	---	1380
Total Dissolved Solids	500		Not Applicable	mg/L	2350 #	2350	2220	2270	2260	2590	2350	2450	2360	2320	2360	2,520	---	2460
Assessment Monitoring Parameters																		
Antimony	0.006	Not Applicable	Background Well (Not Applicable)	mg/L	<00008 #	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	---	<0.000400
Arsenic	0.010	Not Applicable		mg/L	<0.004 #	<0.000400	<0.000400	<0.000400	0.000412 J	0.000979 J	0.000401 J	<0.000400	<0.000400	<0.000400	<0.000400	0.000569 J	---	0.000423 J
Barium	2	Not Applicable		mg/L	0.0196 J #	0.014	0.0164	0.0152	0.015	0.0146	0.0114	0.0116	0.0107	0.0114	0.0112	0.0104	---	0.01
Beryllium	0.004	Not Applicable		mg/L	<0.001 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200
Cadmium	0.005	Not Applicable		mg/L	<0.0001 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200
Chromium	0.1	Not Applicable		mg/L	<0.005 #	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	---	<0.000400
Cobalt	None	Not Applicable		mg/L	<0.0001 #	<0.000200	0.000229 J	<0.000200	<0.000200	0.000265 J	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	0.000435 J	---	<0.000200
Fluoride	4	Not Applicable		mg/L	0.285 #	0.342	0.99	0.31	0.444	0.652	0.422	0.231	0.257	0.344	0.294	0.453 J	---	0.263
Lead	0.015	Not Applicable		mg/L	<0.0001 #	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	---	<0.000600
Lithium	None	Not Applicable		mg/L	0.174 J #	0.17	0.194	0.181	0.176	0.131	0.139	0.156	0.146	0.166	0.163	0.120	---	0.131
Mercury	0.002	Not Applicable		mg/L	<0.00015 #	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	0.0000990 J	0.0000490 J	<0.0000300	---	<0.0000300
Molybdenum	None	Not Applicable		mg/L	<0.01 #	0.00155 J	0.00178 J	0.00149 J	0.00176 J	0.00276 J	0.00210 J	0.000934 J	0.000865 J	0.000959 J	0.000917 J	0.00117 J	---	0.00101 J
Selenium	0.05	Not Applicable		mg/L	0.000429 J #	<0.0011	<0.0011	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	---	<0.00110
Thallium	0.002	Not Applicable		mg/L	<0.0008 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200
Ra-226 + Ra-228 (combined)	5	Not Applicable		pCi/L	1.46 +/- 0.346 #	2.12	---	1.14	---	1.65	1.81	2.09	2.67	2.47	1.75	1.46	---	3.01
Other Parameters																		
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	<5 #	<5	---	<5	---	<5.00	6.00 J	---	<5.00	<5.00	5.00 J	<5.00	---	13.0 J
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	<5	---	<5	---	---	---	---	---	---	---	---	---	---
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	354	---	343	---	---	---	---	---	---	---	---	---	---
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	<5	---	<5	---	---	---	---	---	---	---	---	---	---
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	27	30.7	30.4	29.6	---	---	---	---	---	---	---	---	---
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	0.061 J #	<0.03	<0.03	<0.03	<0.03	<0.150	0.191	<0.0300	<0.0600	<0.0600	0.0613 J	0.304 J	---	0.297
Potassium	None	Not Applicable	Not Applicable	mg/L	---	8.43	8.61	8.43	8.64	---	---	---	---	---	---	---	---	---
Sodium	None	Not Applicable	Not Applicable	mg/L	---	557	416	447	418	---	---	---	---	---	---	---	---	---
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	2570 #	3090	---	2960	---	---	---	---	3280	2940	3050	3,840	---	3250
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																		
Temperature	None	Not Applicable	Not Applicable	ºC	25.7	12.4	---	---	---	20.41	27	21.69	21.8	16.9	21.4	17.3	---	24.8
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	7.41	7.39	---	---	---	7.8	7.63	7.48	7.54	7.49	7.56	7.55	---	7.49
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	3728	3569	---	---	---	3688	3751	3474	3576	3616	3,688	3,658	---	3616
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	0.41	0.66	---	---	---	1.68	2.61	1.18	0.39	0.49	0.44	0.33	---	0.8
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	30.1	-8.8	---	---	---	-119.2	-95.1	-41.6	156.8	76.4	-435.2	22.4	---	-126.4
Turbidity	None	Not Applicable	Not Applicable	NTU	5.63	2.27	0.76	---	---	4.66	1.28	4.95	3.21	3.76	8.30	3.27	---	2.42

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT B
GROUNDWATER SAMPLE DATA TO DATE FOR LANDFILL CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID: / Sample Date: / *Units*	MW-13 / 12-Apr-23 / FIRST 2023 ASSESSMENT MON.
Detection Monitoring Parameters					
Boron	None	Background Well (Not Applicable)	Not Applicable	mg/L	2.29
Calcium	None		Not Applicable	mg/L	187
Chloride	250		Not Applicable	mg/L	17.9
Fluoride	4		Not Applicable	mg/L	0.446
pH (laboratory)	6.5 - 8.5		Not Applicable	S.U.	7.45
Sulfate	250		Not Applicable	mg/L	1,610
Total Dissolved S	500		Not Applicable	mg/L	2,750
Assessment Monitoring Parameters					
Antimony	0.006	Not Applicable	Background Well (Not Applicable)	mg/L	<0.000400
Arsenic	0.010	Not Applicable		mg/L	<0.000400
Barium	2	Not Applicable		mg/L	0.0102
Beryllium	0.004	Not Applicable		mg/L	<0.000200
Cadmium	0.005	Not Applicable		mg/L	<0.000200
Chromium	0.1	Not Applicable		mg/L	<0.000400
Cobalt	None	Not Applicable		mg/L	0.000403 J
Fluoride	4	Not Applicable		mg/L	0.446
Lead	0.015	Not Applicable		mg/L	<0.000600
Lithium	None	Not Applicable		mg/L	0.129
Mercury	0.002	Not Applicable		mg/L	<0.0000300
Molybdenum	None	Not Applicable		mg/L	0.000970 J
Selenium	0.05	Not Applicable		mg/L	<0.00110
Thallium	0.002	Not Applicable		mg/L	<0.000200
Ra-226 + Ra-228	5	Not Applicable		pCi/L	1.38 +/- 0.478
Other Parameters					
Chemical	None	Not Applicable	Not Applicable	mg/L	<5.00
Total Alkalinity	None	Not Applicable	Not Applicable	mg/L	---
Carbonate Alkalin	None	Not Applicable	Not Applicable	mg/L	---
Bicarbonate Alkali	None	Not Applicable	Not Applicable	mg/L	---
Hydroxide Alkalini	None	Not Applicable	Not Applicable	mg/L	---
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---
Iron, Ferrous, Diss	None	Not Applicable	Not Applicable	mg/L	---
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---
Iron, Ferric, Disso	None	Not Applicable	Not Applicable	mg/L	---
Magnesium	None	Not Applicable	Not Applicable	mg/L	---
Molybdenum, Diss	None	Not Applicable	Not Applicable	mg/L	---
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	0.0990 J
Potassium	None	Not Applicable	Not Applicable	mg/L	---
Sodium	None	Not Applicable	Not Applicable	mg/L	---
Specific Conducta	None	Not Applicable	Not Applicable	umhos/cm	3,320
Sulfide	None	Not Applicable	Not Applicable	mg/L	---
Field Parameters					
Temperature	None	Not Applicable	Not Applicable	ºC	20.5
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	6.81
Specific Conducta	None	Not Applicable	Not Applicable	µmhos/cm	3200
Dissolved Oxyger	None	Not Applicable	Not Applicable	mg/L	0.31
Oxidation-Reducti	None	Not Applicable	Not Applicable	mV	-1
Turbidity	None	Not Applicable	Not Applicable	NTU	4.99

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT B
GROUNDWATER SAMPLE DATA TO DATE FOR LANDFILL CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID:	MW-14A	MW-14A	MW-14A	MW-14A	MW-14A	DUP-2	MW-14A	MW-14A	MW-14A	MW-14A	MW-14A (Shallow)	MW-14A (Deep)	DUP1 (Deep)
				Sample Date:	25-May-16	23-Aug-16	28-Sep-16	30-Nov-16	31-Jan-17	31-Jan-17	30-Mar-17	2-Jun-17	9-Aug-17	17-May-18	1-Aug-18	9-Aug-18	9-Aug-18
Detection Monitoring Parameters				***Units***	BACKGROUND 1	BACKGROUND 2	BACKGROUND 3	BACKGROUND 4	BACKGROUND 5		BACKGROUND 6	BACKGROUND 7	BACKGROUND 8	DETECTION MON. #1	EVALUATION SAMPLE	VERIFICATION SAMPLE	
Boron	None	Background Well (Not Applicable)	Not Applicable	mg/L	0.92	0.92	0.894	1.02	0.984	1.04	1.01	1.03	0.764	1.14	0.925	1.8	1.53
Calcium	None		Not Applicable	mg/L	500	380	327	328	544	503	451	530	672	313	341	746	358
Chloride	250		Not Applicable	mg/L	17.7	17.1	15.5	15.2	15.7	15.8	16.3	14.8	13.8	15.3	15	16	14.7
Fluoride	4		Not Applicable	mg/L	0.17	0.472	0.402	0.384	0.372	0.385	0.228	0.232	0.312	0.292	0.333	0.296	0.253
pH (laboratory)	6.5 - 8.5		Not Applicable	S.U.	7.12	7.7	7.6	7.6	7.1	7.1	7.1	7	6.9	7.4	7.3	7.1	7.2
Sulfate	250		Not Applicable	mg/L	2020	1670	1730	1600	1590	1610	1710	1440	1420	1790	1580	1600	1510
Total Dissolved Solids	500		Not Applicable	mg/L	2680	2650	2530	2670	2540	2570	2650	2630	2680	2700	2700	2730	2700
Assessment Monitoring Parameters																	
Antimony	0.006	Not Applicable	Background Well (Not Applicable)	mg/L	<0.000500	<0.000800	<0.000800	<0.00800	<0.000800	<0.000800	<0.00400	<0.000800	<0.000800	---	---	---	---
Arsenic	0.010	Not Applicable		mg/L	0.00363	0.000714 J	0.00171 J	<0.00400	0.00153 J	0.00173 J	<0.00200	0.00150 J	0.00306	---	---	---	---
Barium	2	Not Applicable		mg/L	0.0239	0.018	0.019	0.0156 J	0.0177	0.0179	0.0329	0.0179	0.182	---	---	---	---
Beryllium	0.004	Not Applicable		mg/L	<0.00100	<0.000100	<0.000100	<0.00100	<0.000100	<0.000100	<0.000500	<0.000100	<0.00100	---	---	---	---
Cadmium	0.005	Not Applicable		mg/L	<0.000400	<0.000100	<0.000100	<0.00100	<0.000100	<0.000100	<0.000500	<0.000100	<0.00100	---	---	---	---
Chromium	0.1	Not Applicable		mg/L	<0.000500	<0.000500	<0.000500	<0.00500	<0.000500	<0.000500	<0.00250	<0.000500	<0.000500	---	---	---	---
Cobalt	None	Not Applicable		mg/L	0.000730 J	0.000258 J	0.000708 J	<0.00100	0.000334 J	0.000342 J	<0.000500	<0.000100	0.000350 J	---	---	---	---
Fluoride	4	Not Applicable		mg/L	0.17	0.472	0.402	0.384	0.372	0.385	0.228	0.232	0.312	0.292	0.333	0.296	0.253
Lead	0.015	Not Applicable		mg/L	<0.000200	<0.000100	<0.000100	<0.00100	<0.000100	<0.000100	<0.000500	<0.000100	<0.000100	---	---	---	---
Lithium	None	Not Applicable		mg/L	0.167	0.147	0.147	0.175 J	0.16	0.164	0.235 J	0.147	0.16	---	0.149	0.328 J	0.134
Mercury	0.002	Not Applicable		mg/L	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	---	---	---	---
Molybdenum	None	Not Applicable		mg/L	0.00477	0.00237	0.00524 J	<0.0100	0.00253	0.00238	<0.00500	0.00246	0.00223	---	<0.00100	<0.0100	0.00144 J
Selenium	0.05	Not Applicable		mg/L	<0.000600	0.000342 J	<0.000300	<0.00300	<0.000300	<0.000300	<0.00150	<0.000300	<0.000300	---	---	---	---
Thallium	0.002	Not Applicable		mg/L	<0.000500	<0.000800	<0.000800	<0.00800	<0.000800	<0.000800	<0.00400	<0.000800	<0.000800	---	---	---	---
Ra-226 + Ra-228 (combined)	5	Not Applicable		pCi/L	1.60 +/- 0.364	1.62 +/- 0.381	1.90 +/- 0.394	2.02 +/- 0.498	1.39 +/- 0.366	1.38 +/- 0.385	1.73 +/- 0.346	1.49 +/- 0.351	1.51 +/- 0.326	---	---	---	---
Other Parameters																	
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<5.00	---	---	---	---
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	280	---	---	---	---
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<5.00	---	---	---	---
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	24.4	---	---	---	---
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Potassium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	7.88	---	---	---	---
Sodium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	518	---	---	---	---
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	---	---	---	---	---	---	---	---	---	---	---	---	---
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																	
Temperature	None	Not Applicable	Not Applicable	ºC	20.93	22.4	21.96	17.51	17.76	---	18.84	19.83	21.41	22.9	25.6	21.33	---
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	7.01	7.13	7.01	6.95	6.97	---	7.08	6.88	6.75	7.1	6.82	6.47	---
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	2781	3345	3365	3434	3350	---	3390	3201	3186	3301	3415	3410	---
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	0.34	0.39	0.06	0.25	0.68	---	0.26	0.34	0.1	0.24	252	1.65	---
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	127.6	-26.6	-94.3	-219.1	-88.7	---	-77.1	-30.1	97.7	-48.5	0.2	68.3	---
Turbidity	None	Not Applicable	Not Applicable	NTU	6.74	0.79	0.27	0.68	0.26	---	0.16	0.4	0.71	0.37	1.53	0.02	---

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT B
GROUNDWATER SAMPLE DATA TO DATE FOR LANDFILL CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID:	MW-14A	MW-14A		MW-14A	MW-14A	MW-14A	MW-14A	MW-14A	MW-14A	MW-14		MW-14A	MW-14A
				Sample Date:	4-Oct-18	11-Jan-19		24-Apr-19	2-Oct-19	17-Jun-20	8-Oct-20	31-Mar-21	13-Oct-21	30-Mar-22	1-Jun-22	6-Oct-22	12-Apr-23
Detection Monitoring Parameters				***Units***	INITIAL ASSESSMENT MON.	INITIAL ASSESSMENT MON. (RESAMPLE) UNFILTERED	FILTERED	FIRST 2019 ASSESSMENT MON.	SECOND 2019 ASSESSMENT MON.	FIRST 2020 ASSESSMENT MON.	SECOND 2020 ASSESSMENT MON.	FIRST 2021 ASSESSMENT MON.	SECOND 2021 ASSESSMENT MON.	FIRST 2022 ASSESSMENT MON.	FIRST 2022 ASSESSMENT MON. (RESAMPLE)	SECOND 2022 ASSESSMENT MON.	FIRST 2023 ASSESSMENT MON.
Boron	None	Background Well (Not Applicable)	Not Applicable	mg/L	1.18 #	1.42	1.16	1.23	0.98	0.907	0.882	0.839	0.857	0.918	---	1.01	1.01
Calcium	None		Not Applicable	mg/L	319 #	402	388	314	306	280	278	298	263	330	---	313	319
Chloride	250		Not Applicable	mg/L	14.2 #	14	14.8	13.5	14.2	13.3	14.9	14.3	12.8	13.8	---	12.5	12.0
Fluoride	4		Not Applicable	mg/L	0.281 #	0.269	0.375	0.377 J	0.286	0.23	0.254 J	0.284	0.221	0.406 J	---	0.324	0.307
pH (laboratory)	6.5 - 8.5		Not Applicable	S.U.	7.6 #	7.28	---	7.61	7.18	7.44	7.41	7.7	6.74	7.99	---	7.06	7.58
Sulfate	250		Not Applicable	mg/L	1650 #	1660	1630	1540	1580	1650	1770	1680	1690	1,610	---	1600	1,760
Total Dissolved Solids	500		Not Applicable	mg/L	2710 #	2590	2580	2680	2750	2780	2630	2680	2630	2,690	---	2580	2,320
Assessment Monitoring Parameters																	
Antimony	0.006	Not Applicable	Background Well (Not Applicable)	mg/L	<0.0008 #	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	---	<0.000400	<0.000400
Arsenic	0.010	Not Applicable		mg/L	<0.004 #	<0.000400	<0.000400	<0.000400	<0.000400	<0.00040	<0.000400	<0.000400	<0.000400	<0.000400	---	<0.000400	<0.000400
Barium	2	Not Applicable		mg/L	0.0232 #	0.017	0.0173	0.0147	0.0118	0.0132	0.0114	0.0117	0.0121	0.0120	---	0.0103	0.0114
Beryllium	0.004	Not Applicable		mg/L	<0.001 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200	<0.000200
Cadmium	0.005	Not Applicable		mg/L	<0.0001 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200	<0.000200
Chromium	0.1	Not Applicable		mg/L	<0.005 #	<0.000400	<0.000400	<0.000400	0.00110 J	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	---	0.000465 J	<0.000400
Cobalt	None	Not Applicable		mg/L	0.000297 J #	0.000348 J	0.000324 J	0.000425 J	<0.000200	<0.000200	<0.000200	<0.000200	0.000257 J	0.00120 J	---	<0.000200	0.000745 J
Fluoride	4	Not Applicable		mg/L	0.281 #	0.269	0.375	0.377 J	0.286	0.23	0.254	0.284	0.221	0.406 J	---	0.324	0.307
Lead	0.015	Not Applicable		mg/L	<0.0001 #	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	---	<0.000600	<0.000600
Lithium	None	Not Applicable		mg/L	0.161 J #	0.166	0.172	0.155	0.154	0.151	0.146	0.152	0.151	0.180	---	0.158	0.155
Mercury	0.002	Not Applicable		mg/L	<0.00015 #	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	0.0000500 J	0.0000300 J	<0.0000300	---	<0.0000300	<0.0000300
Molybdenum	None	Not Applicable		mg/L	<0.01 #	0.00170 J	0.00143 J	0.00104 J	0.000709 J	0.000760 J	<0.000600	<0.000600	<0.000600	<0.000600	---	<0.000600	<0.000600
Selenium	0.05	Not Applicable		mg/L	<0.0003 #	<0.0011	<0.0011	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	---	<0.00110	<0.00110
Thallium	0.002	Not Applicable		mg/L	<0.0008 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200	<0.000200
Ra-226 + Ra-228 (combined)	5	Not Applicable		pCi/L	1.65 +/- 0.369 #	2.6	---	0.97	1.79	2.02	1.42	1.76	1.68	1.33	---	4.68	2.7 +/- 1.21
Other Parameters																	
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	<5	<5	---	<5.00	5.00 J	---	<5.00	<5.00	6.00 J	6.00 J	---	12.0 J	<5.00
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	327	327	332	348	330	---	321	294
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	<5	---	---	---	<5	<5	<5	<5.00	<5	---	<5	<5.00
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	321	---	---	---	327	327	332	348	330	---	321	294
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	<5	---	---	---	<5	<5	<5	<5.00	<5	---	<5	<5.00
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	0.771(J)	0.236	0.162 J	1.22	0.249	---	0.803	0.126 J
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	<0.0120	0.169 J	0.150 J	0.357	0.189	---	0.475	0.0795 J
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	0.098	0.184	0.055	0.285	0.13	---	0.578	<0.0200
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	0.0340 J	<0.0200 H	0.142	---	0.489	<0.0200
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	0.107	0.935	0.119	---	0.225	0.126
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	0.116	0.357	0.0470 J	---	<0.0200	0.08
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	28.8	27.9	---	---	26.6	26.2	25.9	26.5	29.2	---	25.4	29.7
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	0.000768(J)	0.000621 J	0.00165 J	<0.000600	<0.000600	---	<0.000600	<0.000600
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	0.087 J #	0.478	0.509	1.64	<0.0300	0.316	<0.150	<0.0600	<0.0600	0.484 J	---	0.0777 J	0.220
Potassium	None	Not Applicable	Not Applicable	mg/L	---	8.64	8.37	---	---	7.66	7.94	7.87	7.84	8.73	---	7.8	8.81
Sodium	None	Not Applicable	Not Applicable	mg/L	---	516	467	---	---	382	388	413	388	503	---	424	469
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	3000 #	3270	---	---	---	---	3660	3260	3320	3,490	---	3540	3,370
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	<1	<1	<1	3.08	<1	---	<1	<1.70
Field Parameters																	
Temperature	None	Not Applicable	Not Applicable	ºC	23.1	16.2	---	17.75	24.4	21	23.7	15.84	20.0	15.2	---	25.2	18.8
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	6.93	6.9	---	7.28	7.1	7.04	7.1	7.33	7.00	7.17	---	6.9	7.06
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	3491	3251	---	3386	3435	3107	3394	4453	2,989	3,300	---	3400	3240
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	0.31	0.19	---	1.45	0.62	0.79	0.59	0.34	0.40	0.66	---	0.57	0.33
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	13.1	19.5	---	4.6	27.7	-45.7	107.1	20.5	-128.9	35.2	---	-70	-49
Turbidity	None	Not Applicable	Not Applicable	NTU	3.17	4.89	0.94	2.06	3.88	4.71	2.96	3.52	9.38	2.40	---	1.24	3.01

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT B
GROUNDWATER SAMPLE DATA TO DATE FOR LANDFILL CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID:	MW-15A	MW-15A	MW-15A	MW-15A	DUP 1	MW-15A	MW-15A	MW-15A	MW-15A	MW-15A	MW-15A (Shallow)	MW-15A (Deep)
				Sample Date:	26-May-16	23-Aug-16	28-Sep-16	30-Nov-16	30-Nov-16	30-Jan-17	30-Mar-17	1-Jun-17	9-Aug-17	24-May-18	1-Aug-18	10-Aug-18
					BACKGROUND 1	BACKGROUND 2	BACKGROUND 3	BACKGROUND 4		BACKGROUND 5	BACKGROUND 6	BACKGROUND 7	BACKGROUND 8	DETECTION MON. #1	EVALUATION SAMPLE	VERIFICATION SAMPLE
Detection Monitoring Parameters				***Units***												
Boron	None	1.896	Not Applicable	mg/L	3.33	3.57	4.52	4.44	5.36	4.64	2.01	3.54	3.38	4.83	3.7	4.14
Calcium	None	670.30	Not Applicable	mg/L	152	154	181	209	279	151	117	183	156	160	93.4	129
Chloride	250	18.51	Not Applicable	mg/L	27.1	26.6	27.9	27	26.5	25.4	27.4	28.1	25.7	26.9	26.6	26.5
Fluoride	4	0.6359	Not Applicable	mg/L	1.23	1.32	1.49	1.32	1.33	1.4	1.15	1.09	1.37	1.76	1.2	1.17
pH (laboratory)	6.5 - 8.5	6.485 - 8.018	Not Applicable	S.U.	7.66	8.1	8	7.6	7.7	7.6	7.4	7.5	7.5	7.6	7.8	7.8
Sulfate	250	1,824	Not Applicable	mg/L	1450	1570	1580	1630	1610	1580	1760	1610	1720	1690	1510	1490
Total Dissolved Solids	500	2,774	Not Applicable	mg/L	2470	2420	2410	2540	2530	2460	2640	2600	2710	2660	2490	2610
Assessment Monitoring Parameters																
Antimony	0.006	Not Applicable	0.006 (MCL)	mg/L	<0.000500	<0.000800	<0.000800	<0.00800	<0.00400	<0.000800	<0.00400	<0.000800	<0.00400	---	---	---
Arsenic	0.010	Not Applicable	0.01 (MCL)	mg/L	0.00242	0.00218	0.00205	<0.00400	0.00407 J	0.00156 J	<0.00200	0.00218	0.00259 J	---	---	---
Barium	2	Not Applicable	2 (MCL)	mg/L	0.0269	0.0338	0.0273	0.026	0.0383	0.0255	0.0167	0.0232	0.0217	---	---	---
Beryllium	0.004	Not Applicable	0.004 (MCL)	mg/L	<0.00100	<0.000100	<0.000100	<0.00100	<0.000500	<0.000100	<0.000500	<0.000100	<0.000500	---	---	---
Cadmium	0.005	Not Applicable	0.005 (MCL)	mg/L	<0.000400	<0.000100	<0.000100	<0.00100	<0.000500	<0.000100	<0.000500	<0.000100	<0.000500	---	---	---
Chromium	0.1	Not Applicable	0.1 (MCL)	mg/L	0.000638 J	<0.000500	<0.000500	<0.00500	<0.00250	<0.000500	<0.00250	<0.000500	<0.00250	---	---	---
Cobalt	None	Not Applicable	0.006 (ODEQ)	mg/L	0.000664 J	0.000467 J	0.000659 J	<0.00100	0.000661 J	0.000346 J	<0.000500	0.000215 J	<0.000500	---	---	---
Fluoride	4	Not Applicable	4 (MCL)	mg/L	1.23	1.32	1.49	1.32	1.33	1.4	1.15	1.09	1.37	1.76	1.2	1.17
Lead	0.015	Not Applicable	0.015 (MCL)	mg/L	0.000264 J	<0.000100	<0.000100	<0.00100	<0.000500	<0.000100	<0.000500	<0.000100	<0.000500	---	---	---
Lithium	None	Not Applicable	0.235 (UTL)	mg/L	0.0748	0.0646	0.0575	0.0630 J	0.0766 J	0.059	0.0437 J	0.0552	0.0538 J	---	0.0669	0.0594
Mercury	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	0.000175 J	<0.000150	<0.000100	---	---	---
Molybdenum	None	Not Applicable	0.1 (ODEQ)	mg/L	0.306	0.208	0.256	0.276	0.343	0.261	0.182	0.235	0.255	---	0.202	0.182
Selenium	0.05	Not Applicable	0.05 (MCL)	mg/L	<0.000600	<0.000300	<0.000300	<0.00300	<0.00150	0.000357 J	<0.00150	0.000539 J	0.00161 J	---	---	---
Thallium	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000500	<0.000800	<0.000800	<0.00800	<0.00400	<0.000800	<0.00400	<0.000800	<0.00400	---	---	---
Ra-226 + Ra-228 (combined)	5	Not Applicable	5 (MCL)	pCi/L	1.01 +/- 0.268	0.846 +/- 0.371	0.636 +/- 0.292	1.38 +/- 0.431	1.33 +/- 0.426	1.21 +/- 0.359	1.36 +/- 0.333	1.86 +/- 0.390	2.19 +/- 0.392	---	---	---
Other Parameters																
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<5.00	---	---	---
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	130	---	---	---
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<5.00	---	---	---
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	9.36	---	---	---
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Potassium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	5.28	---	---	---
Sodium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	541	---	---	---
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	---	---	---	---	---	---	---	---	---	---	---	---
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																
Temperature	None	Not Applicable	Not Applicable	ºC	20.05	24.8	21.87	18.2	---	20.43	19.34	20.24	22.68	21.24	25.05	23.28
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	7.73	7.72	7.69	7.59	---	7.5	7.6	7.47	7.42	7.72	7.42	7.43
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	3050	3373	3442	3430	---	3488	3520	3498	3524	3505	3548	3578
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	0.16	0.37	0.06	0.33	---	0.29	0.22	0.08	0.06	0.14	1.62	1.23
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	66.1	-61.7	-96.7	-211.9	---	-140.6	-81.1	-82.3	43.1	-101.3	133.1	140.8
Turbidity	None	Not Applicable	Not Applicable	NTU	4.97	0.7	0.18	0.31	---	0.52	0.66	0.53	1.31	0.39	5.5	1.68

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT B
GROUNDWATER SAMPLE DATA TO DATE FOR LANDFILL CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID:	MW-15A	DUP 2	MW-15A		MW-15A	MW-15A	MW-15A	MW-15A	MW-15A	MW-15A	MW-15A		MW-15A	MW-15A
				Sample Date:	2-Oct-18	2-Oct-18	10-Jan-19		25-Apr-19	2-Oct-19	18-Jun-20	8-Oct-20	31-Mar-21	13-Oct-21	30-Mar-22	1-Jun-22	6-Oct-22	12-Apr-23
Detection Monitoring Parameters				***Units***	INITIAL ASSESSMENT MON.		INITIAL ASSESSMENT MON. (RESAMPLE) UNFILTERED	FILTERED	FIRST 2019 ASSESSMENT MON.	SECOND 2019 ASSESSMENT MON.	FIRST 2020 ASSESSMENT MON.	SECOND 2020 ASSESSMENT MON.	FIRST 2021 ASSESSMENT MON.	SECOND 2021 ASSESSMENT MON.	FIRST 2022 ASSESSMENT MON.	FIRST 2022 ASSESSMENT MON. (RESAMPLE)	SECOND 2022 ASSESSMENT MON.	FIRST 2023 ASSESSMENT MON.
Boron	None	1.896	Not Applicable	mg/L	3.76 #	3.77 #	3.52	5.48	3.61	3.19	4.57	3.33	3.35	2.14	3.35	---	3.11	3.44
Calcium	None	670.30	Not Applicable	mg/L	170 #	171 #	129	187	92	82.4	141	89.8	78.6	96.6	119	---	113	107
Chloride	250	18.51	Not Applicable	mg/L	26.6 #	26.5 #	26.3	26.9	21.9	25.9	26.3	26.5	27.3	25.7	27.0	---	26.2	25.3
Fluoride	4	0.6359	Not Applicable	mg/L	1.21 #	1.2 #	1.22	1.46	1.02	1.24	0.86	1.14	1.13	1.01	1.31	---	1.31	1.24
pH (laboratory)	6.5 - 8.5	6.485 - 8.018	Not Applicable	S.U.	8.2 #	8.2 #	7.02	---	8.02	7.58	7.68	7.77	7.93	7.45	8.08	---	7.74	7.77
Sulfate	250	1,824	Not Applicable	mg/L	1570 #	1580 #	1610	1540	1310	1510	1680	1650	1590	1580	1,540	---	1510	1690
Total Dissolved Solids	500	2,774	Not Applicable	mg/L	2650 #	2570 #	2590	2640	2570	2500	2520	2460	2420	2370	2,450	---	2370	2240
Assessment Monitoring Parameters																		
Antimony	0.006 (MCL)	Not Applicable	0.006 (MCL)	mg/L	<0.0008 #	<0.0008 #	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	---	<0.000400	<0.000400
Arsenic	0.01 (MCL)	Not Applicable	0.01 (MCL)	mg/L	0.00179 J #	0.00166 J #	0.000626 J	0.00122 J	0.000663 J	0.000676 J	0.000965 J	0.000592 J	0.000523 J	0.00113 J	0.000661 J	---	0.000790 J	0.000525 J
Barium	2 (MCL)	Not Applicable	2 (MCL)	mg/L	0.0226 #	0.0229 #	0.023	0.0192	0.0217	0.0216	0.0291	0.0199	0.0186	0.0224	0.0222	---	0.0215	0.0180
Beryllium	0.004 (MCL)	Not Applicable	0.004 (MCL)	mg/L	<0.0001 #	<0.0001 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200	<0.000200
Cadmium	0.005 (MCL)	Not Applicable	0.005 (MCL)	mg/L	<0.0001 #	<0.0001 #	0.000231 J	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200	<0.000200
Chromium	0.1 (MCL)	Not Applicable	0.1 (MCL)	mg/L	0.00119 J #	<0.0005 #	<0.000400	<0.000400	<0.000400	<0.000400	0.000900 J	<0.000400	<0.000400	0.000502 J	<0.000400	---	<0.000400	<0.000400
Cobalt	0.006 (ODEQ	Not Applicable	0.006 (ACL)	mg/L	0.000293 J #	0.000210 J #	<0.000200	0.000374 J	0.000231 J	0.000257 J	0.000402 J	0.000221 J	<0.000200	0.000296 J	0.000651 J	---	<0.000200	0.000357 J
Fluoride	4 (MCL)	Not Applicable	4 (MCL)	mg/L	1.21 #	1.2 #	1.22	1.46	1.02	1.24	0.86	1.14	1.13	1.01	1.31	---	1.31	1.24
Lead	0.015 (MCL)	Not Applicable	0.015 (MCL)	mg/L	0.000386 J #	0.000145 J #	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	---	<0.000600	<0.000600
Lithium	0.235 (UTL)	Not Applicable	0.235 (UTL)	mg/L	0.0613 #	0.0598 #	0.0701	0.0582	0.0858	0.0743	0.111	0.0709	0.073	0.0627	0.0815	---	0.0643	0.0669
Mercury	0.002 (MCL)	Not Applicable	0.002 (MCL)	mg/L	<0.000100 #	<0.000100 #	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	0.0000420 J	<0.0000300	<0.0000300	---	0.0000390 J	<0.0000300
Molybdenum	0.1 (ODEQ)	Not Applicable	0.1 (ACL)	mg/L	0.233 #	0.228 #	0.205	0.244	0.219	0.196	0.269	0.167	0.168	0.149	0.181	---	0.149	0.173
Selenium	0.05 (MCL)	Not Applicable	0.05 (MCL)	mg/L	0.000459 J #	0.000353 J #	<0.0011	<0.0011	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	---	<0.00110	<0.00110
Thallium	0.002 (MCL)	Not Applicable	0.002 (MCL)	mg/L	<0.0008 #	<0.0008 #	0.000565 J	0.000375 J	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200	<0.000200
Ra-226 + Ra-228 (combined)	5 (MCL)	Not Applicable	5 (MCL)	pCi/L	1.28 +/- 0.294 #	1.66 +/- 0.358 #	1.46	---	<0.87	2.03	1.67	1.72	1.45	2.04	1.61	---	1.69	1.57 +/- 0.708
Other Parameters																		
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	9.51 J #	7.46 J #	7.00 J	---	<5.00	18	---	5.00 J	<5.00	11.0 J	7.00 J	---	11.0 J	10.0 J
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	209	204	196	226	193	---	189	180
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	<5	---	---	---	<5	<5	<5	<5.00	<5	---	<5	<5.0
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	149	---	---	---	209	204	196	226	193	---	189	180
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	---	<5	---	---	---	<5	<5	<5	<5.00	<5	---	<5	<5.0
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	0.0535(J)	0.0496 J	0.0492 J	0.368	0.236	---	0.208	0.138 J
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	<0.0120	0.165 J	0.133 J	0.590	0.234	---	0.367	0.371
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	0.0410(J)	0.0210 J	0.054	0.284	0.2	---	0.089	0.238
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	0.0320 J	<0.0200 H	0.243	---	0.358	0.238
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<0.02	0.0840	0.0360 J	---	<0.0200	<0.0200
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	0.101	0.590	<0.02	---	<0.0200	0.133
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	---	12.4	10.9	---	---	165	11	10.9	10.2	12.3	---	10.3	12.5
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	0.168	0.153	0.159	0.181	0.159	---	0.149	0.175
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	0.068 J #	0.065 J #	1.42	0.616	1.72	0.287	<0.0600	<0.150	1.14	0.0704 J	0.894	---	0.246	0.544
Potassium	None	Not Applicable	Not Applicable	mg/L	---	---	5.98	5.47	---	---	8.24	5.15	5.47	4.97	5.91	---	4.96	5.82
Sodium	None	Not Applicable	Not Applicable	mg/L	---	---	746	703	---	---	1040	627	594	421	680	---	609	702
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	3490 #	3480 #	3540	---	---	---	---	3780	3400	3370	3,620	---	3590	3,470
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	1.12	<1	<1	<1.00	<1	---	<1	<1.70
Field Parameters																		
Temperature	None	Not Applicable	Not Applicable	ºC	23.1	---	18.5	---	20.72	27.05	24.09	22.2	16.37	22.4	18.1	---	25.6	18
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	7.53	---	7.45	---	7.82	7.71	7.73	7.71	7.82	7.61	7.65	---	7.58	7.58
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	3563	---	3449	---	3544	3575	3337	3422	4,645	3,431	3,386	---	3393	3304
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	0.21	---	0.41	---	1.24	0.71	1.39	0.28	4.97	0.38	0.51	---	0.4	0.3
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	-69.9	---	98	---	-22.1	-79.5	-50.3	167.2	13.8	-59.9	93.7	---	-85.1	129.9
Turbidity	None	Not Applicable	Not Applicable	NTU	4.11	---	1.13	1.09	0.55	0.84	2.6	1.73	0.88	3.34	2.38	---	0.9	1.66

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT B
GROUNDWATER SAMPLE DATA TO DATE FOR LANDFILL CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID:	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	DUP 3	MW-16	MW-16 (Shallow)	MW-16 (Deep)
				Sample Date:	1-Jun-16	23-Aug-16	29-Sep-16	6-Dec-16	1-Feb-17	6-Apr-17	7-Jun-17	11-Aug-17	11-Aug-17	22-May-18	1-Aug-18	10-Aug-18
Detection Monitoring Parameters				***Units***	BACKGROUND 1	BACKGROUND 2	BACKGROUND 3	BACKGROUND 4	BACKGROUND 5	BACKGROUND 6	BACKGROUND 7	BACKGROUND 8		DETECTION MON. #1	EVALUATION SAMPLE	VERIFICATION SAMPLE
Boron	None	1.896	Not Applicable	mg/L	1.39	1.44	2.84	2.38	2.43	1.64	1.64	1.79	1.74	1.95	1.9	2.39 J
Calcium	None	670.30	Not Applicable	mg/L	365	242	192	311	153	241	357 J*	238	235	122	159	185
Chloride	250	18.51	Not Applicable	mg/L	<35.0	20.2	23.2	22.9	26.5	16.7 J*	15.3 J*	18	17.7	21.3	20.6	29.6
Fluoride	4	0.6359	Not Applicable	mg/L	0.843	1.02	1.36	0.936 J*	1.03	0.759 J*	0.721 J*	0.817	0.801	1.01	0.963	1.17
pH (laboratory)	6.5 - 8.5	6.485 - 8.018	Not Applicable	S.U.	7.05	7.8	7.6	7.6	7.6	7.3	7.2	7.2	7.2	7.5	7.5	7.8
Sulfate	250	1,494	Not Applicable	mg/L	1340	1040	1070	1390	915	1180	995	1020	1020	933	938	998
Total Dissolved Solids	500	1,883	Not Applicable	mg/L	1790	1780	1760	1790	1860	1740	1690	1710	1730	1820	1810	1930
Assessment Monitoring Parameters																
Antimony	0.006	Not Applicable	0.006 (MCL)	mg/L	<0.00250	<0.000800	<0.000800	<0.00400	<0.000800	<0.000800	<0.00400	<0.000800	<0.000800	---	---	---
Arsenic	0.010	Not Applicable	0.01 (MCL)	mg/L	<0.00250	0.00101 J	U (0.00164)	<0.00200	0.000757 J	0.00122 J	<0.00400	0.000409 J	0.000453 J	---	---	---
Barium	2	Not Applicable	2 (MCL)	mg/L	0.027	0.0291	0.0262	0.0461	0.0235	0.0246	0.027	0.024	0.024	---	---	---
Beryllium	0.004	Not Applicable	0.004 (MCL)	mg/L	<0.00500	<0.000100	<0.000100	<0.000500	<0.000100	U (0.000375)	<0.000500	<0.000100	<0.000100	---	---	---
Cadmium	0.005	Not Applicable	0.005 (MCL)	mg/L	<0.00200	<0.000100	<0.000100	<0.000500	<0.000100	<0.000100	<0.00100	<0.000100	<0.000100	---	---	---
Chromium	0.1	Not Applicable	0.1 (MCL)	mg/L	0.00604 J	<0.000500	0.0579	<0.00250	<0.000500	<0.000500	<0.00500	<0.000500	<0.000500	---	---	---
Cobalt	None	Not Applicable	0.006 (ODEQ)	mg/L	<0.00250	0.000340 J	0.000498 J	<0.000500	<0.000100	<0.000100	<0.00100	0.000354 J	0.000343 J	---	---	---
Fluoride	4	Not Applicable	4 (MCL)	mg/L	0.843	1.02	1.36	0.936 J*	1.03	0.759 J*	0.721 J*	0.817	0.801	1.01	0.963	1.17
Lead	0.015	Not Applicable	0.015 (MCL)	mg/L	<0.000200	<0.000100	<0.000100	<0.000500	<0.000100	<0.000100	<0.000500	<0.000100	<0.000100	---	---	---
Lithium	None	Not Applicable	0.235 (UTL)	mg/L	0.0495 J	0.0509	0.0470 J	0.0760 J	0.0632	0.0525	0.0534 J	0.0480 J	0.0472 J	---	0.0571	0.0491
Mercury	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000150	<0.000150	<0.000150	<0.000150 UJ	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	---	---	---
Molybdenum	None	Not Applicable	0.1 (ODEQ)	mg/L	0.135 J	0.134	0.0949	0.17	0.114	0.177	0.218	0.181	0.181	---	0.145	0.154
Selenium	0.05	Not Applicable	0.05 (MCL)	mg/L	<0.00300	<0.000300	U (0.000418)	<0.00150	0.000307 J	<0.000300	<0.00300	<0.000300	<0.000300	---	---	---
Thallium	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000500	<0.000800	<0.000800	<0.00400	<0.000800	<0.000800	<0.00400	<0.000800	<0.000800	---	---	---
Ra-226 + Ra-228 (combined)	5	Not Applicable	5 (MCL)	pCi/L	1.28 +/- 0.305	1.01 +/- 0.359	1.11 +/- 0.324	0.925 +/- 0.572	1.09 +/- 0.398	0.504 +/- 0.260	0.608 +/- 0.256	1.55 +/- 0.391	0.994 +/- 0.366	---	---	---
Other Parameters																
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	<5.00	<5.00	---	---	---
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	238	215	---	---	---
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	<5.00	<5.00	---	---	---
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	----	---	---	---
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	----	---	---	---
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	----	---	---	---
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	----	---	---	---
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	----	---	---	---
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	----	---	---	---
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	10.3	10.1	---	---	---
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	----	---	---	---
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Potassium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	3.33	3.28	---	---	---
Sodium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	272	270	---	---	---
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	---	---	---	---	---	---	---	---	---	---	---	---
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	----	---	---	---
Field Parameters																
Temperature	None	Not Applicable	Not Applicable	ºC	18.9	23.5	21.62	16.91	19.27	17.92	20.46	24.61	---	22.87	23.7	23.74
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	7.24	7.33	7.32	7.14	7.49	7.23	7.1	7.09	---	7.57	7.11	7.3
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	2066	2327	2492	2395	2620	2275	2256	2330	---	2463	2436	2678
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	0.38	2.53	0.31	0.25	0.59	0.81	0.04	0.16	---	0.37	1.59	2.7
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	-47.3	46	-106.4	-135.8	-104.9	10.2	0.4	60.3	---	-83.7	186.4	150.4
Turbidity	None	Not Applicable	Not Applicable	NTU	2.18	0.85	0.33	0.98	0.18	0.63	0.61	1.11	---	1.21	3.49	2.96

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT B
GROUNDWATER SAMPLE DATA TO DATE FOR LANDFILL CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID:	MW-16	MW-16		MW-16	MW-16	MW-16	MW-16	MW-16	MW-16	MW-16		MW-16	MW-16
				Sample Date:	2-Oct-18	16-Jan-19		23-Apr-19	3-Oct-19	18-Jun-20	13-Oct-20	1-Apr-21	14-Oct-21	1-Apr-22	7-Jun-22	6-Oct-22	12-Apr-23
Detection Monitoring Parameters				***Units***	INITIAL ASSESSMENT MON.	INITIAL ASSESSMENT MON. (RESAMPLE) UNFILTERED	FILTERED	FIRST 2019 ASSESSMENT MON.	SECOND 2019 ASSESSMENT MON.	FIRST 2020 ASSESSMENT MON.	SECOND 2020 ASSESSMENT MON.	FIRST 2021 ASSESSMENT MON.	SECOND 2021 ASSESSMENT MON.	FIRST 2022 ASSESSMENT MON.	FIRST 2022 ASSESSMENT MON. (RESAMPLE)	SECOND 2022 ASSESSMENT MON.	FIRST 2023 ASSESSMENT MON.
Boron	None	1.896	Not Applicable	mg/L	2.05 #	2.23	2.38	1.85	1.53	1.43	1.78	1.57	1.61	1.85	---	2.54	1.8
Calcium	None	670.30	Not Applicable	mg/L	221 #	215	215	192	149	186	166	140	158	153	---	132	118
Chloride	250	18.51	Not Applicable	mg/L	18 #	19	18.8	15.8	23.8	14.7	14.8	14.4	16.2	16.6^	15.0	25.8	16.5
Fluoride	4	0.6359	Not Applicable	mg/L	0.832 #	0.82	1.11	0.741	1.07	0.694	0.893	0.916	0.964	1.3^	1.01	1.25	0.908
pH (laboratory)	6.5 - 8.5	6.485 - 8.018	Not Applicable	S.U.	8.2 #	7.33	---	7.88	7.01	7.6	7.63	7.83	7.75	7.42^	7.92	7.85	7.78
Sulfate	250	1,494	Not Applicable	mg/L	959 #	1020	1030	974	1020	1030	929	1070	1110	1100^	1090	996	986
Total Dissolved Solids	500	1,883	Not Applicable	mg/L	1780 #	1740	1670	1740	1810	1610	1610	1790	1590	1670^	1700	1,690	1,570
Assessment Monitoring Parameters																	
Antimony	0.006	Not Applicable	0.006 (MCL)	mg/L	<0.0008 #	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	---	<0.000400	<0.000400
Arsenic	0.010	Not Applicable	0.01 (MCL)	mg/L	<0.002 #	<0.000400	<0.000400	<0.000400	0.000465 J	<0.000400	<0.000400	<0.000400	0.000417 J	<0.000400	---	<0.000400	<0.000400
Barium	2	Not Applicable	2 (MCL)	mg/L	0.0203 #	0.0226	0.0224	0.0178	0.0133	0.0142	0.0156	0.0123	0.0143	0.0127	---	0.0132	0.0123
Beryllium	0.004	Not Applicable	0.004 (MCL)	mg/L	<0.0005 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200	<0.000200
Cadmium	0.005	Not Applicable	0.005 (MCL)	mg/L	<0.0001 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	0.000218 J	<0.000200	---	<0.000200	<0.000200
Chromium	0.1	Not Applicable	0.1 (MCL)	mg/L	<0.0025 #	<0.000400	<0.000400	<0.000400	<0.000400	0.000423 J	0.000416 J	0.00141 J	<0.000400	<0.000400	---	<0.000400	<0.000400
Cobalt	None	Not Applicable	0.006 (ODEQ)	mg/L	0.000172 J #	<0.000200	<0.000200	<0.000200	0.000375 J	<0.000200	<0.000200	<0.000200	0.000415 J	0.000507 J	---	<0.000200	0.000263 J
Fluoride	4	Not Applicable	4 (MCL)	mg/L	0.832 #	0.82	1.11	0.741	1.07	0.694	0.893	0.916	0.964	1.3^	1.01	1.25	0.908
Lead	0.015	Not Applicable	0.015 (MCL)	mg/L	<0.0001 #	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	---	<0.000600	<0.000600
Lithium	None	Not Applicable	0.235 (UTL)	mg/L	0.0607 J #	0.0689	0.0632	0.0586	0.0424	0.046	0.0477	0.0454	0.0466	0.0496	---	0.0534	0.0545
Mercury	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000100 #	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	0.0000570 J	0.000158 J	<0.0000300	---	<0.0000300	<0.0000300
Molybdenum	None	Not Applicable	0.1 (ODEQ)	mg/L	0.169 #	0.18	0.18	0.193	0.149	0.172	0.149	0.166	0.163	0.146	---	0.113	0.127
Selenium	0.05	Not Applicable	0.05 (MCL)	mg/L	<0.0003 #	<0.0011	<0.0011	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	---	<0.00110	<0.00110
Thallium	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.0008 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200	<0.000200
Ra-226 + Ra-228 (combined)	5	Not Applicable	5 (MCL)	pCi/L	1.07 +/- 0.288 #	1.01	---	<0.62	0.81	1.18	1.35	0.99	1.82	<0.78	---	1.94	0.612 +/- 0.464
Other Parameters																	
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	<5.00 #	<5	---	<5.00	<5.00	---	<5.00	<5.00	7.00 J	7.00 J ^	<5.00	6.00 J	8.00 J
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	232	233	228	264	94^	258	288	259
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	<5	---	---	---	<5	<5	<5	<5.00	<5^	<5	10.7	<5.0
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	256	---	---	---	232	233	228	264	94^	258	277	259
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	<5	---	---	---	<5	<5	<5	<5.00	<5^	<5	<5	<5.0
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	0.0358(J)	0.125 J	0.0536 J	0.369	0.0158 J^	0.0145 J	0.0547 J	0.0982 J
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	0.0160(J)	0.0694 J	0.0140 J	0.190 J	<0.0120^	<0.0120	0.0203 J	<0.0120
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	0.0380(J)	0.0240 J	<0.020	0.191	<0.02^	<0.02	<0.0200	<0.02
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	<0.020	<0.0200 H	<0.02^	<0.02	<0.0200	<0.02
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	0.0536	0.178	<0.02^	<0.02	0.0547	0.098
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	<0.02	0.190	<0.02^	<0.02	0.0203 J	<0.02
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	10.2	10.2	---	---	8.44	7.59	7.65	7.38	8.4	---	7.24	8.22
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	0.173	0.16	0.18	0.189	0.131	---	0.112	0.127
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	0.133 #	<0.03	<0.03	0.854	<0.0300	<0.0600	<0.0600	0.687	<0.0300	50.4^	0.0630 J,H	0.127	0.194
Potassium	None	Not Applicable	Not Applicable	mg/L	---	4.18	4.07	---	---	2.85	3.09	3.12	3.18	3.58	---	3.61	4.12
Sodium	None	Not Applicable	Not Applicable	mg/L	---	405	394	---	---	309	316	325	295	389	---	415	419
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	2240 #	2340	---	---	---	---	2400	2420	2340	2500^	2,910	2,650	2,340
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	<1	1.4	<1	<1.00	<1	<1	<1	<1.70
Field Parameters				***Units***													
Temperature	None	Not Applicable	Not Applicable	ºC	25.4	14.8	---	19.31	24.89	21.9	23.5	16.32	23.0	15.9	20.0	23.1	20.7
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	7.53	7.21	---	7.56	7.82	7.66	7.69	8.12	7.74	7.67	7.74	7.36	7.5
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	2816	2273	---	2330	2836	2438	2615	3178	2,699	1,865	2,358	2,412	2,294
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	0.25	1.37	---	0.83	3.67	2.18	1.99	0.46	3.3	1.06	0.42	1.55	0.17
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	-131.8	278.9	---	28.7	-191.5	-56.9	60.2	57.7	-167.2	20.9	-25.9	-51.7	103.1
Turbidity	None	Not Applicable	Not Applicable	NTU	2.89	6.82	1.03	2.53	1.48	3.09	0.75	2.16	4.38	0.25	1.84	1.55	3.89

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT B
GROUNDWATER SAMPLE DATA TO DATE FOR LANDFILL CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID:	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	MW-17	DUP 2	MW-17	MW-17 (Shallow)	MW-17 (Deep)
				Sample Date:	1-Jun-16	3-Aug-16	30-Sep-16	2-Dec-16	1-Feb-17	29-Mar-17	1-Jun-17	10-Aug-17	10-Aug-17	21-May-18	1-Aug-18	10-Aug-18
					BACKGROUND 1	BACKGROUND 2	BACKGROUND 3	BACKGROUND 4	BACKGROUND 5	BACKGROUND 6	BACKGROUND 7	BACKGROUND 8		DETECTION MON. #1	EVALUATION SAMPLE	VERIFICATION SAMPLE
Detection Monitoring Parameters				***Units***												
Boron	None	1.896	Not Applicable	mg/L	0.634	0.586	0.854	0.838 J	0.817	<0.875	0.713	0.666	0.64	0.588	0.659	0.845 J
Calcium	None	670.30	Not Applicable	mg/L	750	529	540	535	441	727	564	528	537	436	549	787
Chloride	250	18.51	Not Applicable	mg/L	4.08	3.64	3.46	5.58 J*	3.45	3.04	3.11	3.28	3.37	3.15	3.84	3.27
Fluoride	4	0.6359	Not Applicable	mg/L	0.322	0.365	0.58	0.480 J*	0.488	0.266	0.361	0.328	0.323	0.324	0.47	0.317
pH (laboratory)	6.5 - 8.5	6.485 - 8.018	Not Applicable	S.U.	6.82	6.8	7.5	7.6	7.1	6.9	6.8	6.9	6.8	6.9	7.2	7
Sulfate	250	1,557	Not Applicable	mg/L	1170	1300	1250	1470	1200	1140	1310	1450	1300	1140	1310	1340
Total Dissolved Solids	500	2,343	Not Applicable	mg/L	1980	2070	1980	2260	2050	1870	2180	2140	2140	2360	2340	2380
Assessment Monitoring Parameters																
Antimony	0.006	Not Applicable	0.006 (MCL)	mg/L	<0.000500	<0.00100	<0.000800	<0.00800	<0.000800	<0.000800	<0.000800	<0.000800	<0.000800	---	---	---
Arsenic	0.010	Not Applicable	0.01 (MCL)	mg/L	0.00204	0.00154 J	0.00226	<0.00400	0.000663 J	0.00251	0.00154 J	<0.000400	<0.000400	---	---	---
Barium	2	Not Applicable	2 (MCL)	mg/L	0.00545	0.00299	0.00460 J	<0.00100	0.00344	U (0.00333)	0.00160 J	0.00236	0.00293	---	---	---
Beryllium	0.004	Not Applicable	0.004 (MCL)	mg/L	<0.00100	<0.00200	<0.000100	<0.00100	<0.000100	<0.00250	<0.000100	<0.000100	<0.000100	---	---	---
Cadmium	0.005	Not Applicable	0.005 (MCL)	mg/L	<0.000400	<0.000800	<0.000100	<0.00100	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100	---	---	---
Chromium	0.1	Not Applicable	0.1 (MCL)	mg/L	<0.000500	<0.00100	<0.000500	<0.00500	0.00140 J	<0.000500	<0.000500	<0.000500	<0.000500	---	---	---
Cobalt	None	Not Applicable	0.006 (ODEQ)	mg/L	<0.000500	<0.00100	0.000225 J	<0.00100	<0.000100	<0.000500	<0.000100	<0.000100	<0.000100	---	---	---
Fluoride	4	Not Applicable	4 (MCL)	mg/L	0.322	0.365	0.58	0.480 J*	0.488	0.266	0.361	0.328	0.323	0.324	0.47	0.317
Lead	0.015	Not Applicable	0.015 (MCL)	mg/L	<0.000200	<0.000200	<0.000100	<0.00100	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100	---	---	---
Lithium	None	Not Applicable	0.235 (UTL)	mg/L	0.14	0.174	0.155 J	0.158 J	0.146	0.121	0.133	0.148	0.143	---	0.128	0.131
Mercury	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	---	---	---
Molybdenum	None	Not Applicable	0.1 (ODEQ)	mg/L	0.000840 J	<0.00100	0.00135 J	<0.0100	<0.00100	<0.00500	<0.00100	<0.00100	<0.00100	---	<0.00100	<0.00100
Selenium	0.05	Not Applicable	0.05 (MCL)	mg/L	<0.000600	<0.00120	U (0.000709)	<0.00300	0.000526 J	<0.00150	<0.000300	<0.000300	<0.000300	---	---	---
Thallium	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000500	<0.00100	<0.000800	<0.00800	<0.000800	<0.000800	<0.000800	<0.000800	<0.000800	---	---	---
Ra-226 + Ra-228 (combined)	5	Not Applicable	5 (MCL)	pCi/L	0.539 +/- 0.261	0.265 +/- 0.260 U	1.32 +/- 0.425	0.536 +/- 0.356	0.195 +/- 0.273 U	0.311 +/- 0.238 U	0.479 +/- 0.271	0.531 +/- 0.221	0.183 +/- 0.207 U	---	---	---
Other Parameters																
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	<5.00	<5.00	---	---	---
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	260	259	---	---	---
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	<5.00	<5.00	---	---	---
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	36.6	36	---	---	---
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Potassium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	5.15	5.14	---	---	---
Sodium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	34.5	34.4	---	---	---
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	---	---	---	---	---	---	---	---	---	---	---	---
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																
Temperature	None	Not Applicable	Not Applicable	ºC	20.98	23.28	20.36	19.58	21.96	20.3	20.57	21.98	---	20.98	25.04	22.3
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	6.91	6.71	6.83	6.79	6.84	6.88	6.68	6.69	---	6.92	6.64	6.8
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	2052	2230	2402	2405	2386	2396	2443	2417	---	2416	2606	2569
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	1.07	3.66	0.43	0.95	0.63	0.79	0.22	0.29	---	0.21	5.57	4.59
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	42.5	4	-99.6	-183.4	-84	-55.9	-87.3	65.7	---	-49.2	172.9	209.4
Turbidity	None	Not Applicable	Not Applicable	NTU	0.53	0.92	0.4	0.43	0.11	0.21	0.24	0.81	---	0.52	4.63	14.5

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT B
GROUNDWATER SAMPLE DATA TO DATE FOR LANDFILL CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID:	MW-17	MW-17		MW-17	MW-17	MW-17	MW-17	MW-17	MW-17		MW-17	MW-17	DUP 4
				Sample Date:	3-Oct-18	10-Jan-19		25-Apr-19	3-Oct-19	18-Jun-20	12-Oct-20	31-Mar-21	14-Oct-21	31-Mar-22	7-Jun-22	6-Oct-22	12-Apr-23	
Detection Monitoring Parameters				***Units***	INITIAL ASSESSMENT MON.	INITIAL ASSESSMENT MON. (RESAMPLE) FILTERED	INITIAL ASSESSMENT MON. (RESAMPLE) UNFILTERED	FIRST 2019 ASSESSMENT MON.	SECOND 2019 ASSESSMENT MON.	FIRST 2020 ASSESSMENT MON.	SECOND 2020 ASSESSMENT MON.	FIRST 2021 ASSESSMENT MON.	SECOND 2021 ASSESSMENT MON.	FIRST 2022 ASSESSMENT MON.	FIRST 2022 ASSESSMENT MON. (RESAMPLE)	SECOND 2022 ASSESSMENT MON.	FIRST 2023 ASSESSMENT MON.	
Boron	None	1.896	Not Applicable	mg/L	0.567 #	0.766	0.729	0.796	0.622	0.652	0.64	0.539	0.700	0.593	---	0.902	0.739	0.713
Calcium	None	670.30	Not Applicable	mg/L	461 #	591	499	499	555	494	453	467	428	435	---	541	599	537
Chloride	250	18.51	Not Applicable	mg/L	4.81 #	3.44	4.16	3.65	3.75	4.29	4.04	4.06	4.02	5.24^	4.16	4.25	4.11	4.11
Fluoride	4	0.6359	Not Applicable	mg/L	0.393 #	0.337	0.27	0.392 J	0.37	0.211	0.366	0.412	0.317	<0.250^	0.371	0.34	0.349	0.33
pH (laboratory)	6.5 - 8.5	6.485 - 8.018	Not Applicable	S.U.	7.5 #	6.59	---	7.53	6.37	7.38	7.51	7.34	7.12	1.87^	7.67	7.04	7.12	7.14
Sulfate	250	1,557	Not Applicable	mg/L	821 #	1480	1200	1100	1310	1390	1,220 H	1310	1390	1970^	1,460	1,320	1,510	1,510
Total Dissolved Solids	500	2,343	Not Applicable	mg/L	1670 #	2300	1870	2400	2160	2230	2160	2200	2210	2340^	2,220	2,170	2,050	2,210
Assessment Monitoring Parameters																		
Antimony	0.006	Not Applicable	0.006 (MCL)	mg/L	<0.0008 #	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	---	<0.000400	<0.000400	<0.000400
Arsenic	0.010	Not Applicable	0.01 (MCL)	mg/L	<0.0004 #	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	0.000582 J	---	<0.000400	0.000406 J	<0.000400
Barium	2	Not Applicable	2 (MCL)	mg/L	0.00231 #	<0.00190	0.00250 J	<0.00190	<0.00190	<0.00190	<0.00190	<0.00190	<0.00190	<0.00190	---	<0.00190	<0.00190	<0.00190
Beryllium	0.004	Not Applicable	0.004 (MCL)	mg/L	<0.0001 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200	<0.000200	<0.000200
Cadmium	0.005	Not Applicable	0.005 (MCL)	mg/L	<0.0001 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200	<0.000200	<0.000200
Chromium	0.1	Not Applicable	0.1 (MCL)	mg/L	0.0022 #	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	0.00108 J	---	<0.000400	<0.000400	<0.000400
Cobalt	None	Not Applicable	0.006 (ODEQ)	mg/L	<0.0001 #	0.000238 J	<0.000200	0.000313 J	<0.000200	0.000281 J	<0.000200	0.000239 J	0.000275 J	0.00148 J	---	<0.000200	0.00135 J	0.00123 J
Fluoride	4	Not Applicable	4 (MCL)	mg/L	0.393 #	0.337	0.27	0.392 J	0.37	0.211	0.366	0.412	0.317	<0.250^	0.371	0.34	0.349	0.330
Lead	0.015	Not Applicable	0.015 (MCL)	mg/L	<0.0001 #	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	---	<0.000600	<0.000600	<0.000600
Lithium	None	Not Applicable	0.235 (UTL)	mg/L	0.122 #	0.159	0.148	0.151	0.138	0.147	0.123	0.114	0.140	0.104	---	0.147	0.152	0.143
Mercury	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000100 #	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	0.000142 J	0.0000540 J	<0.0000300	---	0.000151 J	<0.0000300	<0.0000300
Molybdenum	None	Not Applicable	0.1 (ODEQ)	mg/L	<0.001 #	<0.000600	<0.000600	0.000671 J	<0.000600	<0.000600	<0.000600	0.000950 J	<0.000600	<0.000600	---	<0.000600	<0.000600	0.000602 J
Selenium	0.05	Not Applicable	0.05 (MCL)	mg/L	0.000675 J #	<0.0011	<0.0011	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	0.00149 J	---	<0.00110	<0.00110	<0.00110
Thallium	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.0008 #	<0.000200	<0.000200	<0.000200	0.000539 J	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200	<0.000200	<0.000200
Ra-226 + Ra-228 (combined)	5	Not Applicable	5 (MCL)	pCi/L	1.27 +/- 0.335 #	<0.78	---	<0.75	<0.76	<0.68	<0.69	<0.84	0.97	<0.79	---	1.48	0.557 +/- 0.605	0.368 +/- 0.518
Other Parameters																		
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	6.13 J #	<5.00	---	<5.00	<5.00	---	<5.00	<5.00	7.00 J	8.00 J ^	<5.00	<5.00	9.00 J	<5.00
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	284	273	269	288	<5^	269	276	230	249
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	<5	---	---	---	<5	<5	<5	<5.00	<5^	<5	<5	<5.0	<5.00
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	280	---	---	---	284	273	269	288	<5^	269	276	230	249
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	<5	---	---	---	<5	<5	<5	<5.00	<5^	<5	<5	<5.0	<5.00
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	<0.0120	<0.0120	0.0541 J	<0.0120	0.0325 J ^	<0.0120	<0.0120	<0.0120	<0.0120
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	<0.0120	<0.0120	<0.0120	0.0198 J	<0.012^	<0.0120	0.0581 J	<0.0120	0.0149 J
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	0.02(J)	<0.02	<0.02	<0.0200	<0.02^	0.0220 J,H	<0.0200	<0.020	<0.02
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	<0.02	<0.0200 H	<0.02^	<0.02 H	<0.0200	<0.020	<0.02
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	0.0541	<0.0200	0.0325 J ^	<0.02	<0.0200	<0.02	<0.02
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	<0.02	<0.0200	<0.02^	<0.02	0.0581	<0.02	<0.02
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	38.1	31.3	---	---	37.8	30.9	29.3	34.6	30.9	---	33.7	43.3	39
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	0.00123(J)	<0.000600	0.00292 J	<0.000600	<0.000600	---	<0.000600	<0.000600	0.000660 J
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	0.276 #	<0.03	0.519	<0.150	<0.0300	<0.0600	<0.0600	<0.0300	<0.0600	420 H ^	0.0834 J,H	0.0756 J	<0.0300	<0.0300
Potassium	None	Not Applicable	Not Applicable	mg/L	---	5.37	4.9	---	---	5.15	4.42	4.19	4.94	4.5	---	4.99	5.92	5.34
Sodium	None	Not Applicable	Not Applicable	mg/L	---	35.7	32.9	---	---	35.6	29.2	28.2	32.5	35.2	---	32.8	40.8	36.7
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	1920 #	2450	---	---	---	---	2610	2460	2390	11900 ^	2,920	2,570	2,500	2,400
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	<1	<1	<1	1.12	<1^	<1	<1	<1.70	<1.70
Field Parameters				***Units***														
Temperature	None	Not Applicable	Not Applicable	ºC	23.3	15.9	---	19.26	23.63	21.2	23.2	21.04	22.9	18.3	22.5	25.9	20.6	---
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	6.7	6.67	---	7.09	6.88	6.8	6.88	6.88	6.90	7.08	7.04	6.79	6.83	---
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	2548	2416	---	2470	2458	2344	2393	3321	2,467	1,811	2,369	2,441	2,407	---
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	0.44	0.51	---	1.8	0.8	1.35	0.41	0.27	0.52	1.86	0.8	1.94	0.24	---
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	237.5	57.8	---	2.4	148.3	-28.1	129.9	-2.5	61.7	103.6	81.5	37.8	-66.6	---
Turbidity	None	Not Applicable	Not Applicable	NTU	5.4	1.24	0.69	0.63	0.65	2.28	0.58	0.75	1.80	0.85	1.61	1.94	2.62	---

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT B
GROUNDWATER SAMPLE DATA TO DATE FOR LANDFILL CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID:	MW-18	MW-18	MW-18	DUP 2	MW-18	MW-18	MW-18	MW-18	MW-18	MW-18	MW-18 (Shallow)	MW-18 (Deep)
				Sample Date:	1-Jun-16	3-Aug-16	30-Sep-16	30-Sep-16	2-Dec-16	31-Jan-17	5-Apr-17	7-Jun-17	10-Aug-17	18-May-18	2-Aug-18	10-Aug-18
Detection Monitoring Parameters				***Units***	BACKGROUND 1	BACKGROUND 2	BACKGROUND 3		BACKGROUND 4	BACKGROUND 5	BACKGROUND 6	BACKGROUND 7	BACKGROUND 8	DETECTION MON. #1	EVALUATION SAMPLE	VERIFICATION SAMPLE
Boron	None	1.896	Not Applicable	mg/L	5.91	6.45	6.88	6.15	6.82	9.71	8.51	6.39	6.51	6.71	4.86	6.65
Calcium	None	670.30	Not Applicable	mg/L	39.7	36.9	34.7	35.8	34.5	34.1	30.5	37.3 J*	28.7	28.1	36.1	31.1
Chloride	250	18.51	Not Applicable	mg/L	6.77	6.71	6.67	6.8	6.02	6.31	5.94	5.54 J*	6.1	5.19	8.04	5.33
Fluoride	4	0.6359	Not Applicable	mg/L	1.15	1.26	1.49	1.6	1.38	1.29	1.43	1.38 J*	1.38	1.37	1.26	1.35
pH (laboratory)	6.5 - 8.5	6.485 - 8.018	Not Applicable	S.U.	10.4	10.3	10	10	10.2	10.3	10.6	10.7	10.7	10.1	7.8	10.2
Sulfate	250	1,820	Not Applicable	mg/L	1430	1800	1320	1320	1300	1090	1170	1200	1070	1120	996	1030
Total Dissolved Solids	500	2,006	Not Applicable	mg/L	2000	1910	1870	1860	1860	1830	1800	1850	1850	1740	1660	1730
Assessment Monitoring Parameters																
Antimony	0.006	Not Applicable	0.006 (MCL)	mg/L	<0.00250	<0.00100	<0.000800	<0.000800	<0.00800	<0.000800	<0.000800	<0.00400	<0.000800	---	---	---
Arsenic	0.010	Not Applicable	0.01 (MCL)	mg/L	0.00331 J	0.00476	0.00296	0.00307	0.00402 J	0.00334	0.00295	<0.00400	0.00329	---	---	---
Barium	2	Not Applicable	2 (MCL)	mg/L	0.00489	0.00472	0.00551	0.00512 J	0.00232 J	0.00526	0.00375	0.00485 J	0.00402	---	---	---
Beryllium	0.004	Not Applicable	0.004 (MCL)	mg/L	<0.00500	<0.00200	<0.000100	<0.000500	<0.00100	<0.000100	<0.000100	<0.000500	<0.000100	---	---	---
Cadmium	0.005	Not Applicable	0.005 (MCL)	mg/L	<0.00200	<0.000800	<0.000100	<0.000100	<0.00100	0.000242 J	0.000123 J	<0.00100	<0.000100	---	---	---
Chromium	0.1	Not Applicable	0.1 (MCL)	mg/L	<0.00250	<0.00100	<0.000500	<0.00250	<0.00500	<0.000500	<0.000500	<0.00500	<0.000500	---	---	---
Cobalt	None	Not Applicable	0.006 (ODEQ)	mg/L	<0.00250	<0.00100	<0.000100	<0.000100	<0.00100	<0.000100	<0.000100	<0.00100	<0.000100	---	---	---
Fluoride	4	Not Applicable	4 (MCL)	mg/L	1.15	1.26	1.49	1.6	1.38	1.29	1.43	1.38 J*	1.38	1.37	1.26	1.35
Lead	0.015	Not Applicable	0.015 (MCL)	mg/L	<0.000200	<0.000200	<0.000100	<0.000100	<0.00100	<0.000100	<0.000100	<0.000500	<0.000100	---	---	---
Lithium	None	Not Applicable	0.235 (UTL)	mg/L	<0.0100	0.00315 J	<0.00300	<0.0150	<0.0300	0.00305 J	<0.00300	<0.0150	<0.00300	---	0.0144 J	<0.00300
Mercury	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	---	---	---
Molybdenum	None	Not Applicable	0.1 (ODEQ)	mg/L	0.43	0.433	0.392	0.417	0.434	0.403	0.4	0.442	0.39	---	0.113	0.319
Selenium	0.05	Not Applicable	0.05 (MCL)	mg/L	0.00503 J	0.00399 J	0.00231	0.00317	0.00301 J	0.00268	0.00177 J	<0.00300	0.00278	---	---	---
Thallium	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000500	<0.00100	<0.000800	<0.000800	<0.00800	<0.000800	<0.000800	<0.00400	<0.000800	---	---	---
Ra-226 + Ra-228 (combined)	5	Not Applicable	5 (MCL)	pCi/L	0.201 +/- 0.213 U	0.206 +/- 0.318 U	0.449 +/- 0.289	0.550 +/- 0.308	0.201 +/- 0.260 U	0.00496 +/- 0.256 U	0.282 +/- 0.201 U	0.146 +/- 0.228 U	0.445 +/- 0.200	---	---	---
Other Parameters																
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	52.6	---	---	---
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<5.00	---	---	---
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	25.3	---	---	---
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<0.220	---	---	---
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Potassium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	22	---	---	---
Sodium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	523	---	---	---
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	---	---	---	---	---	---	---	---	---	---	---	---
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																
Temperature	None	Not Applicable	Not Applicable	°C	19.74	24.14	19.59	---	18.78	18.45	18.46	22.5	22.11	21.12	24.1	22.37
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	10.88	10.45	10.95	---	10.88	10.67	10.6	10.55	10.54	10.74	9.71	10.41
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	2622	2884	2900	---	2854	2764	2698	2685	2716	2530	2568	2658
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	2.65	0.15	0.05	---	0.2	0.21	0.09	0.06	0.03	0.17	4.03	0.9
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	-22.2	-41.7	-100	---	-225.5	-192.6	62.6	-11	28.2	-139.8	-65.1	-119.7
Turbidity	None	Not Applicable	Not Applicable	NTU	0.33	0.61	0.33	---	0.15	0.39	0.36	1.03	1.21	0.22	0.02	0.02

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. °C : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT B
GROUNDWATER SAMPLE DATA TO DATE FOR LANDFILL CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID:	MW-18	MW-18		MW-18	MW-18	MW-18	MW-18	MW-18	MW-18	MW-18	DUP 3	MW-18	MW-18
				Sample Date:	3-Oct-18	14-Jan-19		25-Apr-19	1-Oct-19	17-Jun-20	12-Oct-20	31-Mar-21	14-Oct-21	31-Mar-22	31-Mar-22	1-Jun-22	6-Oct-22
Detection Monitoring Parameters				***Units***	INITIAL ASSESSMENT MON.	INITIAL ASSESSMENT MON. (RESAMPLE) UNFILTERED	FILTERED	FIRST 2019 ASSESSMENT MON.	SECOND 2019 ASSESSMENT MON.	FIRST 2020 ASSESSMENT MON.	SECOND 2020 ASSESSMENT MON.	FIRST 2021 ASSESSMENT MON.	SECOND 2021 ASSESSMENT MON.	FIRST 2022 ASSESSMENT MON.		FIRST 2022 ASSESSMENT MON. (RESAMPLE)	SECOND 2022 ASSESSMENT MON.
Boron	None	1.896	Not Applicable	mg/L	5.77 #	6.89	7.17	6.05	5.29	5.49	5.43	4.32	4.61	4.65	5.06	---	5.2
Calcium	None	670.30	Not Applicable	mg/L	25.1 #	31.8	30.8	33.1	25.6	21.6	20	19.3	19.3	23.9	25.3	---	17.7
Chloride	250	18.51	Not Applicable	mg/L	5.5 #	5.59	5.14	4.79	5.07	4.06	4.22	4.2	4.39	4.86	4.60	---	3.88
Fluoride	4	0.6359	Not Applicable	mg/L	1.37 #	1.32	1.44	1.25	1.47	1.28	1.66	1.71	1.90	2.10	1.92	---	1.84
pH (laboratory)	6.5 - 8.5	6.485 - 8.018	Not Applicable	S.U.	9.8 #	10.4	---	10.2	10.3	9.35	10.2	10.5	9.95	9.69	9.30	---	10.2
Sulfate	250	1,820	Not Applicable	mg/L	1090 #	1110	1120	933	1020	888	794	904	896	837	842	---	804
Total Dissolved Solids	500	2,006	Not Applicable	mg/L	1760 #	1630	1660	1680	1550	1340	1270	1260	1320	1,300	1,310	---	1250
Assessment Monitoring Parameters																	
Antimony	0.006	Not Applicable	0.006 (MCL)	mg/L	<0.0008 #	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	---	0.000555 J
Arsenic	0.010	Not Applicable	0.01 (MCL)	mg/L	0.00319 #	0.0032	0.00325	0.00308	0.00264	0.00272	0.00276	0.00238	0.00299	0.00290	0.00302	---	0.00315
Barium	2	Not Applicable	2 (MCL)	mg/L	0.00374 #	0.00393 J	0.00407	0.00401	0.00327 J	0.00294 J	0.00288 J	0.00305 J	0.00283 J	0.00305 J	0.00332 J	---	0.00269 J
Beryllium	0.004	Not Applicable	0.004 (MCL)	mg/L	<0.0001 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200
Cadmium	0.005	Not Applicable	0.005 (MCL)	mg/L	<0.0001 #	0.000374 J	0.000431 J	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	0.000298 J	0.000202 J	0.000207 J	---	<0.000200
Chromium	0.1	Not Applicable	0.1 (MCL)	mg/L	0.000512 J #	<0.00040	<0.00040	0.000477 J	<0.000400	<0.000400	<0.000400	<0.000400	0.000968 J	<0.000400	0.000495 J	---	<0.000400
Cobalt	None	Not Applicable	0.006 (ODEQ)	mg/L	<0.0001 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200
Fluoride	4	Not Applicable	4 (MCL)	mg/L	1.37 #	1.32	1.44	1.25	1.47	1.28	1.66	1.71	1.90	2.10	1.92	---	1.84
Lead	0.015	Not Applicable	0.015 (MCL)	mg/L	<0.0001 #	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	---	<0.000600
Lithium	None	Not Applicable	0.235 (UTL)	mg/L	0.0105 J #	0.00290 J	0.00258 J	0.00173 J	0.00372 J	0.00226 J	0.00276 J	0.00339 J	0.00301 J	0.00329 J	0.00347 J	---	0.00257 J
Mercury	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000100 #	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	0.0000500 J	0.000247	<0.0000300	<0.0000300	---	<0.0000300
Molybdenum	None	Not Applicable	0.1 (ODEQ)	mg/L	0.33 #	0.333	0.332	0.342	0.257	0.194	0.18	0.195	0.209	0.206	0.222	---	0.183
Selenium	0.05	Not Applicable	0.05 (MCL)	mg/L	0.0019 J #	0.00506	0.00501	0.00577	0.00166 J	0.0037	0.00347	0.00234	0.00137 J	0.00247	0.00157 J	---	0.00208
Thallium	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.0008 #	0.000323 J	0.000563 J	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200
Ra-226 + Ra-228 (combined)	5	Not Applicable	5 (MCL)	pCi/L	0.387 +/- 0.253 U #	<0.77	---	<0.77	<0.71	<0.74	<0.71	<0.88	1.05	<0.79	<0.8	---	2.01
Other Parameters																	
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	8.9 J #	<5	---	<5.00	11.0 J	---	5.00 J	<5.00	9.00 J	5.00 J	5.00 J	---	6.00 J
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	71	69.9	65.5	73.8	63.6	89.1	---	61.6
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	42.2	---	---	---	60.6	64.3	46.8	55.8	58.6	64.7	---	56.5
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	<5	---	---	---	<5	<5	<5	<5.00	<5	24.4	---	<5
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	32.9	---	---	---	10.4	5.63	18.7	17.9	<5	<5	---	5.06
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	<0.0120	<0.0120	<0.0120	<0.0120	<0.0120	<0.0120	---	<0.0120
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	<0.0120	<0.0120	<0.0120	<0.0120	<0.0120	<0.0120	---	<0.0120
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	0.02(J)	<0.020	<0.02	<0.0200	<0.0200	<0.02	---	<0.0200
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	<0.02	<0.0200 H	<0.02	<0.02	---	<0.0200
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	<0.02	<0.0200	<0.02	<0.02	---	<0.0200
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	<0.02	<0.0200	<0.02	<0.02	---	<0.0200
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	0.244	0.175 J	---	---	0.141(J)	0.27	0.426	0.152 J	0.559	0.587	---	0.181
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	0.18	0.166	0.215	0.211	0.199	0.203	---	0.172
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	0.053 J #	0.075 J	<0.03	<0.150	<0.0300	<0.0600	<0.0300	<0.0300	0.0606 J	0.712	0.146 J	---	0.0851 J
Potassium	None	Not Applicable	Not Applicable	mg/L	---	22.3	21.9	---	---	15.9	14.6	13.6	15.0	14.6	15.3	---	14.5
Sodium	None	Not Applicable	Not Applicable	mg/L	---	603	510	---	---	376	348	324	329	391	406	---	381
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	2590 #	2520	---	---	---	---	2200	2090	2040	2,070	2,080	---	2090
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	<1	<1	<1	<1.00	<1	<1	---	<1
Field Parameters																	
Temperature	None	Not Applicable	Not Applicable	ºC	23.6	14	---	17.89	24.8	22.45	23.5	17	20.7	17.6	---	---	26
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	10.45	10.47	---	10.93	10.4	10.65	10.4	10.39	10.46	9.97	---	---	9.96
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	2632	2442	---	2486	2350	1998	1986	1999	2,041	1,962	---	---	1976
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	0.21	0.36	---	1.44	0.33	0.55	0.24	0.39	0.36	0.40	---	---	0.51
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	130.1	174.9	---	-152.8	-71.2	-140.3	-80.5	-49.7	-9.7	-0.8	---	---	-72.2
Turbidity	None	Not Applicable	Not Applicable	NTU	2.04	2.79	1.47	0.49	0.92	2.43	0.34	1	1.99	2.53	---	---	2.26

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT B
GROUNDWATER SAMPLE DATA TO DATE FOR LANDFILL CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID: / Sample Date: / *Units*	MW-18 / 12-Apr-23 / FIRST 2023 ASSESSMENT MON.
Detection Monitoring Parameters					
Boron	None	1.896	Not Applicable	mg/L	4.75
Calcium	None	670.30	Not Applicable	mg/L	21.9
Chloride	250	18.51	Not Applicable	mg/L	5.7
Fluoride	4	0.6359	Not Applicable	mg/L	1.7
pH (laboratory)	6.5 - 8.5	6.485 - 8.018	Not Applicable	S.U.	9.96
Sulfate	250	1,820	Not Applicable	mg/L	971
Total Dissolved Solids	500	2,006	Not Applicable	mg/L	1280
Assessment Monitoring Parameters					
Antimony	0.006	Not Applicable	0.006 (MCL)	mg/L	<0.000400
Arsenic	0.010	Not Applicable	0.01 (MCL)	mg/L	0.00340
Barium	2	Not Applicable	2 (MCL)	mg/L	0.00256 J
Beryllium	0.004	Not Applicable	0.004 (MCL)	mg/L	<0.000200
Cadmium	0.005	Not Applicable	0.005 (MCL)	mg/L	<0.000200
Chromium	0.1	Not Applicable	0.1 (MCL)	mg/L	<0.000400
Cobalt	None	Not Applicable	0.006 (ODEQ)	mg/L	<0.000200
Fluoride	4	Not Applicable	4 (MCL)	mg/L	1.70
Lead	0.015	Not Applicable	0.015 (MCL)	mg/L	<0.000600
Lithium	None	Not Applicable	0.235 (UTL)	mg/L	0.00273 J
Mercury	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.0000300
Molybdenum	None	Not Applicable	0.1 (ODEQ)	mg/L	0.232
Selenium	0.05	Not Applicable	0.05 (MCL)	mg/L	0.0197
Thallium	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000200
Ra-226 + Ra-228 (combined)	5	Not Applicable	5 (MCL)	pCi/L	0.59 +/- 0.629
Other Parameters					
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	9.00 J
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	63.8
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	51.6
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	<5.0
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	12.2
Iron, Total	None	Not Applicable	Not Applicable	mg/L	<0.012
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	0.0352 J
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	<0.02
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	<0.02
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	<0.02
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	0.035 J
Magnesium	None	Not Applicable	Not Applicable	mg/L	0.241
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	0.243
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	0.0517 J
Potassium	None	Not Applicable	Not Applicable	mg/L	16.1
Sodium	None	Not Applicable	Not Applicable	mg/L	407
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	2,030
Sulfide	None	Not Applicable	Not Applicable	mg/L	<1.70
Field Parameters					
Temperature	None	Not Applicable	Not Applicable	ºC	19.9
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	10.29
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	2010
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	0.25
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	-95
Turbidity	None	Not Applicable	Not Applicable	NTU	2.44

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT B
GROUNDWATER SAMPLE DATA TO DATE FOR LANDFILL CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID:	MW-19S	MW-19S	DUP-1	MW-19S	MW-19S	MW-19S	MW-19S	MW-19S	MW-19S	MW-19S	DUP 1	MW-19S (Shallow)	MW-19S (Deep)
				Sample Date:	13-Dec-16	26-Jan-17	26-Jan-17	3-Feb-17	28-Mar-17	7-Apr-17	31-May-17	9-Jun-17	10-Aug-17	18-May-18	18-May-18	2-Aug-18	10-Aug-18
Detection Monitoring Parameters				***Units***	BACKGROUND 1	BACKGROUND 2		BACKGROUND 3	BACKGROUND 4	BACKGROUND 5	BACKGROUND 6	BACKGROUND 7	BACKGROUND 8	DETECTION MON. #1		EVALUATION SAMPLE	VERIFICATION SAMPLE
Boron	None	1.896	Not Applicable	mg/L	8.02	10.8	9.33	7.83	7.81	8.16	8.31	9.17	7.64	8.43	8.36	8.64	3.78
Calcium	None	670.30	Not Applicable	mg/L	71.7	47.2	43.8	51.8	51.9	72.5	51.3	71.5	41.3	45.7	44	35	24.8
Chloride	250	18.51	Not Applicable	mg/L	16.1	17.6	17.3	15.8	16.1	17.8	14.3	15.2	15.7	14.5	14.6	15.1	14.9
Fluoride	4	0.6359	Not Applicable	mg/L	1.44 J*	1.51	1.44	1.3	1.32	1.1	1.23	1.23	1.32	1.3	1.3	1.34	1.3
pH (laboratory)	6.5 - 8.5	6.485 - 8.018	Not Applicable	S.U.	10.4	11	10.9	10.7	10.8	10.7	10.9	10.8	10.8	10.5	10.4	9.7	10.5
Sulfate	250	1,708	Not Applicable	mg/L	1620	1620	1600	1530	1550	1560	1450	1510	1650	1630	1610	1520	1480
Total Dissolved Solids	500	2,505	Not Applicable	mg/L	2420	2420	2530	2460	2460	2340	2420	2410	2440	2560	2480	2390	2440
Assessment Monitoring Parameters																	
Antimony	0.006	Not Applicable	0.006 (MCL)	mg/L	<0.00400	<0.000800	<0.000800	<0.000800	<0.000800	<0.00400	<0.000800	<0.00400	<0.000800	---	---	---	---
Arsenic	0.010	Not Applicable	0.01 (MCL)	mg/L	0.00920 J	0.0073	0.00683	0.00728 J	0.0073	0.00837 J	0.00702	0.00681 J	0.00756	---	---	---	---
Barium	2	Not Applicable	2 (MCL)	mg/L	0.0538	0.0192	0.0195	0.0215	0.0189	0.0249	0.0186	0.0233	0.0211	---	---	---	---
Beryllium	0.004	Not Applicable	0.004 (MCL)	mg/L	<0.000500	<0.000100	<0.000100	<0.000100	<0.000100	<0.000500	<0.000100	<0.000500	<0.000100	---	---	---	---
Cadmium	0.005	Not Applicable	0.005 (MCL)	mg/L	<0.000500	<0.000100	<0.000100	<0.000100	0.000196 J	<0.000500	<0.000100	<0.000500	<0.000100	---	---	---	---
Chromium	0.1	Not Applicable	0.1 (MCL)	mg/L	<0.00250	<0.000500	<0.000500	U (0.00108)	<0.000500	<0.00250	<0.000500	<0.00250	<0.000500	---	---	---	---
Cobalt	None	Not Applicable	0.006 (ODEQ)	mg/L	0.000568 J	<0.000100	<0.000100	0.000237 J	0.000103 J	<0.000500	<0.000100	0.000872 J	<0.000100	---	---	---	---
Fluoride	4	Not Applicable	4 (MCL)	mg/L	1.44 J*	1.51	1.44	1.3	1.32	1.1	1.23	1.23	1.32	1.3	1.3	1.34	1.3
Lead	0.015	Not Applicable	0.015 (MCL)	mg/L	0.000621 J	<0.000100	<0.000100	0.000589 J	<0.000100	<0.000500	<0.000100	<0.000500	0.000114 J	---	---	---	---
Lithium	None	Not Applicable	0.235 (UTL)	mg/L	<0.0150	<0.00300	<0.00300	<0.00300	<0.00300	<0.0150	<0.00300	<0.0150	<0.00300	---	---	<0.00300	<0.00300
Mercury	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000150	<0.000150	<0.000150	<0.000150	0.000100 UJ	<0.000150	<0.000150	<0.000150	<0.000150	---	---	---	---
Molybdenum	None	Not Applicable	0.1 (ODEQ)	mg/L	0.466	0.484	0.483	0.435	0.481	0.586	0.495	0.607	0.469	---	---	0.384	0.112
Selenium	0.05	Not Applicable	0.05 (MCL)	mg/L	0.00616 J	0.0107	0.0105	0.00888 J	0.0116	0.0131	0.00879	0.0152	0.00349	---	---	---	---
Thallium	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.00400	<0.000800	<0.000800	<0.000800	<0.000800	<0.00400	<0.000800	<0.00400	<0.000800	---	---	---	---
Ra-226 + Ra-228 (combined)	5	Not Applicable	5 (MCL)	pCi/L	1.47 +/- 0.739	-0.0377 +/- 0.325 U	0.0518 +/- 0.264 U	0.483 +/- 0.372 U	0.287 +/- 0.277 U	0.121 +/- 0.235 U	0.136 +/- 0.226 U	0.202 +/- 0.190 U	0.296 +/- 0.222 U	---	---	---	---
Other Parameters																	
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	85.8	---	---	---	---
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<5.00	---	---	---	---
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	46.2	---	---	---	---
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<0.220	---	---	---	---
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Potassium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	35.9	---	---	---	---
Sodium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	697	---	---	---	---
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	---	---	---	---	---	---	---	---	---	---	---	---	---
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																	
Temperature	None	Not Applicable	Not Applicable	ºC	17.71	15.41	---	15.44	18.96	18.56	21.58	20.76	24.37	20.38	---	26.67	24.71
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	11.14	11.16	---	11.16	11.09	11.08	10.8	10.95	10.72	11.09	---	10.55	10.56
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	3576	3585	---	3389	3602	3575	3546	3526	3552	3530	---	3587	3563
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	0.37	0.26	---	0.18	0.22	0.18	0.02	0.02	0.02	0.24	---	4.64	1.32
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	-347.7	-310.2	---	-267.7	-299.3	-270.6	-235.7	-125.3	-215.4	-312.1	---	-227.4	-249
Turbidity	None	Not Applicable	Not Applicable	NTU	103	1.1	---	0.32	0.34	0.4	0.62	0.43	1.26	0.47	---	0.02	4.16

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT B
GROUNDWATER SAMPLE DATA TO DATE FOR LANDFILL CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID:	MW-19S	MW-19S		MW-19S	MW-19S	MW-19S	DUP 2	MW-19S	MW-19S	DUP 3	MW-19S	MW-19S		MW-19S
				Sample Date:	3-Oct-18	15-Jan-19		25-Apr-19	1-Oct-19	17-Jun-20		12-Oct-20	31-Mar-21		15-Oct-21	1-Apr-22	1-Jun-22	6-Oct-22
Detection Monitoring Parameters				***Units***	INITIAL ASSESSMENT MON.	INITIAL ASSESSMENT MON. (RESAMPLE) UNFILTERED	FILTERED	FIRST 2019 ASSESSMENT MON.	SECOND 2019 ASSESSMENT MON.	FIRST 2020 ASSESSMENT MON.		SECOND 2020 ASSESSMENT MON.	FIRST 2021 ASSESSMENT MON.		SECOND 2021 ASSESSMENT MON.	FIRST 2022 ASSESSMENT MON.	FIRST 2022 ASSESSMENT MON. (RESAMPLE)	SECOND 2022 ASSESSMENT MON.
Boron	None	1.896	Not Applicable	mg/L	10.2 #	9.79	9.07	8.57	6.64	6.8	7.18	6.88	6.86	8.41	5..88	9.73	---	8.43
Calcium	None	670.30	Not Applicable	mg/L	35.3 #	50	49.6	52.4	40.4	43.6	42.1	40.7	42.3	35.3	41.6	44.2	---	40.7
Chloride	250	18.51	Not Applicable	mg/L	14.8 #	14.2	14.1	13.7	14.4	13.8	14	14.1	13.7	14	13.6	14.6	---	13.3
Fluoride	4	0.6359	Not Applicable	mg/L	1.24 #	1.27	1.59	1.13	1.37	1.15	1.04	1.38	1.46	1.54	1.57	1.66	---	1.59
pH (laboratory)	6.5 - 8.5	6.485 - 8.018	Not Applicable	S.U.	9.9 #	10.4	---	10.5	10.6	10.2	9.88	10.9	10.8	10.6	10.8	10.8	---	10.8
Sulfate	250	1,708	Not Applicable	mg/L	1950 #	1640	1580	1520	1580	1490	1590	1640	1560	1560	1570	1,420	---	1480
Total Dissolved Solids	500	2,505	Not Applicable	mg/L	2490 #	2500	2470	2440	2460	2300	2290	2340	2360	2310	2290	2,180	---	2210
Assessment Monitoring Parameters																		
Antimony	0.006	Not Applicable	0.006 (MCL)	mg/L	<0.0008 #	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	---	<0.000400
Arsenic	0.010	Not Applicable	0.01 (MCL)	mg/L	<0.008 #	0.00634	0.00643	0.00673	0.00624	0.0061	0.00577	0.00588	0.00554	0.00452	0.00689	0.00689	---	0.0072
Barium	2	Not Applicable	2 (MCL)	mg/L	0.0106 J #	0.0216	0.0201	0.0197	0.0164	0.0221	0.0177	0.0162	0.0176	0.0152	0.0166	0.0189	---	0.0164
Beryllium	0.004	Not Applicable	0.004 (MCL)	mg/L	<0.002 #	<0.00100	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200
Cadmium	0.005	Not Applicable	0.005 (MCL)	mg/L	0.000133 J #	0.000386 J	0.000429 J	0.000219 J	0.000222 J	0.000387 J	0.000328 J	<0.000200	0.000238 J	<0.000200	0.000502 J	0.000380 J	---	<0.000200
Chromium	0.1	Not Applicable	0.1 (MCL)	mg/L	<0.01 #	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	0.000930 J	0.000829 J	---	<0.000400
Cobalt	None	Not Applicable	0.006 (ODEQ)	mg/L	0.000102 J #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	0.000234 J	---	<0.000200
Fluoride	4	Not Applicable	4 (MCL)	mg/L	1.24 #	1.27	1.59	1.13	1.37	1.15	1.04	1.38	1.46	1.54	1.57	1.66	---	1.59
Lead	0.015	Not Applicable	0.015 (MCL)	mg/L	0.000116 J #	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	---	<0.000600
Lithium	None	Not Applicable	0.235 (UTL)	mg/L	<0.06 #	0.00148 J	0.00128 J	0.00192 J	0.00169 J	0.00134 J	0.00114 J	0.00102 J	0.00121 J	0.00144 J	0.00150 J	0.00249 J	---	0.00111 J
Mercury	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000150 #	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	0.0000450 J	0.0000460 J	0.000113 J	<0.0000300	---	<0.0000300
Molybdenum	None	Not Applicable	0.1 (ODEQ)	mg/L	0.439 #	0.472	0.463	0.462	0.377	0.402	0.394	0.367	0.398	0.351	0.407	0.445	---	0.43
Selenium	0.05	Not Applicable	0.05 (MCL)	mg/L	0.00889 #	0.011	0.00631	0.0141	0.0124	0.00655	0.0064	0.0113	0.00857	0.00743	0.0113	0.0127	---	0.00944
Thallium	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.0008 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200
Ra-226 + Ra-228 (combined)	5	Not Applicable	5 (MCL)	pCi/L	0.933 +/- 0.391 #	<0.98	---	<0.79	<0.74	<0.73	<0.72	<0.73	<0.87	<0.82	<0.84	<0.82	---	1.82
Other Parameters																		
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	26.2	25	---	21	23	---	---	19	16	14.0 J	21.0	21.0	---	18
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	128	130	132	135	133	150	136	---	130
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	59.8	---	---	---	92.6	98.7	89.2	63.8	69	77.3	53.6	---	61
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	<5	---	---	---	<5	<5	<5	<5	<5	<5.00	<5	---	<5
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	81.2	---	---	---	35.1	31.4	42.6	71.6	64.4	73.0	82.4	---	68.7
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	0.0153(J)	<0.0120	<0.0120	<0.012	<0.012	0.0509 J	0.0554 J	---	<0.0120
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	<0.0120	<0.0120	<0.0120	<0.012	<0.012	0.0210 J	<0.0120	---	<0.0120
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	0.043(J)	0.330(J)	0.0310 J	<0.02	<0.02	0.0450 J	0.03 J	---	0.0230 J
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<0.02	<0.02	<0.0200 H	0.029 J	---	<0.02
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<0.02	<0.02	<0.0200	0.0254 J	---	<0.02
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<0.02	<0.02	0.0210 J	<0.02	---	<0.02
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	0.121 J	0.0852 J	---	---	0.0553(J)	0.0510(J)	0.0346 J	0.0773 J	0.0681 J	0.0415 J	0.0836 J	---	0.0228 J
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	0.373	0.383	0.37	0.457	0.398	0.440	0.406	---	0.413
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	<0.049 #	<0.03	0.117	<0.150	<0.0300	<0.0600	<0.0600	<0.150	<0.0600	<0.0600	<0.0600	0.102 J	---	<0.0300
Potassium	None	Not Applicable	Not Applicable	mg/L	---	38.2	37.7	---	---	35.2	34.1	33.7	33.9	29	34.6	37	---	37.7
Sodium	None	Not Applicable	Not Applicable	mg/L	---	801	774	---	---	644	598	610	639	545	462	723	---	752
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	2470 #	3530	---	---	---	---	---	3860	3500	3540	3370	3,570	---	3570
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	1.52	<1	1.8	<1	<1	<1.00	<1	---	<1
Field Parameters																		
Temperature	None	Not Applicable	Not Applicable	ºC	25.4	13.4	---	17.92	25.86	22.99	---	23.8	18.3	---	21.8	17.2	---	23.5
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	10.63	11.01	---	11.26	10.65	10.97	---	10.92	11.09	---	10.84	10.94	---	10.54
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	3610	3438	---	3524	3552	3309	---	3433	3406	---	3,342	3,309	---	3277
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	0.33	0.21	---	1.5	0.5	0.36	---	0.16	0.27	---	0.21	0.27	---	0.32
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	172.1	-162	---	-281.7	-252.4	-588.1	---	209.2	-191.7	---	-237.2	-244.4	---	-249.1
Turbidity	None	Not Applicable	Not Applicable	NTU	2.05	5.19	2.24	0.57	0.61	2.86	---	1.24	0.73	---	2.77	2.22	---	1.82

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT B
GROUNDWATER SAMPLE DATA TO DATE FOR LANDFILL CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID: / Sample Date: / *Units*	MW-19S / 17-Apr-23 / FIRST 2023 ASSESSMENT MON.
Detection Monitoring Parameters					
Boron	None	1.896	Not Applicable	mg/L	7.69
Calcium	None	670.30	Not Applicable	mg/L	38.5
Chloride	250	18.51	Not Applicable	mg/L	12.8
Fluoride	4	0.6359	Not Applicable	mg/L	1.47
pH (laboratory)	6.5 - 8.5	6.485 - 8.018	Not Applicable	S.U.	10.6
Sulfate	250	1,708	Not Applicable	mg/L	1740
Total Dissolved Solids	500	2,505	Not Applicable	mg/L	2310
Antimony	0.006	Not Applicable	0.006 (MCL)	mg/L	<0.000400
Arsenic	0.010	Not Applicable	0.01 (MCL)	mg/L	0.00581
Barium	2	Not Applicable	2 (MCL)	mg/L	0.0152
Beryllium	0.004	Not Applicable	0.004 (MCL)	mg/L	<0.000200
Cadmium	0.005	Not Applicable	0.005 (MCL)	mg/L	<0.000200
Chromium	0.1	Not Applicable	0.1 (MCL)	mg/L	<0.000400
Cobalt	None	Not Applicable	0.006 (ODEQ)	mg/L	<0.000200
Fluoride	4	Not Applicable	4 (MCL)	mg/L	1.47
Lead	0.015	Not Applicable	0.015 (MCL)	mg/L	<0.000600
Lithium	None	Not Applicable	0.235 (UTL)	mg/L	0.00216 J
Mercury	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.0000300
Molybdenum	None	Not Applicable	0.1 (ODEQ)	mg/L	0.362
Selenium	0.05	Not Applicable	0.05 (MCL)	mg/L	0.00965
Thallium	0.002	Not Applicable	0.002 (MCL)	mg/L	0.000269 J
Ra-226 + Ra-228 (combined)	5	Not Applicable	5 (MCL)	pCi/L	0.376 +/- 1.03
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	16.0
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	124
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	62.4
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	<5
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	62
Iron, Total	None	Not Applicable	Not Applicable	mg/L	0.0162 J
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	<0.0120
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	0.063
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	<0.02
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	<0.02
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	<0.02
Magnesium	None	Not Applicable	Not Applicable	mg/L	0.109 J
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	0.379
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	<0.0300
Potassium	None	Not Applicable	Not Applicable	mg/L	32.3
Sodium	None	Not Applicable	Not Applicable	mg/L	662
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	3,270
Sulfide	None	Not Applicable	Not Applicable	mg/L	<1.70
Temperature	None	Not Applicable	Not Applicable	ºC	20.6
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	10.78
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	3090
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	0.19
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	-58.2
Turbidity	None	Not Applicable	Not Applicable	NTU	3.94

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT B
GROUNDWATER SAMPLE DATA TO DATE FOR LANDFILL CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID:	MW-20	MW-20	MW-20	DUP 1	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20	MW-20 (Deep)
				Sample Date:	31-May-16	23-Aug-16	29-Sep-16	29-Sep-16	2-Dec-16	31-Jan-17	5-Apr-17	7-Jun-17	9-Aug-17	21-May-18	1-Aug-18
					BACKGROUND 1	BACKGROUND 2	BACKGROUND 3		BACKGROUND 4	BACKGROUND 5	BACKGROUND 6	BACKGROUND 7	BACKGROUND 8	DETECTION MON. #1	VERIFICATION SAMPLE
Detection Monitoring Parameters				***Units***											
Boron	None	1.896	Not Applicable	mg/L	0.704	1.11	1.06	0.945	1.02	1	0.58	0.784	0.643	0.813	1.2
Calcium	None	670.30	Not Applicable	mg/L	434	563	416	391	451	528	583	611 J*	382	355	552
Chloride	250	18.51	Not Applicable	mg/L	5.99 J*	5.79	4.85	4.8	4.44	5.4	6.77	6.00 J*	5.08	6.14	4.96
Fluoride	4	0.6359	Not Applicable	mg/L	0.322 J*	0.41	0.424	0.416	0.397	0.362	0.248	0.340 J*	0.349	0.323	0.309
pH (laboratory)	6.5 - 8.5	6.485 - 8.018	Not Applicable	S.U.	6.94	7.6	7.4	7.3	7.3	7	6.8	6.7	6.7	6.8	6.9
Sulfate	250	1,363	Not Applicable	mg/L	1140	1110	1100	1110	1290	949	907	1020	1180	839	1060
Total Dissolved Solids	500	2,066	Not Applicable	mg/L	1710	1980	1860	1810	1980	1870	1750	1770	1760	1760	1980
Assessment Monitoring Parameters															
Antimony	0.006	Not Applicable	0.006 (MCL)	mg/L	<0.000500	<0.000800	<0.000800	<0.000800	<0.00800	<0.000800	<0.000800	<0.00400	<0.000800	---	---
Arsenic	0.010	Not Applicable	0.01 (MCL)	mg/L	0.00222	0.00101 J	0.00198 J	0.00199 J	<0.00400	0.000732 J	0.00174 J	<0.00400	0.000598 J	---	---
Barium	2	Not Applicable	2 (MCL)	mg/L	0.0136	0.0151	0.0116	0.0109	0.0100 J	0.0122	0.0108	0.0128	0.00216	---	---
Beryllium	0.004	Not Applicable	0.004 (MCL)	mg/L	<0.00100	<0.000100	<0.000100	<0.000100	<0.00100	<0.000100	<0.000100	<0.000500	<0.000100	---	---
Cadmium	0.005	Not Applicable	0.005 (MCL)	mg/L	<0.000400	<0.000100	<0.000100	<0.000100	<0.00100	<0.000100	<0.000100	<0.00100	<0.000100	---	---
Chromium	0.1	Not Applicable	0.1 (MCL)	mg/L	<0.000500	<0.000500	<0.000500	<0.000500	<0.00500	<0.000500	<0.000500	<0.00500	<0.00250	---	---
Cobalt	None	Not Applicable	0.006 (ODEQ)	mg/L	<0.000500	0.000327 J	0.000383 J	0.000366 J	<0.00100	0.000642 J	0.000215 J	<0.00100	<0.000500	---	---
Fluoride	4	Not Applicable	4 (MCL)	mg/L	0.322 J*	0.41	0.424	0.416	0.397	0.362	0.248	0.340 J*	0.349	0.323	0.309
Lead	0.015	Not Applicable	0.015 (MCL)	mg/L	<0.000200	<0.000100	<0.000100	<0.000100	<0.00100	<0.000100	<0.000100	<0.000500	<0.000500	---	---
Lithium	None	Not Applicable	0.235 (UTL)	mg/L	0.123	0.117	0.124	0.114	0.126 J	0.12	0.0962	0.112 J	0.110 J	---	0.109
Mercury	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000100	---	---
Molybdenum	None	Not Applicable	0.1 (ODEQ)	mg/L	0.00120 J	0.00121 J	<0.00500	0.00126 J	<0.0100	<0.00100	<0.00100	<0.0100	<0.00500	---	<0.00100
Selenium	0.05	Not Applicable	0.05 (MCL)	mg/L	<0.000600	<0.000300	<0.000300	<0.000300	<0.00300	0.000633 J	<0.000300	<0.00300	<0.00150	---	---
Thallium	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000500	<0.000800	<0.000800	<0.000800	<0.00800	<0.000800	<0.000800	<0.00400	<0.00400	---	---
Ra-226 + Ra-228 (combined)	5	Not Applicable	5 (MCL)	pCi/L	1.04 +/- 0.357	1.61 +/- 0.395	1.10 +/- 0.359	1.66 +/- 0.377	1.46 +/- 0.421	0.863 +/- 0.381	1.29 +/- 0.322	0.969 +/- 0.294	0.670 +/- 0.261	---	---
Other Parameters															
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<5.00	---	---
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	259	---	---
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<5.00	---	---
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	20.9	---	---
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Potassium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	5.54	---	---
Sodium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	86.1	---	---
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	---	---	---	---	---	---	---	---	---	---	---
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Field Parameters															
Temperature	None	Not Applicable	Not Applicable	ºC	21.43	21.4	18.92	---	17.06	19.18	18.75	20.84	21.17	20.26	21.05
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	6.85	6.94	6.79	---	6.75	6.76	6.67	6.69	6.62	6.89	6.51
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	1742	2245	2332	---	2364	2259	2057	2088	2083	1999	2345
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	0.47	1.76	0.05	---	0.25	0.21	0.35	0.07	0.1	0.27	1.43
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	-4.6	935	-101	---	-211.5	-167.1	60.7	-7.7	62.1	-57	54.1
Turbidity	None	Not Applicable	Not Applicable	NTU	1.2	2.96	3.23	---	2.55	1.85	0.38	1.01	1.82	1.95	4.38

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT B
GROUNDWATER SAMPLE DATA TO DATE FOR LANDFILL CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID:	MW-20	MW-20		MW-20	MW-20	Dup 1	MW-20	MW-20	MW-20	MW-20	MW-20		MW-20	MW-20
				Sample Date:	4-Oct-18	10-Jan-19		23-Apr-19	30-Sep-19		17-Jun-20	12-Oct-20	31-Mar-21	15-Oct-21	31-Mar-22	6-Jun-22	5-Oct-22	12-Apr-23
Detection Monitoring Parameters					INITIAL ASSESSMENT MON.	INITIAL ASSESSMENT MON. (RESAMPLE) UNFILTERED	FILTERED	FIRST 2019 ASSESSMENT MON.	SECOND 2019 ASSESSMENT MON.		FIRST 2020 ASSESSMENT MON.	SECOND 2020 ASSESSMENT MON.	FIRST 2021 ASSESSMENT MON.	SECOND 2021 ASSESSMENT MON.	FIRST 2022 ASSESSMENT MON.	FIRST 2022 ASSESSMENT MON. (RESAMPLE)	SECOND 2022 ASSESSMENT MON.	FIRST 2023 ASSESSMENT MON.
Boron	None	1.896	Not Applicable	mg/L	1.19 #	1.19	0.911	0.721	0.777	0.668	0.624	0.857	0.927	0.930	0.550	---	0.837	0.559
Calcium	None	670.30	Not Applicable	mg/L	448 #	398	386	327	368	331	320	312	309	325	324	---	358	351
Chloride	250	18.51	Not Applicable	mg/L	4.74 #	6.29	7.27	8.02	5.3	5.32	6.18	5.69	5.78	5.17	8.67	5.34	5.39	5.27
Fluoride	4	0.6359	Not Applicable	mg/L	0.326 #	0.298	0.304	0.294	0.34	0.311	0.22	0.336	0.279	0.264	<0.500^	0.289	0.209	0.367
pH (laboratory)	6.5 - 8.5	6.485 - 8.018	Not Applicable	S.U.	7.4 #	7.17	---	7.35	6.67	6.76	6.55	6.73	6.91	7.94	1.5^	7.6	7.03	7.15
Sulfate	250	1,363	Not Applicable	mg/L	1110 #	977	892	794	1060	1080	870	989	782	1030	2070^	732	950	962
Total Dissolved Solids	500	2,066	Not Applicable	mg/L	1900 #	1630	1530	1690	1890	1850	1560	1710	1490	1850	1940^	1440	1,760	1,470
Assessment Monitoring Parameters																		
Antimony	0.006	Not Applicable	0.006 (MCL)	mg/L	<0.0008 #	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	---	<0.000400	<0.000400
Arsenic	0.010	Not Applicable	0.01 (MCL)	mg/L	<0.004 #	<0.000400	<0.000400	0.00107 J	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	---	<0.000400	<0.000400
Barium	2	Not Applicable	2 (MCL)	mg/L	0.014 J #	0.0103	0.012	0.0131	0.0102	0.00931	0.0102	0.00927	0.00981	0.0124	0.0125	---	0.01	0.00924
Beryllium	0.004	Not Applicable	0.004 (MCL)	mg/L	<0.001 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200	<0.000200
Cadmium	0.005	Not Applicable	0.005 (MCL)	mg/L	<0.0001 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200	<0.000200
Chromium	0.1	Not Applicable	0.1 (MCL)	mg/L	<0.005 #	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	0.000401 J	0.000592 J	0.000674 J	---	<0.000400	<0.000400
Cobalt	None	Not Applicable	0.006 (ODEQ)	mg/L	0.00102 J #	0.000414 J	0.000442 J	0.000449 J	<0.000200	<0.000200	<0.000200	0.000318 J	<0.000200	0.000234 J	0.00112 J	---	<0.000200	0.000689 J
Fluoride	4	Not Applicable	4 (MCL)	mg/L	0.326 #	0.298	0.304	0.294	0.34	0.311	0.22	0.336	0.279	0.264	<0.500^	0.289	0.209	0.367
Lead	0.015	Not Applicable	0.015 (MCL)	mg/L	<0.001 #	<0.000600	<0.000600	<0.000600	<0.000600	0.00964	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	---	<0.000600	<0.000600
Lithium	None	Not Applicable	0.235 (UTL)	mg/L	0.121 J #	0.0969	0.0959	0.0827	0.101	0.0944	0.0895	0.0891	0.0781	0.105	0.0693	---	0.108	0.0905
Mercury	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.00015 #	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	0.0000650 J	0.000224	<0.0000300	---	<0.0000300	<0.0000300
Molybdenum	None	Not Applicable	0.1 (ODEQ)	mg/L	<0.001 #	0.000616 J	0.000663 J	0.000835 J	<0.000600	<0.000600	0.000727 J	0.000677 J	0.00220 J	<0.000600	0.000659 J	---	<0.000600	0.000629 J
Selenium	0.05	Not Applicable	0.05 (MCL)	mg/L	<0.0003 #	<0.0011	0.00142 J	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	---	<0.00110	<0.00110
Thallium	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.0008 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200	<0.000200
Ra-226 + Ra-228 (combined)	5	Not Applicable	5 (MCL)	pCi/L	0.888 +/- 0.291 #	<0.72	---	0.91	0.82	<0.74	<0.72	1.33	0.85	0.91	<0.87	---	3.39	0.453 +/- 0.442
Other Parameters																		
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	<5	<5.00	---	<5.00	<5.00	<5.00	---	6.00 J	5.00 J	10.0 J	7.00 J ^	<5.00	<5.00	6.00 J
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	<5	---	---	---	---	---	---	---	---	---	---	---	---
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	359	---	---	---	---	---	---	---	---	---	---	---	---
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	<5	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	29.2	26.3	---	---	---	---	---	---	---	---	---	---	---
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	<0.049 #	<0.03	<0.03	<0.0300	0.105	0.0616 J	<0.0300	<0.0300	<0.0300	0.0434 J	972^	0.0769 J	<0.0300	<0.0300
Potassium	None	Not Applicable	Not Applicable	mg/L	---	6.72	6.01	---	---	---	---	---	---	---	---	---	---	---
Sodium	None	Not Applicable	Not Applicable	mg/L	---	70.2	84.7	---	---	---	---	---	---	---	---	---	---	---
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	2050 #	1960	---	---	---	---	---	2230	1890	2140	23700^	2,170	2,270	1,860
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																		
Temperature	None	Not Applicable	Not Applicable	ºC	24.9	15.2	---	21.57	23.46	---	22.06	21.3	18.61	20.9	16.3	22.9	22.5	20.3
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	6.71	6.65	---	7	6.83	---	6.86	6.81	7.07	6.80	6.95	6.84	6.62	5.52
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	2330	1979	---	1937	2240	---	1795	1981	2605	2,140	1,342	1,743	2,087	1,708
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	0.86	0.46	---	1.08	0.56	---	1.11	0.28	0.46	0.49	0.30	0.39	0.49	0.39
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	29.7	-13	---	-4.3	-15.7	---	-32.8	29	7.6	58.8	-3.4	28	-40.4	9.3
Turbidity	None	Not Applicable	Not Applicable	NTU	8.14	37.7	2.09	0.38	2.9	---	4.04	2.79	3.99	2.44	0.82	1.57	2.01	7.1

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT B
GROUNDWATER SAMPLE DATA TO DATE FOR LANDFILL CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID: / Sample Date:	MW-21 26-May-16	MW-21 27-Jul-16	DUP 1 27-Jul-16	MW-21 28-Sep-16	MW-21 1-Dec-16	MW-21 31-Jan-17	MW-21 5-Apr-17	MW-21 6-Jun-17	MW-21 8-Aug-17	MW-21 17-May-18	MW-21 (Deep) 10-Aug-18
					BACKGROUND 1	BACKGROUND 2		BACKGROUND 3	BACKGROUND 4	BACKGROUND 5	BACKGROUND 6	BACKGROUND 7	BACKGROUND 8	DETECTION MON. #1	VERIFICATION SAMPLE
Detection Monitoring Parameters				*Units*											
Boron	None	1.896	Not Applicable	mg/L	2.9	2.76	2.86	2.59	3.98	4.41	3.43	3.36	3.07 J	2.95	2.99
Calcium	None	670.30	Not Applicable	mg/L	148	186	205	156	251	176	214	149	165	136	147
Chloride	250	18.51	Not Applicable	mg/L	22.9	22.2	21.8	23.1	22.3	21.5	20.5	21.4	17.8	22	21.9
Fluoride	4	0.6359	Not Applicable	mg/L	0.594	0.752	0.801	0.582	0.564	0.498	0.49	0.559	0.779	0.53	0.453
pH (laboratory)	6.5 - 8.5	6.485 - 8.018	Not Applicable	S.U.	7.56	7.98	8.02	7.9	7.9	7.5	7.4	7.3	7.4	7.5	7.5
Sulfate	250	1,591	Not Applicable	mg/L	1370	1350	1420	1500	1500	1360	1470	1400	1250	1480	1410
Total Dissolved Solids	500	2,546	Not Applicable	mg/L	2410	2380	2360	2510	2430	2440	2320	2430	2320	2570	2560
Assessment Monitoring Parameters															
Antimony	0.006	Not Applicable	0.006 (MCL)	mg/L	<0.000500	<0.000500	<0.000500	<0.000800	<0.00400	<0.000800	<0.000800	<0.000800	<0.000800	---	---
Arsenic	0.010	Not Applicable	0.01 (MCL)	mg/L	0.00259	0.00140 J	0.00154 J	0.00145 J	<0.00200	0.000960 J	0.00119 J	<0.000400	0.00155 J	---	---
Barium	2	Not Applicable	2 (MCL)	mg/L	0.0144	0.0131	0.0128	0.012	0.0202	0.0121	0.0114	0.0107	0.11	---	---
Beryllium	0.004	Not Applicable	0.004 (MCL)	mg/L	<0.00100	<0.00100	<0.00100	<0.000100	<0.000500	<0.000100	<0.000100	<0.000100	<0.00100	---	---
Cadmium	0.005	Not Applicable	0.005 (MCL)	mg/L	<0.000400	<0.000400	<0.000400	<0.000100	<0.000500	<0.000100	<0.000100	<0.000100	<0.00100	---	---
Chromium	0.1	Not Applicable	0.1 (MCL)	mg/L	0.000586 J	<0.000500	<0.000500	<0.000500	<0.00250	<0.000500	<0.000500	<0.000500	<0.000500	---	---
Cobalt	None	Not Applicable	0.006 (ODEQ)	mg/L	0.000571 J	<0.000500	<0.000500	0.000403 J	0.000555 J	0.000434 J	0.000316 J	<0.000100	0.000281 J	---	---
Fluoride	4	Not Applicable	4 (MCL)	mg/L	0.594	0.752	0.801	0.582	0.564	0.498	0.49	0.559	0.779	0.53	0.453
Lead	0.015	Not Applicable	0.015 (MCL)	mg/L	<0.000200	<0.000200	<0.000200	<0.000100	<0.000500	<0.000100	<0.000100	<0.000100	<0.000100	---	---
Lithium	None	Not Applicable	0.235 (UTL)	mg/L	0.163	0.129	0.126	0.13	0.224 J	0.143	0.137	0.131	0.147	---	0.121
Mercury	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	---	---
Molybdenum	None	Not Applicable	0.1 (ODEQ)	mg/L	0.00385	0.00193 J	0.00188 J	0.00212	<0.00500	0.0023	0.002	0.00175 J	0.00152 J	---	<0.00100
Selenium	0.05	Not Applicable	0.05 (MCL)	mg/L	<0.000600	<0.000600	<0.000600	<0.000300	<0.00150	0.000512 J	<0.000300	0.00391	<0.000300	---	---
Thallium	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000500	<0.000500	<0.000500	<0.000800	<0.00400	<0.000800	<0.000800	<0.000800	<0.000800	---	---
Ra-226 + Ra-228 (combined)	5	Not Applicable	5 (MCL)	pCi/L	1.99 +/- 0.327	1.62 +/- 0.384	1.91 +/- 0.376	2.17 +/- 0.422	1.87 +/- 0.494	2.19 +/- 0.444	1.26 +/- 0.315	2.06 +/- 0.383	0.973 +/- 0.258	---	---
Other Parameters															
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<5.00	---	---
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	312	---	---
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<5.00	---	---
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	35.1	---	---
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Potassium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	9.21	---	---
Sodium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	791	---	---
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	---	---	---	---	---	---	---	---	---	---	---
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Field Parameters															
Temperature	None	Not Applicable	Not Applicable	ºC	20.64	22.37	---	21.75	19.28	20.91	18.26	22.05	20.69	21.36	25.09
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	7.37	7.32	---	7.32	7.28	7.26	6.19	7.2	7.11	7.28	6.91
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	3111	3578	---	3600	3586	3625	3555	3493	3421	3504	3544
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	0.24	0.45	---	0.07	0.17	0.27	0.32	0.12	0.07	0.16	1.45
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	62.8	-72.7	---	-92.6	-239	-182	247.3	-12.6	59.8	-45.2	99
Turbidity	None	Not Applicable	Not Applicable	NTU	2.1	0.32	---	0.3	0.29	0.27	0.84	0.74	1.07	0.28	0.5

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT B
GROUNDWATER SAMPLE DATA TO DATE FOR LANDFILL CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID:	MW-21	MW-21		MW-21	DUP-2	MW-21	DUP-2	MW-21	MW-21	MW-21	MW-21	DUP 3	MW-21		MW-21
				Sample Date:	3-Oct-18	15-Jan-19		24-Apr-19		2-Oct-19		17-Jun-20	12-Oct-20	31-Mar-21	13-Oct-21		30-Mar-22	6-Jun-22	5-Oct-22
Detection Monitoring Parameters				***Units***	INITIAL ASSESSMENT MON.	INITIAL ASSESSMENT MON. (RESAMPLE) UNFILTERED	FILTERED	FIRST 2019 ASSESSMENT MON.		SECOND 2019 ASSESSMENT MON.		FIRST 2020 ASSESSMENT MON.	SECOND 2020 ASSESSMENT MON.	FIRST 2021 ASSESSMENT MON.	SECOND 2021 ASSESSMENT MON.		FIRST 2022 ASSESSMENT MON.	FIRST 2022 ASSESSMENT MON. (RESAMPLE)	SECOND 2022 ASSESSMENT MON.
Boron	None	1.896	Not Applicable	mg/L	3.07 #	3.96	3.92	3.79	3.63	2.63	2.89	2.84	2.77	2.42	2.53	2.31	3.17	---	2.36
Calcium	None	670.30	Not Applicable	mg/L	152 #	187	187	145	142	146	155	139	141	154	128	135	173	---	140
Chloride	250	18.51	Not Applicable	mg/L	21.9 #	22.1	22	20.6	19.8	22.1	22.2	21.8	22.8	23.3	21.5	22.1	23^	22.4	21.8
Fluoride	4	0.6359	Not Applicable	mg/L	0.458 #	0.438	2.05	0.513	0.505	0.537	0.509	0.524	0.470 J	0.578	0.411	0.471	0.683^	0.543	0.445
pH (laboratory)	6.5 - 8.5	6.485 - 8.018	Not Applicable	S.U.	7.9 #	6.89	---	7.77	7.74	7.58	7.12	7.07	7.64	7.28	7.28	7.43	1.64^	7.57	7.42
Sulfate	250	1,591	Not Applicable	mg/L	1610 #	1670	1710	1440	1530	1560	1530	1470	1780	1660	1670	1520	2340^	1,610	1,440
Total Dissolved Solids	500	2,546	Not Applicable	mg/L	2650 #	2740	2720	2550	2650	2700	2720	2470	2660	2650	2660	2560	3500^	2,660	2,440
Assessment Monitoring Parameters																			
Antimony	0.006	Not Applicable	0.006 (MCL)	mg/L	<0.0008 #	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	0.000545 J	<0.000400	---	<0.000400
Arsenic	0.010	Not Applicable	0.01 (MCL)	mg/L	<0.008 #	0.00329	0.00223	0.00112 J	0.00136 J	0.000638 J	0.000574 J	0.000551 J	0.000536 J	0.000534 J	0.000539 J	0.000521 J	0.000695 J	---	0.000569 J
Barium	2	Not Applicable	2 (MCL)	mg/L	0.0137 J #	0.0182	0.0176	0.0127	0.0117	0.00999	0.0111	0.0106	0.0107	0.0112	0.0102	0.0105	0.0139	---	0.00932
Beryllium	0.004	Not Applicable	0.004 (MCL)	mg/L	<0.002 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200
Cadmium	0.005	Not Applicable	0.005 (MCL)	mg/L	<0.0001 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200
Chromium	0.1	Not Applicable	0.1 (MCL)	mg/L	<0.01 #	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	0.000669 J	---	<0.000400
Cobalt	None	Not Applicable	0.006 (ODEQ)	mg/L	0.000216 J #	0.00175 J	0.00140 J	0.000407 J	0.000321 J	0.000227 J	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	0.000620 J	---	<0.000200
Fluoride	4	Not Applicable	4 (MCL)	mg/L	0.458 #	0.438	2.05	0.513	0.505	0.537	0.509	0.524	0.470 J	0.578	0.411	0.471	0.683^	0.543	0.445
Lead	0.015	Not Applicable	0.015 (MCL)	mg/L	<0.0001 #	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	---	<0.000600
Lithium	None	Not Applicable	0.235 (UTL)	mg/L	0.164 J #	0.157	0.16	0.14	0.134	0.118	0.129	0.14	0.123	0.137	0.125	0.114	0.143	---	0.144
Mercury	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.00015 #	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	0.0000380 J	<0.0000300	0.0000330 J	<0.0000300	---	<0.0000300
Molybdenum	None	Not Applicable	0.1 (ODEQ)	mg/L	<0.001 #	0.00161 J	0.00160 J	0.00131 J	0.00118 J	0.00105 J	0.00184 J	0.00103 J	0.00103 J	0.000902 J	0.000677 J	0.000876 J	0.00172 J	---	<0.000600
Selenium	0.05	Not Applicable	0.05 (MCL)	mg/L	<0.0003 #	<0.0011	<0.0011	<0.00110	0.00111 J	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	---	<0.00110
Thallium	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.0008 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200
Ra-226 + Ra-228 (combined)	5	Not Applicable	5 (MCL)	pCi/L	3.41 +/- 0.496 #	6.29	---	2.24	1.67	1.59	2.57	3.09	2.38	2.44	2.94	2.58	2.58	---	3.28
Other Parameters																			
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	<5 #	<5	---	<5.00	<5.00	<5.00	7.00 J	---	<5.00	<5.00	<5.00	7.00 J	5.00 J ^	<5.00	16
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	<5	---	---	---	---	---	---	---	---	---	---	---	---	---
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	393	---	---	---	---	---	---	---	---	---	---	---	---	---
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	<5	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	62.1	62.3	---	---	---	---	---	---	---	---	---	---	---	---
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	0.449 #	0.14	0.145	1.16	1.36	0.329	0.467	<0.150	<0.150	0.961	0.207	0.168 J	687^	0.399	0.28
Potassium	None	Not Applicable	Not Applicable	mg/L	---	12	11.8	---	---	---	---	---	---	---	---	---	---	---	---
Sodium	None	Not Applicable	Not Applicable	mg/L	---	684	688	---	---	---	---	---	---	---	---	---	---	---	---
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	3120 #	3610	---	---	---	---	---	---	3940	3550	3620	3480	22000^	9,390	3,530
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																			
Temperature	None	Not Applicable	Not Applicable	ºC	24	13.8	---	18.12	---	24.38	---	23.17	23.2	15.44	21.3	---	13.8	25	24.1
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	7.13	7.1	---	7.42	---	7.29	---	7.23	7.26	7.43	7.23	---	7.44	7.28	7.06
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	3627	3585	---	3533	---	3633	---	3352	3516	4806	3,262	---	2,769	3542	3355
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	0.43	0.59	---	1.23	---	0.64	---	0.65	0.48	5	0.31	---	0.43	0.63	0.51
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	45.9	-67.1	---	84	---	91.9	---	-38	119.3	25.6	-212.1	---	-33.3	47.7	52.9
Turbidity	None	Not Applicable	Not Applicable	NTU	2.38	3.3	1.11	0.44	---	0.26	---	2.04	0.52	1.27	1.33	---	0.68	1.3	3.27

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT B
GROUNDWATER SAMPLE DATA TO DATE FOR LANDFILL CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID: / Sample Date:	MW-21 / 12-Apr-23
Detection Monitoring Parameters				***Units***	**FIRST 2023 ASSESSMENT MON.**
Boron	None	1.896	Not Applicable	mg/L	3.28
Calcium	None	670.30	Not Applicable	mg/L	168
Chloride	250	18.51	Not Applicable	mg/L	22.0
Fluoride	4	0.6359	Not Applicable	mg/L	0.545
pH (laboratory)	6.5 - 8.5	6.485 - 8.018	Not Applicable	S.U.	7.57
Sulfate	250	1,591	Not Applicable	mg/L	1,750
Total Dissolved Solids	500	2,546	Not Applicable	mg/L	2,250
Antimony	0.006	Not Applicable	0.006 (MCL)	mg/L	<0.000400
Arsenic	0.010	Not Applicable	0.01 (MCL)	mg/L	0.000517 J
Barium	2	Not Applicable	2 (MCL)	mg/L	0.0115
Beryllium	0.004	Not Applicable	0.004 (MCL)	mg/L	<0.000200
Cadmium	0.005	Not Applicable	0.005 (MCL)	mg/L	<0.000200
Chromium	0.1	Not Applicable	0.1 (MCL)	mg/L	<0.000400
Cobalt	None	Not Applicable	0.006 (ODEQ)	mg/L	0.000351 J
Fluoride	4	Not Applicable	4 (MCL)	mg/L	0.545
Lead	0.015	Not Applicable	0.015 (MCL)	mg/L	<0.000600
Lithium	None	Not Applicable	0.235 (UTL)	mg/L	0.137
Mercury	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.0000300
Molybdenum	None	Not Applicable	0.1 (ODEQ)	mg/L	0.000933 J
Selenium	0.05	Not Applicable	0.05 (MCL)	mg/L	<0.00110
Thallium	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000200
Ra-226 + Ra-228 (combined)	5	Not Applicable	5 (MCL)	pCi/L	2.51 +/- 0.838
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	25.0
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---
Magnesium	None	Not Applicable	Not Applicable	mg/L	---
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	0.153
Potassium	None	Not Applicable	Not Applicable	mg/L	---
Sodium	None	Not Applicable	Not Applicable	mg/L	---
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	3,600
Sulfide	None	Not Applicable	Not Applicable	mg/L	---
Temperature	None	Not Applicable	Not Applicable	ºC	18.8
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	5.81
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	3035
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	0.27
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	158.8
Turbidity	None	Not Applicable	Not Applicable	NTU	2.93

Notes:

1. MCL : Maximum Contaminant Level: Values obtained from EPA Primary/Secondary Drinking Water Standards.
   The MCL value for lead is the EPA's Action Level.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT C

FIRST 2023 ASSESSMENT MONITORING – APRIL 2023
LABORATORY REPORT
(SURFACE IMPOUNDMENT CCR UNIT)

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

June 28, 2023

Bert Smith
Altamira
525 central park Dr
Suite 500
Oklahoma City, OK 73013

Work Order: **HS23040694**

Laboratory Results for: **WFEC / CCR Impoundment**

Dear Bert Smith,

ALS Environmental received 9 sample(s) on Apr 12, 2023 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
Anna Kinchen
Project Manager

Client: Altamira
Project: WFEC / CCR Impoundment
Work Order: HS23040694

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS23040694-01	MW-8	Water		11-Apr-2023 17:50	12-Apr-2023 09:00	☐
HS23040694-02	MW-23A	Water		11-Apr-2023 15:45	12-Apr-2023 09:00	☐
HS23040694-03	MW-24	Water		11-Apr-2023 18:55	12-Apr-2023 09:00	☐
HS23040694-04	DUP-3	Water		11-Apr-2023 17:50	12-Apr-2023 09:00	☐
HS23040694-05	MW-9	Water		13-Apr-2023 09:17	14-Apr-2023 08:50	☐
HS23040694-06	MW-10	Water		13-Apr-2023 10:22	14-Apr-2023 08:50	☐
HS23040694-07	MW-11	Water		13-Apr-2023 11:27	14-Apr-2023 08:50	☐
HS23040694-08	MW-25R	Water		12-Apr-2023 14:09	14-Apr-2023 08:50	☐
HS23040694-09	MW-22A	Water		18-Apr-2023 11:13	19-Apr-2023 09:10	☐

Client: Altamira **CASE NARRATIVE**
Project: WFEC / CCR Impoundment
Work Order: HS23040694

Work Order Comments

• Sample received outside method holding time for pH. pH is an immediate test. Sample results are flagged with an "H" qualifier.

The temperature at the time of pH is reported. Please note that all pH results are already normalized to a temperature of 25 °C.

Metals by Method SM3500FED

Batch ID: R433648,R433649,R433183,R433664

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Metals by Method SW7470A

Batch ID: 192964

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Metals by Method SW6020A

Batch ID: 192851

Sample ID: MW-23A (HS23040694-02MS)

• The MS and/or MSD recovery was outside of the control; however, the result in the parent sample is greater than 4x the spike amount. Calcium, Magnesium, Sodium.

Sample ID: MW-23A (HS23040694-02PDS)

• The PDS recovery was outside method control limits, however the result in the parent sample is greater than 4x the spike amount. Magnesium, Sodium.

• The PDS recovery was outside method control limits, however the result in the parent sample is greater than 4x the spike amount. Calcium.

Sample ID: MW-23A (HS23040694-02SD)

• The percent difference between the results of the sample and the serial dilution were greater than 10%. Boron.

Batch ID: 192834

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Wet Chemistry by Method E300

Batch ID: R433149

Sample ID: HS23040356-02MS

• MS and MSD are for an unrelated sample

Sample ID: HS23040697-13MS

• MS and MSD are for an unrelated sample

Client: Altamira **CASE NARRATIVE**
Project: WFEC / CCR Impoundment
Work Order: HS23040694

Wet Chemistry by Method E300

Batch ID: R432738

Sample ID: HS23040723-01MS

- MS and MSD are for an unrelated sample

Sample ID: MW-11 (HS23040694-07)

- Sample received outside method holding time for pH. pH is an immediate test. Sample results are flagged with an "H" qualifier.

The temperature at the time of pH is reported. Please note that all pH results are already normalized to a temperature of 25 °C.

WetChemistry by Method E410.4

Batch ID: R433632

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SM4500H+ B

Batch ID: R433350,R433354,R433610,R433657

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SM4500 S2-F

Batch ID: R433352

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method SM2320B

Batch ID: R433630

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method M2540C

Batch ID: R432824,R432924,R432930,R433412

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method M2510 B

Batch ID: R432718,R433330,R433653

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Client: Altamira **CASE NARRATIVE**
Project: WFEC / CCR Impoundment
Work Order: HS23040694

WetChemistry by Method E300

Batch ID: R432628

Sample ID: HS23040411-01MS

- MS and MSD are for an unrelated sample

Sample ID: MW-23A (HS23040694-02MS)

- The MS and/or MSD recovery was outside of the control limits; however, the result in the parent sample is greater than 4x the spike amount. (Sulfate)

Client: Altamira
Project: WFEC / CCR Impoundment
Sample ID: MW-8
Collection Date: 11-Apr-2023 17:50

ANALYTICAL REPORT
WorkOrder:HS23040694
Lab ID:HS23040694-01
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 24-Apr-2023		Analyst: JC
Antimony	U		0.000400	0.00200	mg/L	1	26-Apr-2023 12:55
Arsenic	**0.000479**	J	**0.000400**	**0.00200**	**mg/L**	1	25-Apr-2023 22:10
Barium	**0.00607**		**0.00190**	**0.00400**	**mg/L**	1	25-Apr-2023 22:10
Beryllium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 22:10
Boron	**1.36**		**0.110**	**0.200**	**mg/L**	10	26-Apr-2023 12:37
Cadmium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 22:10
Calcium	**586**		**0.340**	**5.00**	**mg/L**	10	26-Apr-2023 12:37
Chromium	U		0.000400	0.00400	mg/L	1	25-Apr-2023 22:10
Cobalt	**0.00318**	J	**0.000200**	**0.00500**	**mg/L**	1	25-Apr-2023 22:10
Lead	U		0.000600	0.00200	mg/L	1	25-Apr-2023 22:10
Lithium	**0.318**		**0.0100**	**0.0500**	**mg/L**	10	26-Apr-2023 12:37
Molybdenum	U		0.000600	0.00500	mg/L	1	25-Apr-2023 22:10
Selenium	U		0.00110	0.00200	mg/L	1	25-Apr-2023 22:10
Thallium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 22:10
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 26-Apr-2023		Analyst: JS
Mercury	U		0.0000300	0.000200	mg/L	1	26-Apr-2023 13:44
ANIONS BY E300.0, REV 2.1, 1993		**Method:E300**					Analyst: TH
Chloride	**3.43**		**0.200**	**0.500**	**mg/L**	1	13-Apr-2023 14:13
Fluoride	**0.329**		**0.0500**	**0.100**	**mg/L**	1	13-Apr-2023 14:13
Nitrogen, Nitrate (As N)	U		0.0300	0.100	mg/L	1	13-Apr-2023 14:13
Sulfate	**2,120**		**10.0**	**25.0**	**mg/L**	50	13-Apr-2023 14:19
CHEMICAL OXYGEN DEMAND BY E410.4, REV 2.0, 1993		**Method:E410.4**					Analyst: TH
Chemical Oxygen Demand	**8.00**	J	**5.00**	**15.0**	**mg/L**	1	26-Apr-2023 11:00
SPECIFIC CONDUCTANCE BY SM 2510B-2011		**Method:M2510 B**					Analyst: CD
Specific Conductivity	**2,960**		**5.00**	**5.00**	**umhos/cm @ 25.0 °C**	1	14-Apr-2023 17:01
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: DC
Total Dissolved Solids (Residue, Filterable)	**2,540**		**5.00**	**10.0**	**mg/L**	1	14-Apr-2023 13:07
PH BY SM4500H+ B-2011		**Method:SM4500H+ B**					Analyst: CD
pH	**7.21**	H	**0.100**	**0.100**	**pH Units**	1	22-Apr-2023 11:11
Temp Deg C @pH	**20.1**	H	**0**	**0**	**°C**	1	22-Apr-2023 11:11

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Altamira
Project: WFEC / CCR Impoundment
Sample ID: MW-23A
Collection Date: 11-Apr-2023 15:45

ANALYTICAL REPORT
WorkOrder:HS23040694
Lab ID:HS23040694-02
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 24-Apr-2023		Analyst: JC
Antimony	U		0.000400	0.00200	mg/L	1	25-Apr-2023 21:54
Arsenic	**0.000667**	J	**0.000400**	**0.00200**	**mg/L**	1	25-Apr-2023 21:54
Barium	**0.00270**	J	**0.00190**	**0.00400**	**mg/L**	1	25-Apr-2023 21:54
Beryllium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 21:54
Boron	**1.14**		**0.110**	**0.200**	**mg/L**	10	26-Apr-2023 12:31
Cadmium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 21:54
Calcium	**552**		**0.340**	**5.00**	**mg/L**	10	26-Apr-2023 12:31
Chromium	U		0.000400	0.00400	mg/L	1	25-Apr-2023 21:54
Cobalt	**0.00105**	J	**0.000200**	**0.00500**	**mg/L**	1	25-Apr-2023 21:54
Lead	U		0.000600	0.00200	mg/L	1	25-Apr-2023 21:54
Lithium	**0.246**		**0.0100**	**0.0500**	**mg/L**	10	26-Apr-2023 12:31
Molybdenum	U		0.000600	0.00500	mg/L	1	25-Apr-2023 21:54
Selenium	U		0.00110	0.00200	mg/L	1	25-Apr-2023 21:54
Thallium	**0.000252**	J	**0.000200**	**0.00200**	**mg/L**	1	25-Apr-2023 21:54
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 26-Apr-2023		Analyst: JS
Mercury	U		0.0000300	0.000200	mg/L	1	26-Apr-2023 13:45
ANIONS BY E300.0, REV 2.1, 1993		**Method:E300**					Analyst: TH
Chloride	**12.2**		**0.200**	**0.500**	**mg/L**	1	13-Apr-2023 12:12
Fluoride	**0.302**		**0.0500**	**0.100**	**mg/L**	1	13-Apr-2023 12:12
Nitrogen, Nitrate (As N)	U		0.0300	0.100	mg/L	1	13-Apr-2023 12:12
Sulfate	**2,430**		**10.0**	**25.0**	**mg/L**	50	13-Apr-2023 12:29
CHEMICAL OXYGEN DEMAND BY E410.4, REV 2.0, 1993		**Method:E410.4**					Analyst: TH
Chemical Oxygen Demand	**5.00**	J	**5.00**	**15.0**	**mg/L**	1	26-Apr-2023 11:00
SPECIFIC CONDUCTANCE BY SM 2510B-2011		**Method:M2510 B**					Analyst: CD
Specific Conductivity	**3,280**		**5.00**	**5.00**	**umhos/cm @ 25.0 °C**	1	14-Apr-2023 17:01
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: DC
Total Dissolved Solids (Residue, Filterable)	**3,220**		**5.00**	**10.0**	**mg/L**	1	14-Apr-2023 13:07
PH BY SM4500H+ B-2011		**Method:SM4500H+ B**					Analyst: CD
pH	**6.95**	H	**0.100**	**0.100**	**pH Units**	1	22-Apr-2023 11:11
Temp Deg C @pH	**20.4**	H	**0**	**0**	**°C**	1	22-Apr-2023 11:11

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Altamira
Project: WFEC / CCR Impoundment
Sample ID: MW-24
Collection Date: 11-Apr-2023 18:55

ANALYTICAL REPORT
WorkOrder:HS23040694
Lab ID:HS23040694-03
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 24-Apr-2023		Analyst: JC
Antimony	U		0.000400	0.00200	mg/L	1	26-Apr-2023 12:57
Arsenic	**0.000400**	J	**0.000400**	**0.00200**	**mg/L**	1	25-Apr-2023 22:12
Barium	**0.00789**		**0.00190**	**0.00400**	**mg/L**	1	25-Apr-2023 22:12
Beryllium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 22:12
Boron	**1.29**		**0.110**	**0.200**	**mg/L**	10	26-Apr-2023 12:39
Cadmium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 22:12
Calcium	**521**		**0.340**	**5.00**	**mg/L**	10	26-Apr-2023 12:39
Chromium	U		0.000400	0.00400	mg/L	1	25-Apr-2023 22:12
Cobalt	**0.00152**	J	**0.000200**	**0.00500**	**mg/L**	1	25-Apr-2023 22:12
Lead	U		0.000600	0.00200	mg/L	1	25-Apr-2023 22:12
Lithium	**0.374**		**0.0100**	**0.0500**	**mg/L**	10	26-Apr-2023 12:39
Molybdenum	U		0.000600	0.00500	mg/L	1	25-Apr-2023 22:12
Selenium	U		0.00110	0.00200	mg/L	1	25-Apr-2023 22:12
Thallium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 22:12
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 26-Apr-2023		Analyst: JS
Mercury	U		0.0000300	0.000200	mg/L	1	26-Apr-2023 13:50
ANIONS BY E300.0, REV 2.1, 1993		**Method:E300**					Analyst: TH
Chloride	**18.7**		**0.200**	**0.500**	**mg/L**	1	13-Apr-2023 14:54
Fluoride	**0.261**		**0.0500**	**0.100**	**mg/L**	1	13-Apr-2023 14:54
Nitrogen, Nitrate (As N)	U		0.0300	0.100	mg/L	1	13-Apr-2023 14:54
Sulfate	**2,620**		**10.0**	**25.0**	**mg/L**	50	13-Apr-2023 15:00
CHEMICAL OXYGEN DEMAND BY E410.4, REV 2.0, 1993		**Method:E410.4**					Analyst: TH
Chemical Oxygen Demand	**14.0**	J	**5.00**	**15.0**	**mg/L**	1	26-Apr-2023 11:00
SPECIFIC CONDUCTANCE BY SM 2510B-2011		**Method:M2510 B**					Analyst: CD
Specific Conductivity	**3,570**		**5.00**	**5.00**	**umhos/cm @ 25.0 °C**	1	14-Apr-2023 17:01
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: DC
Total Dissolved Solids (Residue, Filterable)	**3,430**		**5.00**	**10.0**	**mg/L**	1	14-Apr-2023 13:07
PH BY SM4500H+ B-2011		**Method:SM4500H+ B**					Analyst: CD
pH	**7.14**	H	**0.100**	**0.100**	**pH Units**	1	22-Apr-2023 11:11
Temp Deg C @pH	**20.7**	H	**0**	**0**	**°C**	1	22-Apr-2023 11:11

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Altamira
Project: WFEC / CCR Impoundment
Sample ID: DUP-3
Collection Date: 11-Apr-2023 17:50

ANALYTICAL REPORT
WorkOrder:HS23040694
Lab ID:HS23040694-04
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 24-Apr-2023		Analyst: JC
Antimony	U		0.000400	0.00200	mg/L	1	26-Apr-2023 12:59
Arsenic	**0.000532**	J	**0.000400**	**0.00200**	**mg/L**	1	25-Apr-2023 22:14
Barium	**0.00608**		**0.00190**	**0.00400**	**mg/L**	1	25-Apr-2023 22:14
Beryllium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 22:14
Boron	**1.34**		**0.110**	**0.200**	**mg/L**	10	26-Apr-2023 12:41
Cadmium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 22:14
Calcium	**596**		**0.340**	**5.00**	**mg/L**	10	26-Apr-2023 12:41
Chromium	U		0.000400	0.00400	mg/L	1	25-Apr-2023 22:14
Cobalt	**0.00324**	J	**0.000200**	**0.00500**	**mg/L**	1	25-Apr-2023 22:14
Lead	U		0.000600	0.00200	mg/L	1	25-Apr-2023 22:14
Lithium	**0.305**		**0.0100**	**0.0500**	**mg/L**	10	26-Apr-2023 12:41
Molybdenum	U		0.000600	0.00500	mg/L	1	25-Apr-2023 22:14
Selenium	U		0.00110	0.00200	mg/L	1	25-Apr-2023 22:14
Thallium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 22:14
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 26-Apr-2023		Analyst: JS
Mercury	U		0.0000300	0.000200	mg/L	1	26-Apr-2023 13:52
ANIONS BY E300.0, REV 2.1, 1993		**Method:E300**					Analyst: TH
Chloride	**3.43**		**0.200**	**0.500**	**mg/L**	1	13-Apr-2023 15:06
Fluoride	**0.334**		**0.0500**	**0.100**	**mg/L**	1	13-Apr-2023 15:06
Nitrogen, Nitrate (As N)	U		0.0300	0.100	mg/L	1	13-Apr-2023 15:06
Sulfate	**2,110**		**10.0**	**25.0**	**mg/L**	50	13-Apr-2023 15:11
CHEMICAL OXYGEN DEMAND BY E410.4, REV 2.0, 1993		**Method:E410.4**					Analyst: TH
Chemical Oxygen Demand	**7.00**	J	**5.00**	**15.0**	**mg/L**	1	26-Apr-2023 11:00
SPECIFIC CONDUCTANCE BY SM 2510B-2011		**Method:M2510 B**					Analyst: CD
Specific Conductivity	**3,000**		**5.00**	**5.00**	**umhos/cm @ 25.0 °C**	1	14-Apr-2023 17:01
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: DC
Total Dissolved Solids (Residue, Filterable)	**2,860**		**5.00**	**10.0**	**mg/L**	1	14-Apr-2023 13:07
PH BY SM4500H+ B-2011		**Method:SM4500H+ B**					Analyst: CD
pH	**7.04**	H	**0.100**	**0.100**	**pH Units**	1	22-Apr-2023 11:11
Temp Deg C @pH	**20.7**	H	**0**	**0**	**°C**	1	22-Apr-2023 11:11

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Altamira
Project: WFEC / CCR Impoundment
Sample ID: MW-9
Collection Date: 13-Apr-2023 09:17

ANALYTICAL REPORT
WorkOrder:HS23040694
Lab ID:HS23040694-05
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 24-Apr-2023		Analyst: JC
Antimony	U		0.000400	0.00200	mg/L	1	26-Apr-2023 13:01
Arsenic	**0.000451**	J	**0.000400**	**0.00200**	**mg/L**	1	25-Apr-2023 22:16
Barium	**0.0381**		**0.00190**	**0.00400**	**mg/L**	1	25-Apr-2023 22:16
Beryllium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 22:16
Boron	**0.0338**		**0.0110**	**0.0200**	**mg/L**	1	25-Apr-2023 22:16
Cadmium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 22:16
Calcium	**23.3**		**0.0340**	**0.500**	**mg/L**	1	25-Apr-2023 22:16
Chromium	U		0.000400	0.00400	mg/L	1	25-Apr-2023 22:16
Cobalt	**0.000259**	J	**0.000200**	**0.00500**	**mg/L**	1	25-Apr-2023 22:16
Lead	**0.000626**	J	**0.000600**	**0.00200**	**mg/L**	1	25-Apr-2023 22:16
Lithium	**0.00101**	J	**0.00100**	**0.00500**	**mg/L**	1	25-Apr-2023 22:16
Molybdenum	U		0.000600	0.00500	mg/L	1	25-Apr-2023 22:16
Selenium	U		0.00110	0.00200	mg/L	1	25-Apr-2023 22:16
Thallium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 22:16
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 26-Apr-2023		Analyst: JS
Mercury	U		0.0000300	0.000200	mg/L	1	26-Apr-2023 13:54
ANIONS BY E300.0, REV 2.1, 1993		**Method:E300**					Analyst: TH
Chloride	**2.42**		**0.200**	**0.500**	**mg/L**	1	14-Apr-2023 12:11
Fluoride	**0.136**		**0.0500**	**0.100**	**mg/L**	1	14-Apr-2023 12:11
Nitrogen, Nitrate (As N)	**0.198**		**0.0300**	**0.100**	**mg/L**	1	14-Apr-2023 12:11
Sulfate	**16.4**		**0.200**	**0.500**	**mg/L**	1	14-Apr-2023 12:11
CHEMICAL OXYGEN DEMAND BY E410.4, REV 2.0, 1993		**Method:E410.4**					Analyst: TH
Chemical Oxygen Demand	**11.0**	J	**5.00**	**15.0**	**mg/L**	1	26-Apr-2023 11:00
SPECIFIC CONDUCTANCE BY SM 2510B-2011		**Method:M2510 B**					Analyst: CD
Specific Conductivity	**200**		**5.00**	**5.00**	**umhos/cm @ 25.0 °C**	1	14-Apr-2023 17:01
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: DC
Total Dissolved Solids (Residue, Filterable)	**118**		**5.00**	**10.0**	**mg/L**	1	17-Apr-2023 02:30
PH BY SM4500H+ B-2011		**Method:SM4500H+ B**					Analyst: CD
pH	**7.13**	H	**0.100**	**0.100**	**pH Units**	1	22-Apr-2023 11:11
Temp Deg C @pH	**20.9**	H	**0**	**0**	**°C**	1	22-Apr-2023 11:11

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Altamira
Project: WFEC / CCR Impoundment
Sample ID: MW-10
Collection Date: 13-Apr-2023 10:22

ANALYTICAL REPORT
WorkOrder:HS23040694
Lab ID:HS23040694-06
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 24-Apr-2023		Analyst: JC
Antimony	U		0.000400	0.00200	mg/L	1	26-Apr-2023 13:03
Arsenic	**0.000732**	J	**0.000400**	**0.00200**	**mg/L**	1	25-Apr-2023 22:18
Barium	**0.0257**		**0.00190**	**0.00400**	**mg/L**	1	25-Apr-2023 22:18
Beryllium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 22:18
Boron	**2.99**		**0.110**	**0.200**	**mg/L**	10	26-Apr-2023 12:43
Cadmium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 22:18
Calcium	**138**		**0.0340**	**0.500**	**mg/L**	1	25-Apr-2023 22:18
Chromium	**0.000406**	J	**0.000400**	**0.00400**	**mg/L**	1	25-Apr-2023 22:18
Cobalt	**0.000252**	J	**0.000200**	**0.00500**	**mg/L**	1	25-Apr-2023 22:18
Lead	U		0.000600	0.00200	mg/L	1	25-Apr-2023 22:18
Lithium	**0.0649**		**0.00100**	**0.00500**	**mg/L**	1	25-Apr-2023 22:18
Molybdenum	**0.00208**	J	**0.000600**	**0.00500**	**mg/L**	1	25-Apr-2023 22:18
Selenium	U		0.00110	0.00200	mg/L	1	25-Apr-2023 22:18
Thallium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 22:18
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 26-Apr-2023		Analyst: JS
Mercury	U		0.0000300	0.000200	mg/L	1	26-Apr-2023 13:56
ANIONS BY E300.0, REV 2.1, 1993		**Method:E300**					Analyst: TH
Chloride	**35.3**		**0.200**	**0.500**	**mg/L**	1	14-Apr-2023 12:17
Fluoride	**1.13**		**0.0500**	**0.100**	**mg/L**	1	14-Apr-2023 12:17
Nitrogen, Nitrate (As N)	**0.627**		**0.0300**	**0.100**	**mg/L**	1	14-Apr-2023 12:17
Sulfate	**1,030**		**4.00**	**10.0**	**mg/L**	20	14-Apr-2023 13:38
CHEMICAL OXYGEN DEMAND BY E410.4, REV 2.0, 1993		**Method:E410.4**					Analyst: TH
Chemical Oxygen Demand	U		5.00	15.0	mg/L	1	26-Apr-2023 11:00
SPECIFIC CONDUCTANCE BY SM 2510B-2011		**Method:M2510 B**					Analyst: CD
Specific Conductivity	**2,160**		**5.00**	**5.00**	**umhos/cm @ 25.0 °C**	1	21-Apr-2023 16:54
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: DC
Total Dissolved Solids (Residue, Filterable)	**1,340**		**5.00**	**10.0**	**mg/L**	1	17-Apr-2023 02:30
PH BY SM4500H+ B-2011		**Method:SM4500H+ B**					Analyst: CD
pH	**7.67**	H	**0.100**	**0.100**	**pH Units**	1	25-Apr-2023 10:08
Temp Deg C @pH	**20.7**	H	**0**	**0**	**°C**	1	25-Apr-2023 10:08

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Altamira
Project: WFEC / CCR Impoundment
Sample ID: MW-11
Collection Date: 13-Apr-2023 11:27

ANALYTICAL REPORT
WorkOrder:HS23040694
Lab ID:HS23040694-07
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 24-Apr-2023		Analyst: JC
Antimony	U		0.000400	0.00200	mg/L	1	26-Apr-2023 13:05
Arsenic	**0.000418**	J	**0.000400**	**0.00200**	**mg/L**	1	25-Apr-2023 22:20
Barium	**0.0185**		**0.00190**	**0.00400**	**mg/L**	1	25-Apr-2023 22:20
Beryllium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 22:20
Boron	**2.72**		**0.110**	**0.200**	**mg/L**	10	26-Apr-2023 12:45
Cadmium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 22:20
Calcium	**47.8**		**0.0340**	**0.500**	**mg/L**	1	25-Apr-2023 22:20
Chromium	U		0.000400	0.00400	mg/L	1	25-Apr-2023 22:20
Cobalt	U		0.000200	0.00500	mg/L	1	25-Apr-2023 22:20
Lead	U		0.000600	0.00200	mg/L	1	25-Apr-2023 22:20
Lithium	**0.0556**		**0.00100**	**0.00500**	**mg/L**	1	25-Apr-2023 22:20
Molybdenum	**0.00314**	J	**0.000600**	**0.00500**	**mg/L**	1	25-Apr-2023 22:20
Selenium	U		0.00110	0.00200	mg/L	1	25-Apr-2023 22:20
Thallium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 22:20
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 26-Apr-2023		Analyst: JS
Mercury	U		0.0000300	0.000200	mg/L	1	26-Apr-2023 13:57
ANIONS BY E300.0, REV 2.1, 1993		**Method:E300**					Analyst: TH
Chloride	**56.2**		**0.200**	**0.500**	**mg/L**	1	14-Apr-2023 12:22
Fluoride	**1.53**		**0.0500**	**0.100**	**mg/L**	1	14-Apr-2023 12:22
Nitrogen, Nitrate (As N)	**0.758**		**0.0300**	**0.100**	**mg/L**	1	14-Apr-2023 12:22
Sulfate	**711**		**4.00**	**10.0**	**mg/L**	20	14-Apr-2023 13:44
CHEMICAL OXYGEN DEMAND BY E410.4, REV 2.0, 1993		**Method:E410.4**					Analyst: TH
Chemical Oxygen Demand	**6.00**	J	**5.00**	**15.0**	**mg/L**	1	26-Apr-2023 11:00
SPECIFIC CONDUCTANCE BY SM 2510B-2011		**Method:M2510 B**					Analyst: CD
Specific Conductivity	**1,950**		**5.00**	**5.00**	**umhos/cm @ 25.0 °C**	1	21-Apr-2023 16:54
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: DC
Total Dissolved Solids (Residue, Filterable)	**1,130**		**5.00**	**10.0**	**mg/L**	1	17-Apr-2023 02:30
PH BY SM4500H+ B-2011		**Method:SM4500H+ B**					Analyst: CD
pH	**7.69**	H	**0.100**	**0.100**	**pH Units**	1	26-Apr-2023 15:03
Temp Deg C @pH	**20.3**	H	**0**	**0**	**°C**	1	26-Apr-2023 15:03
Temp Deg C @pH	**20.3**	H	**0**	**0**	**°C**	1	26-Apr-2023 13:45

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Altamira
Project: WFEC / CCR Impoundment
Sample ID: MW-25R
Collection Date: 12-Apr-2023 14:09

ANALYTICAL REPORT
WorkOrder:HS23040694
Lab ID:HS23040694-08
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 24-Apr-2023		Analyst: JC
Antimony	U		0.000400	0.00200	mg/L	1	26-Apr-2023 13:07
Arsenic	U		0.000400	0.00200	mg/L	1	25-Apr-2023 22:22
Barium	U		0.00190	0.00400	mg/L	1	25-Apr-2023 22:22
Beryllium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 22:22
Boron	**0.814**		**0.0110**	**0.0200**	**mg/L**	1	25-Apr-2023 22:22
Cadmium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 22:22
Calcium	**321**		**0.340**	**5.00**	**mg/L**	10	26-Apr-2023 12:47
Chromium	U		0.000400	0.00400	mg/L	1	25-Apr-2023 22:22
Cobalt	**0.000622**	J	**0.000200**	**0.00500**	**mg/L**	1	25-Apr-2023 22:22
Lead	U		0.000600	0.00200	mg/L	1	25-Apr-2023 22:22
Lithium	**0.0480**		**0.00100**	**0.00500**	**mg/L**	1	25-Apr-2023 22:22
Molybdenum	**0.000748**	J	**0.000600**	**0.00500**	**mg/L**	1	25-Apr-2023 22:22
Selenium	U		0.00110	0.00200	mg/L	1	25-Apr-2023 22:22
Thallium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 22:22
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 26-Apr-2023		Analyst: JS
Mercury	U		0.0000300	0.000200	mg/L	1	26-Apr-2023 14:06
ANIONS BY E300.0, REV 2.1, 1993		**Method:E300**					Analyst: TH
Chloride	**3.55**		**0.200**	**0.500**	**mg/L**	1	14-Apr-2023 11:42
Fluoride	**0.376**		**0.0500**	**0.100**	**mg/L**	1	14-Apr-2023 11:42
Nitrogen, Nitrate (As N)	U		0.0300	0.100	mg/L	1	14-Apr-2023 11:42
Sulfate	**853**		**4.00**	**10.0**	**mg/L**	20	14-Apr-2023 13:03
CHEMICAL OXYGEN DEMAND BY E410.4, REV 2.0, 1993		**Method:E410.4**					Analyst: TH
Chemical Oxygen Demand	**5.00**	J	**5.00**	**15.0**	**mg/L**	1	26-Apr-2023 11:00
SPECIFIC CONDUCTANCE BY SM 2510B-2011		**Method:M2510 B**					Analyst: CD
Specific Conductivity	**1,860**		**5.00**	**5.00**	**umhos/cm @ 25.0 °C**	1	26-Apr-2023 14:29
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: DC
Total Dissolved Solids (Residue, Filterable)	**1,480**		**5.00**	**10.0**	**mg/L**	1	17-Apr-2023 12:00
PH BY SM4500H+ B-2011		**Method:SM4500H+ B**					Analyst: MZD
pH	**6.88**	H	**0.100**	**0.100**	**pH Units**	1	22-Apr-2023 14:02
Temp Deg C @pH	**20.5**	H	**0**	**0**	**°C**	1	22-Apr-2023 14:02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Altamira
Project: WFEC / CCR Impoundment
Sample ID: MW-22A
Collection Date: 18-Apr-2023 11:13

ANALYTICAL REPORT
WorkOrder:HS23040694
Lab ID:HS23040694-09
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
FERRIC IRON - BY CALCULATION BY SM3500FED		**Method:SM3500FED**					Analyst: JHD
Ferric Iron	**0.116**		**0.0200**	**0.0500**	**mg/L**	1	26-Apr-2023 13:56
FERRIC IRON (DISS)- BY CALCULATION BY SM3500FED		**Method:SM3500FED (dissolved)**					Analyst: JHD
Ferric Iron, Dissolved	**0.0510**		**0.0200**	**0.0500**	**mg/L**	1	26-Apr-2023 13:59
ICP-MS METALS BY SW6020A		**Method:SW6020A**			Prep:SW3010A / 24-Apr-2023		Analyst: JC
Antimony	U		0.000400	0.00200	mg/L	1	26-Apr-2023 13:12
Arsenic	**0.00269**		**0.000400**	**0.00200**	**mg/L**	1	25-Apr-2023 22:24
Barium	**0.00503**		**0.00190**	**0.00400**	**mg/L**	1	25-Apr-2023 22:24
Beryllium	U		0.000200	0.00200	mg/L	1	26-Apr-2023 13:12
Boron	**1.83**		**0.110**	**0.200**	**mg/L**	10	26-Apr-2023 12:23
Cadmium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 22:24
Calcium	**515**		**0.340**	**5.00**	**mg/L**	10	26-Apr-2023 12:23
Chromium	U		0.000400	0.00400	mg/L	1	25-Apr-2023 22:24
Cobalt	**0.00118**	J	**0.000200**	**0.00500**	**mg/L**	1	25-Apr-2023 22:24
Iron	**0.159**	J	**0.0120**	**0.200**	**mg/L**	1	25-Apr-2023 22:24
Lead	U		0.000600	0.00200	mg/L	1	25-Apr-2023 22:24
Lithium	**0.329**		**0.0100**	**0.0500**	**mg/L**	10	26-Apr-2023 12:23
Magnesium	**102**		**0.0100**	**0.200**	**mg/L**	1	25-Apr-2023 22:24
Molybdenum	U		0.000600	0.00500	mg/L	1	25-Apr-2023 22:24
Potassium	**17.1**		**0.0180**	**0.200**	**mg/L**	1	25-Apr-2023 22:24
Selenium	U		0.00110	0.00200	mg/L	1	25-Apr-2023 22:24
Sodium	**161**		**0.0140**	**0.200**	**mg/L**	1	25-Apr-2023 22:24
Thallium	U		0.000200	0.00200	mg/L	1	25-Apr-2023 22:24
DISSOLVED METALS BY SW6020A		**Method:SW6020A (dissolved)**			Prep:SW3010A / 24-Apr-2023		Analyst: MSC
Iron	**0.0511**	J	**0.0120**	**0.200**	**mg/L**	1	25-Apr-2023 13:49
Molybdenum	U		0.000600	0.00500	mg/L	1	25-Apr-2023 13:49
MERCURY BY SW7470A		**Method:SW7470A**			Prep:SW7470A / 26-Apr-2023		Analyst: JS
Mercury	U		0.0000300	0.000200	mg/L	1	26-Apr-2023 14:08
ANIONS BY E300.0, REV 2.1, 1993		**Method:E300**					Analyst: TH
Chloride	**2.32**		**0.200**	**0.500**	**mg/L**	1	19-Apr-2023 13:35
Fluoride	**0.319**		**0.0500**	**0.100**	**mg/L**	1	19-Apr-2023 13:35
Nitrogen, Nitrate (As N)	**0.0482**	J	**0.0300**	**0.100**	**mg/L**	1	19-Apr-2023 13:35
Sulfate	**2,270**		**8.00**	**20.0**	**mg/L**	40	19-Apr-2023 13:58
CHEMICAL OXYGEN DEMAND BY E410.4, REV 2.0, 1993		**Method:E410.4**					Analyst: TH
Chemical Oxygen Demand	**6.00**	J	**5.00**	**15.0**	**mg/L**	1	26-Apr-2023 11:00
SPECIFIC CONDUCTANCE BY SM 2510B-2011		**Method:M2510 B**					Analyst: CD
Specific Conductivity	**3,330**		**5.00**	**5.00**	**umhos/cm @ 25.0 °C**	1	26-Apr-2023 14:29

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Altamira
Project: WFEC / CCR Impoundment
Sample ID: MW-22A
Collection Date: 18-Apr-2023 11:13

ANALYTICAL REPORT
WorkOrder:HS23040694
Lab ID:HS23040694-09
Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
TOTAL DISSOLVED SOLIDS BY SM2540C -2011		**Method:M2540C**					Analyst: DC
Total Dissolved Solids (Residue, Filterable)	**3,560**		**5.00**	**10.0**	**mg/L**	1	20-Apr-2023 11:00
ALKALINITY BY SM 2320B-2011		**Method:SM2320B**					Analyst: JAC
Alkalinity, Bicarbonate (As CaCO3)	**212**		**5.00**	**5.00**	**mg/L**	1	25-Apr-2023 19:12
Alkalinity, Carbonate (As CaCO3)	U		5.00	5.00	mg/L	1	25-Apr-2023 19:12
Alkalinity, Hydroxide (As CaCO3)	U		5.00	5.00	mg/L	1	25-Apr-2023 19:12
Alkalinity, Total (As CaCO3)	**212**		**5.00**	**5.00**	**mg/L**	1	25-Apr-2023 19:12
FERROUS IRON BY SM3500 FE B		**Method:SM3500FED**					Analyst: MZD
Ferrous Iron	**0.0430**	J	**0.0200**	**0.0500**	**mg/L**	1	19-Apr-2023 15:10
FERROUS IRON BY SM3500 FE D		**Method:SM3500FED (dissolved)**					Analyst: MZD
Ferrous Iron, Dissolved	U		0.0200	0.0500	mg/L	1	19-Apr-2023 15:47
SULFIDE BY SM4500 S2-F-2011		**Method:SM4500 S2-F**					Analyst: CD
Sulfide	U		1.70	2.00	mg/L	1	22-Apr-2023 11:39
PH BY SM4500H+ B-2011		**Method:SM4500H+ B**					Analyst: CD
pH	**7.08**	H	**0.100**	**0.100**	**pH Units**	1	25-Apr-2023 10:08
Temp Deg C @pH	**20.8**	H	**0**	**0**	**°C**	1	25-Apr-2023 10:08

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Weight / Prep Log

Client: Altamira
Project: WFEC / CCR Impoundment
WorkOrder: HS23040694

Batch ID: 192834 **Start Date:** 24 Apr 2023 13:00 **End Date:** 24 Apr 2023 13:00
Method: DISS METALS PREP - WATER - SW3010A **Prep Code:** 3010A DISS

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS23040694-09		10 (mL)	10 (mL)	1	250 mL plastic, HNO3 to pH <2

Batch ID: 192851 **Start Date:** 24 Apr 2023 12:30 **End Date:** 24 Apr 2023 12:30
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS23040694-01		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040694-02		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040694-03		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040694-04		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040694-05		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040694-06		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040694-07		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040694-08		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040694-09		10 (mL)	10 (mL)	1	250 mL plastic, HNO3 to pH <2

Batch ID: 192964 **Start Date:** 26 Apr 2023 08:30 **End Date:** 26 Apr 2023 08:30
Method: MERCURY PREP BY 7470A- WATER **Prep Code:** HG_WPR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS23040694-01		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040694-02		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040694-03		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040694-04		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040694-05		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040694-06		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040694-07		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040694-08		10 (mL)	10 (mL)	1	120 plastic HNO3
HS23040694-09		10 (mL)	10 (mL)	1	250 mL plastic, HNO3 to pH <2

Client: Altamira
Project: WFEC / CCR Impoundment
WorkOrder: HS23040694

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 192834 (0)	**Test Name :** DISSOLVED METALS BY SW6020A				**Matrix:** Water	
HS23040694-09	MW-22A	18 Apr 2023 11:13		24 Apr 2023 13:00	25 Apr 2023 13:49	1
Batch ID: 192851 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Water	
HS23040694-01	MW-8	11 Apr 2023 17:50		24 Apr 2023 12:30	26 Apr 2023 12:55	1
HS23040694-01	MW-8	11 Apr 2023 17:50		24 Apr 2023 12:30	26 Apr 2023 12:37	10
HS23040694-01	MW-8	11 Apr 2023 17:50		24 Apr 2023 12:30	25 Apr 2023 22:10	1
HS23040694-02	MW-23A	11 Apr 2023 15:45		24 Apr 2023 12:30	26 Apr 2023 12:31	10
HS23040694-02	MW-23A	11 Apr 2023 15:45		24 Apr 2023 12:30	25 Apr 2023 21:54	1
HS23040694-03	MW-24	11 Apr 2023 18:55		24 Apr 2023 12:30	26 Apr 2023 12:57	1
HS23040694-03	MW-24	11 Apr 2023 18:55		24 Apr 2023 12:30	26 Apr 2023 12:39	10
HS23040694-03	MW-24	11 Apr 2023 18:55		24 Apr 2023 12:30	25 Apr 2023 22:12	1
HS23040694-04	DUP-3	11 Apr 2023 17:50		24 Apr 2023 12:30	26 Apr 2023 12:59	1
HS23040694-04	DUP-3	11 Apr 2023 17:50		24 Apr 2023 12:30	26 Apr 2023 12:41	10
HS23040694-04	DUP-3	11 Apr 2023 17:50		24 Apr 2023 12:30	25 Apr 2023 22:14	1
HS23040694-05	MW-9	13 Apr 2023 09:17		24 Apr 2023 12:30	26 Apr 2023 13:01	1
HS23040694-05	MW-9	13 Apr 2023 09:17		24 Apr 2023 12:30	25 Apr 2023 22:16	1
HS23040694-06	MW-10	13 Apr 2023 10:22		24 Apr 2023 12:30	26 Apr 2023 13:03	1
HS23040694-06	MW-10	13 Apr 2023 10:22		24 Apr 2023 12:30	26 Apr 2023 12:43	10
HS23040694-06	MW-10	13 Apr 2023 10:22		24 Apr 2023 12:30	25 Apr 2023 22:18	1
HS23040694-07	MW-11	13 Apr 2023 11:27		24 Apr 2023 12:30	26 Apr 2023 13:05	1
HS23040694-07	MW-11	13 Apr 2023 11:27		24 Apr 2023 12:30	26 Apr 2023 12:45	10
HS23040694-07	MW-11	13 Apr 2023 11:27		24 Apr 2023 12:30	25 Apr 2023 22:20	1
HS23040694-08	MW-25R	12 Apr 2023 14:09		24 Apr 2023 12:30	26 Apr 2023 13:07	1
HS23040694-08	MW-25R	12 Apr 2023 14:09		24 Apr 2023 12:30	26 Apr 2023 12:47	10
HS23040694-08	MW-25R	12 Apr 2023 14:09		24 Apr 2023 12:30	25 Apr 2023 22:22	1
HS23040694-09	MW-22A	18 Apr 2023 11:13		24 Apr 2023 12:30	26 Apr 2023 13:12	1
HS23040694-09	MW-22A	18 Apr 2023 11:13		24 Apr 2023 12:30	26 Apr 2023 12:23	10
HS23040694-09	MW-22A	18 Apr 2023 11:13		24 Apr 2023 12:30	25 Apr 2023 22:24	1
Batch ID: 192964 (0)	**Test Name :** MERCURY BY SW7470A				**Matrix:** Water	
HS23040694-01	MW-8	11 Apr 2023 17:50		26 Apr 2023 08:30	26 Apr 2023 13:44	1
HS23040694-02	MW-23A	11 Apr 2023 15:45		26 Apr 2023 08:30	26 Apr 2023 13:45	1
HS23040694-03	MW-24	11 Apr 2023 18:55		26 Apr 2023 08:30	26 Apr 2023 13:50	1
HS23040694-04	DUP-3	11 Apr 2023 17:50		26 Apr 2023 08:30	26 Apr 2023 13:52	1
HS23040694-05	MW-9	13 Apr 2023 09:17		26 Apr 2023 08:30	26 Apr 2023 13:54	1
HS23040694-06	MW-10	13 Apr 2023 10:22		26 Apr 2023 08:30	26 Apr 2023 13:56	1
HS23040694-07	MW-11	13 Apr 2023 11:27		26 Apr 2023 08:30	26 Apr 2023 13:57	1
HS23040694-08	MW-25R	12 Apr 2023 14:09		26 Apr 2023 08:30	26 Apr 2023 14:06	1
HS23040694-09	MW-22A	18 Apr 2023 11:13		26 Apr 2023 08:30	26 Apr 2023 14:08	1

Client: Altamira
Project: WFEC / CCR Impoundment
WorkOrder: HS23040694

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R432628 (0)	**Test Name :** ANIONS BY E300.0, REV 2.1, 1993				**Matrix:** Water	
HS23040694-01	MW-8	11 Apr 2023 17:50			13 Apr 2023 14:19	50
HS23040694-01	MW-8	11 Apr 2023 17:50			13 Apr 2023 14:13	1
HS23040694-02	MW-23A	11 Apr 2023 15:45			13 Apr 2023 12:29	50
HS23040694-02	MW-23A	11 Apr 2023 15:45			13 Apr 2023 12:12	1
HS23040694-03	MW-24	11 Apr 2023 18:55			13 Apr 2023 15:00	50
HS23040694-03	MW-24	11 Apr 2023 18:55			13 Apr 2023 14:54	1
HS23040694-04	DUP-3	11 Apr 2023 17:50			13 Apr 2023 15:11	50
HS23040694-04	DUP-3	11 Apr 2023 17:50			13 Apr 2023 15:06	1
Batch ID: R432718 (0)	**Test Name :** SPECIFIC CONDUCTANCE BY SM 2510B-2011				**Matrix:** Water	
HS23040694-01	MW-8	11 Apr 2023 17:50			14 Apr 2023 17:01	1
HS23040694-02	MW-23A	11 Apr 2023 15:45			14 Apr 2023 17:01	1
HS23040694-03	MW-24	11 Apr 2023 18:55			14 Apr 2023 17:01	1
HS23040694-04	DUP-3	11 Apr 2023 17:50			14 Apr 2023 17:01	1
HS23040694-05	MW-9	13 Apr 2023 09:17			14 Apr 2023 17:01	1
Batch ID: R432738 (0)	**Test Name :** ANIONS BY E300.0, REV 2.1, 1993				**Matrix:** Water	
HS23040694-05	MW-9	13 Apr 2023 09:17			14 Apr 2023 12:11	1
HS23040694-06	MW-10	13 Apr 2023 10:22			14 Apr 2023 13:38	20
HS23040694-06	MW-10	13 Apr 2023 10:22			14 Apr 2023 12:17	1
HS23040694-07	MW-11	13 Apr 2023 11:27			14 Apr 2023 13:44	20
HS23040694-07	MW-11	13 Apr 2023 11:27			14 Apr 2023 12:22	1
HS23040694-08	MW-25R	12 Apr 2023 14:09			14 Apr 2023 13:03	20
HS23040694-08	MW-25R	12 Apr 2023 14:09			14 Apr 2023 11:42	1
Batch ID: R432824 (0)	**Test Name :** TOTAL DISSOLVED SOLIDS BY SM2540C-2011				**Matrix:** Water	
HS23040694-01	MW-8	11 Apr 2023 17:50			14 Apr 2023 13:07	1
HS23040694-02	MW-23A	11 Apr 2023 15:45			14 Apr 2023 13:07	1
HS23040694-03	MW-24	11 Apr 2023 18:55			14 Apr 2023 13:07	1
HS23040694-04	DUP-3	11 Apr 2023 17:50			14 Apr 2023 13:07	1
Batch ID: R432924 (0)	**Test Name :** TOTAL DISSOLVED SOLIDS BY SM2540C-2011				**Matrix:** Water	
HS23040694-05	MW-9	13 Apr 2023 09:17			17 Apr 2023 02:30	1
HS23040694-06	MW-10	13 Apr 2023 10:22			17 Apr 2023 02:30	1
HS23040694-07	MW-11	13 Apr 2023 11:27			17 Apr 2023 02:30	1
Batch ID: R432930 (0)	**Test Name :** TOTAL DISSOLVED SOLIDS BY SM2540C-2011				**Matrix:** Water	
HS23040694-08	MW-25R	12 Apr 2023 14:09			17 Apr 2023 12:00	1
Batch ID: R433149 (0)	**Test Name :** ANIONS BY E300.0, REV 2.1, 1993				**Matrix:** Water	
HS23040694-09	MW-22A	18 Apr 2023 11:13			19 Apr 2023 13:58	40
HS23040694-09	MW-22A	18 Apr 2023 11:13			19 Apr 2023 13:35	1

Client: Altamira
Project: WFEC / CCR Impoundment
WorkOrder: HS23040694

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R433183 (0)	**Test Name :** FERROUS IRON BY SM3500 FE D				**Matrix:** Water	
HS23040694-09	MW-22A	18 Apr 2023 11:13			19 Apr 2023 15:47	1
Batch ID: R433330 (0)	**Test Name :** SPECIFIC CONDUCTANCE BY SM 2510B-2011				**Matrix:** Water	
HS23040694-06	MW-10	13 Apr 2023 10:22			21 Apr 2023 16:54	1
HS23040694-07	MW-11	13 Apr 2023 11:27			21 Apr 2023 16:54	1
Batch ID: R433350 (0)	**Test Name :** PH BY SM4500H+ B-2011				**Matrix:** Water	
HS23040694-01	MW-8	11 Apr 2023 17:50			22 Apr 2023 11:11	1
HS23040694-02	MW-23A	11 Apr 2023 15:45			22 Apr 2023 11:11	1
HS23040694-03	MW-24	11 Apr 2023 18:55			22 Apr 2023 11:11	1
HS23040694-04	DUP-3	11 Apr 2023 17:50			22 Apr 2023 11:11	1
HS23040694-05	MW-9	13 Apr 2023 09:17			22 Apr 2023 11:11	1
Batch ID: R433352 (0)	**Test Name :** SULFIDE BY SM4500 S2-F-2011				**Matrix:** Water	
HS23040694-09	MW-22A	18 Apr 2023 11:13			22 Apr 2023 11:39	1
Batch ID: R433354 (0)	**Test Name :** PH BY SM4500H+ B-2011				**Matrix:** Water	
HS23040694-08	MW-25R	12 Apr 2023 14:09			22 Apr 2023 14:02	1
Batch ID: R433412 (0)	**Test Name :** TOTAL DISSOLVED SOLIDS BY SM2540C-2011				**Matrix:** Water	
HS23040694-09	MW-22A	18 Apr 2023 11:13			20 Apr 2023 11:00	1
Batch ID: R433610 (0)	**Test Name :** PH BY SM4500H+ B-2011				**Matrix:** Water	
HS23040694-06	MW-10	13 Apr 2023 10:22			25 Apr 2023 10:08	1
HS23040694-09	MW-22A	18 Apr 2023 11:13			25 Apr 2023 10:08	1
Batch ID: R433630 (0)	**Test Name :** ALKALINITY BY SM 2320B-2011				**Matrix:** Water	
HS23040694-09	MW-22A	18 Apr 2023 11:13			25 Apr 2023 19:12	1
Batch ID: R433632 (0)	**Test Name :** CHEMICAL OXYGEN DEMAND BY E410.4, REV 2.0, 1993				**Matrix:** Water	
HS23040694-01	MW-8	11 Apr 2023 17:50			26 Apr 2023 11:00	1
HS23040694-02	MW-23A	11 Apr 2023 15:45			26 Apr 2023 11:00	1
HS23040694-03	MW-24	11 Apr 2023 18:55			26 Apr 2023 11:00	1
HS23040694-04	DUP-3	11 Apr 2023 17:50			26 Apr 2023 11:00	1
HS23040694-05	MW-9	13 Apr 2023 09:17			26 Apr 2023 11:00	1
HS23040694-06	MW-10	13 Apr 2023 10:22			26 Apr 2023 11:00	1
HS23040694-07	MW-11	13 Apr 2023 11:27			26 Apr 2023 11:00	1
HS23040694-08	MW-25R	12 Apr 2023 14:09			26 Apr 2023 11:00	1
HS23040694-09	MW-22A	18 Apr 2023 11:13			26 Apr 2023 11:00	1
Batch ID: R433648 (0)	**Test Name :** FERRIC IRON - BY CALCULATION BY SM3500FED				**Matrix:** Water	
HS23040694-09	MW-22A	18 Apr 2023 11:13			26 Apr 2023 13:56	1
Batch ID: R433649 (0)	**Test Name :** FERRIC IRON (DISS)- BY CALCULATION BY SM3500FED				**Matrix:** Water	
HS23040694-09	MW-22A	18 Apr 2023 11:13			26 Apr 2023 13:59	1

Client: Altamira
Project: WFEC / CCR Impoundment
WorkOrder: HS23040694

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R433653 (0)	**Test Name :** SPECIFIC CONDUCTANCE BY SM 2510B-2011				**Matrix:** Water	
HS23040694-08	MW-25R	12 Apr 2023 14:09			26 Apr 2023 14:29	1
HS23040694-09	MW-22A	18 Apr 2023 11:13			26 Apr 2023 14:29	1
Batch ID: R433657 (0)	**Test Name :** PH BY SM4500H+ B-2011				**Matrix:** Water	
HS23040694-07	MW-11	13 Apr 2023 11:27			26 Apr 2023 15:03	1
Batch ID: R433664 (0)	**Test Name :** FERROUS IRON BY SM3500 FE B				**Matrix:** Water	
HS23040694-09	MW-22A	18 Apr 2023 11:13			19 Apr 2023 15:10	1
Batch ID: R433745 (0)	**Test Name :** PH BY SM4500H+ B-2011				**Matrix:** Water	
HS23040694-07	MW-11	13 Apr 2023 11:27			26 Apr 2023 13:45	1

Client: Altamira
Project: WFEC / CCR Impoundment
WorkOrder: HS23040694

QC BATCH REPORT

Batch ID: 192834 (0) **Instrument: ICPMS05** **Method: DISSOLVED METALS BY SW6020A (DISSOLVED)**

MBLK Sample ID: **MBLKF1-192834** Units: **mg/L** Analysis Date: **25-Apr-2023 12:42**
Client ID: Run ID: **ICPMS05_433508** SeqNo: **7259702** PrepDate: **24-Apr-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Iron	U	0.200								
Molybdenum	U	0.00500								

MBLK Sample ID: **MBLK-192834** Units: **mg/L** Analysis Date: **25-Apr-2023 12:40**
Client ID: Run ID: **ICPMS05_433508** SeqNo: **7259701** PrepDate: **24-Apr-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Iron	U	0.200								
Molybdenum	U	0.00500								

LCS Sample ID: **LCS-192834** Units: **mg/L** Analysis Date: **25-Apr-2023 12:44**
Client ID: Run ID: **ICPMS05_433508** SeqNo: **7259703** PrepDate: **24-Apr-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Iron	4.939	0.200	5	0	98.8	80 - 120				
Molybdenum	0.04494	0.00500	0.05	0	89.9	80 - 120				

MS Sample ID: **HS23041141-02MS** Units: **mg/L** Analysis Date: **25-Apr-2023 13:13**
Client ID: Run ID: **ICPMS05_433508** SeqNo: **7259792** PrepDate: **24-Apr-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Iron	4.784	0.200	5	0.005224	95.6	75 - 125				
Molybdenum	0.06035	0.00500	0.05	0.009597	102	75 - 125				

MSD Sample ID: **HS23041141-02MSD** Units: **mg/L** Analysis Date: **25-Apr-2023 13:15**
Client ID: Run ID: **ICPMS05_433508** SeqNo: **7259793** PrepDate: **24-Apr-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Iron	4.067	0.200	5	0.005224	81.2	75 - 125	4.784	16.2	20	
Molybdenum	0.05103	0.00500	0.05	0.009597	82.9	75 - 125	0.06035	16.7	20	

Client: Altamira
Project: WFEC / CCR Impoundment
WorkOrder: HS23040694

QC BATCH REPORT

Batch ID: 192834 (0) **Instrument: ICPMS05** **Method: DISSOLVED METALS BY SW6020A (DISSOLVED)**

PDS Sample ID: **HS23041141-02PDS** Units: **mg/L** Analysis Date: **25-Apr-2023 13:17**
Client ID: Run ID: **ICPMS05_433508** SeqNo: **7259794** PrepDate: **24-Apr-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Iron	9.552	0.200	10	0.005224	95.5	75 - 125				
Molybdenum	0.1039	0.00500	0.1	0.009597	94.3	75 - 125				

SD Sample ID: **HS23041141-02SD** Units: **mg/L** Analysis Date: **25-Apr-2023 13:08**
Client ID: Run ID: **ICPMS05_433508** SeqNo: **7259790** PrepDate: **24-Apr-2023** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Iron	U	1.00					0.005224	0	10	
Molybdenum	0.009595	0.0250					0.009597	0	10	J

The following samples were analyzed in this batch: HS23040694-09

Client: Altamira
Project: WFEC / CCR Impoundment
WorkOrder: HS23040694

QC BATCH REPORT

Batch ID: 192851 (0) **Instrument: ICPMS06** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-192851** Units: **mg/L** Analysis Date: **25-Apr-2023 21:50**
Client ID: Run ID: **ICPMS06_433539** SeqNo: **7261270** PrepDate: **24-Apr-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	U	0.00200								
Arsenic	U	0.00200								
Barium	U	0.00400								
Beryllium	U	0.00200								
Boron	U	0.0200								
Cadmium	U	0.00200								
Calcium	0.09116	0.500								J
Chromium	U	0.00400								
Cobalt	U	0.00500								
Iron	U	0.200								
Lead	U	0.00200								
Lithium	U	0.00500								
Magnesium	0.01156	0.200								J
Molybdenum	U	0.00500								
Potassium	U	0.200								
Selenium	U	0.00200								
Sodium	U	0.200								
Thallium	U	0.00200								

Client: Altamira
Project: WFEC / CCR Impoundment
WorkOrder: HS23040694

QC BATCH REPORT

Batch ID: 192851 (0) **Instrument: ICPMS06** **Method: ICP-MS METALS BY SW6020A**

LCS Sample ID: **LCS-192851** Units: **mg/L** Analysis Date: **25-Apr-2023 21:52**
Client ID: Run ID: **ICPMS06_433539** SeqNo: **7261271** PrepDate: **24-Apr-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.04835	0.00200	0.05	0	96.7	80 - 120				
Arsenic	0.04884	0.00200	0.05	0	97.7	80 - 120				
Barium	0.04822	0.00400	0.05	0	96.4	80 - 120				
Beryllium	0.04844	0.00200	0.05	0	96.9	80 - 120				
Boron	0.4899	0.0200	0.5	0	98.0	80 - 120				
Cadmium	0.04981	0.00200	0.05	0	99.6	80 - 120				
Calcium	4.638	0.500	5	0	92.8	80 - 120				
Chromium	0.04633	0.00400	0.05	0	92.7	80 - 120				
Cobalt	0.04865	0.00500	0.05	0	97.3	80 - 120				
Iron	4.829	0.200	5	0	96.6	80 - 120				
Lead	0.04797	0.00200	0.05	0	95.9	80 - 120				
Lithium	0.1005	0.00500	0.1	0	101	80 - 120				
Magnesium	4.871	0.200	5	0	97.4	80 - 120				
Molybdenum	0.04633	0.00500	0.05	0	92.7	80 - 120				
Potassium	4.694	0.200	5	0	93.9	80 - 120				
Selenium	0.05263	0.00200	0.05	0	105	80 - 120				
Sodium	4.782	0.200	5	0	95.6	80 - 120				
Thallium	0.04362	0.00200	0.05	0	87.2	80 - 120				

Client: Altamira
Project: WFEC / CCR Impoundment
WorkOrder: HS23040694

QC BATCH REPORT

Batch ID: 192851 (0) **Instrument: ICPMS06** **Method: ICP-MS METALS BY SW6020A**

MS Sample ID: **HS23040694-02MS** Units: **mg/L** Analysis Date: **25-Apr-2023 21:58**
Client ID: **MW-23A** Run ID: **ICPMS06_433539** SeqNo: **7261274** PrepDate: **24-Apr-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.04819	0.00200	0.05	0.000033	96.3	80 - 120				
Arsenic	0.05373	0.00200	0.05	0.000667	106	80 - 120				
Barium	0.05141	0.00400	0.05	0.002698	97.4	80 - 120				
Beryllium	0.04636	0.00200	0.05	0.000035	92.7	80 - 120				
Boron	1.537	0.0200	0.5	1.076	92.3	80 - 120				E
Cadmium	0.04796	0.00200	0.05	0.000016	95.9	80 - 120				
Calcium	547.6	0.500	5	564.3	-335	80 - 120				SEO
Chromium	0.04862	0.00400	0.05	-0.000228	97.7	80 - 120				
Cobalt	0.05004	0.00500	0.05	0.001054	98.0	80 - 120				
Iron	5.038	0.200	5	0.03528	100	80 - 120				
Lead	0.04982	0.00200	0.05	0.000068	99.5	80 - 120				
Lithium	0.3323	0.00500	0.1	0.2416	90.8	80 - 120				E
Magnesium	97.17	0.200	5	93.76	68.0	80 - 120				SO
Molybdenum	0.04868	0.00500	0.05	0.000182	97.0	80 - 120				
Potassium	17.7	0.200	5	13.15	91.0	80 - 120				
Selenium	0.05774	0.00200	0.05	0.000358	115	80 - 120				
Sodium	149.6	0.200	5	148.9	14.8	80 - 120				SO
Thallium	0.04578	0.00200	0.05	0.000252	91.1	80 - 120				

Client: Altamira
Project: WFEC / CCR Impoundment
WorkOrder: HS23040694

QC BATCH REPORT

Batch ID: 192851 (0) **Instrument: ICPMS06** **Method: ICP-MS METALS BY SW6020A**

MSD Sample ID: **HS23040694-02MSD** Units: **mg/L** Analysis Date: **25-Apr-2023 22:00**
Client ID: **MW-23A** Run ID: **ICPMS06_433539** SeqNo: **7261232** PrepDate: **24-Apr-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.04718	0.00200	0.05	0.000033	94.3	80 - 120	0.04819	2.12	20	
Arsenic	0.05242	0.00200	0.05	0.000667	104	80 - 120	0.05373	2.48	20	
Barium	0.05145	0.00400	0.05	0.002698	97.5	80 - 120	0.05141	0.0797	20	
Beryllium	0.04648	0.00200	0.05	0.000035	92.9	80 - 120	0.04636	0.252	20	
Boron	1.546	0.0200	0.5	1.076	94.0	80 - 120	1.537	0.575	20	E
Cadmium	0.04804	0.00200	0.05	0.000016	96.0	80 - 120	0.04796	0.156	20	
Calcium	539.1	0.500	5	564.3	-505	80 - 120	547.6	1.56	20	SEO
Chromium	0.04716	0.00400	0.05	-0.000228	94.8	80 - 120	0.04862	3.05	20	
Cobalt	0.04861	0.00500	0.05	0.001054	95.1	80 - 120	0.05004	2.91	20	
Iron	4.836	0.200	5	0.03528	96.0	80 - 120	5.038	4.1	20	
Lead	0.04902	0.00200	0.05	0.000068	97.9	80 - 120	0.04982	1.64	20	
Lithium	0.3317	0.00500	0.1	0.2416	90.1	80 - 120	0.3323	0.198	20	E
Magnesium	92.55	0.200	5	93.76	-24.3	80 - 120	97.17	4.87	20	SO
Molybdenum	0.04873	0.00500	0.05	0.000182	97.1	80 - 120	0.04868	0.105	20	
Potassium	17.32	0.200	5	13.15	83.5	80 - 120	17.7	2.15	20	
Selenium	0.05862	0.00200	0.05	0.000358	117	80 - 120	0.05774	1.51	20	
Sodium	145.9	0.200	5	148.9	-60.1	80 - 120	149.6	2.54	20	SO
Thallium	0.04532	0.00200	0.05	0.000252	90.1	80 - 120	0.04578	1.02	20	

Client: Altamira
Project: WFEC / CCR Impoundment
WorkOrder: HS23040694

QC BATCH REPORT

Batch ID: 192851 (0) **Instrument: ICPMS06** **Method: ICP-MS METALS BY SW6020A**

PDS Sample ID: **HS23040694-02PDS** Units: **mg/L** Analysis Date: **25-Apr-2023 22:02**
Client ID: **MW-23A** Run ID: **ICPMS06_433539** SeqNo: **7261233** PrepDate: **24-Apr-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.09258	0.00200	0.1	0.000033	92.6	75 - 125				
Arsenic	0.104	0.00200	0.1	0.000667	103	75 - 125				
Barium	0.09677	0.00400	0.1	0.002698	94.1	75 - 125				
Beryllium	0.08896	0.00200	0.1	0.000035	88.9	75 - 125				
Cadmium	0.09211	0.00200	0.1	0.000016	92.1	75 - 125				
Chromium	0.09716	0.00400	0.1	-0.000228	97.4	75 - 125				
Cobalt	0.1014	0.00500	0.1	0.001054	100	75 - 125				
Iron	9.745	0.200	10	0.03528	97.1	75 - 125				
Lead	0.09673	0.00200	0.1	0.000068	96.7	75 - 125				
Magnesium	97.68	0.200	10	93.76	39.1	75 - 125				SO
Molybdenum	0.08957	0.00500	0.1	0.000182	89.4	75 - 125				
Potassium	21.78	0.200	10	13.15	86.3	75 - 125				
Selenium	0.1157	0.00200	0.1	0.000358	115	75 - 125				
Sodium	149	0.200	10	148.9	1.06	75 - 125				SO
Thallium	0.1009	0.00200	0.1	0.000252	101	75 - 125				

PDS Sample ID: **HS23040694-02PDS** Units: **mg/L** Analysis Date: **26-Apr-2023 12:35**
Client ID: **MW-23A** Run ID: **ICPMS06_433624** SeqNo: **7262377** PrepDate: **24-Apr-2023** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	6.241	0.200	5	1.139	102	75 - 125				
Calcium	621.2	5.00	100	552.4	68.9	75 - 125				SO
Lithium	1.19	0.0500	1	0.2463	94.4	70 - 125				

Client: Altamira
Project: WFEC / CCR Impoundment
WorkOrder: HS23040694

QC BATCH REPORT

Batch ID: 192851 (0) **Instrument: ICPMS06** **Method: ICP-MS METALS BY SW6020A**

SD Sample ID: **HS23040694-02SD** Units: **mg/L** Analysis Date: **25-Apr-2023 21:56**
Client ID: **MW-23A** Run ID: **ICPMS06_433539** SeqNo: **7261273** PrepDate: **24-Apr-2023** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Antimony	U	0.0100					0.000033	0	10	
Arsenic	U	0.0100					0.000667	0	10	
Barium	U	0.0200					0.002698	0	10	
Beryllium	U	0.0100					0.000035	0	10	
Cadmium	U	0.0100					0.000016	0	10	
Chromium	U	0.0200					-0.000228	0	10	
Cobalt	0.001021	0.0250					0.001054	0	10	J
Iron	U	1.00					0.03528	0	10	
Lead	U	0.0100					0.000068	0	10	
Magnesium	92.47	1.00					93.76	1.38	10	
Molybdenum	U	0.0250					0.000182	0	10	
Potassium	12.67	1.00					13.15	3.61	10	
Selenium	U	0.0100					0.000358	0	10	
Sodium	145.9	1.00					148.9	1.98	10	
Thallium	U	0.0100					0.000252	0	10	

SD Sample ID: **HS23040694-02SD** Units: **mg/L** Analysis Date: **26-Apr-2023 12:33**
Client ID: **MW-23A** Run ID: **ICPMS06_433624** SeqNo: **7262376** PrepDate: **24-Apr-2023** DF: **50**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Boron	1.266	1.00					1.139	11.2	10	R
Calcium	543.7	25.0					552.4	1.58	10	
Lithium	0.2451	0.250					0.2463	0	10	J

The following samples were analyzed in this batch: HS23040694-01 HS23040694-02 HS23040694-03 HS23040694-04 HS23040694-05 HS23040694-06 HS23040694-07 HS23040694-08 HS23040694-09

Client: Altamira
Project: WFEC / CCR Impoundment
WorkOrder: HS23040694

QC BATCH REPORT

Batch ID: 192964 (0) **Instrument: HG04** **Method: MERCURY BY SW7470A**

MBLK Sample ID: **MBLK-192964** Units: **mg/L** Analysis Date: **26-Apr-2023 13:16**
Client ID: Run ID: **HG04_433673** SeqNo: **7263128** PrepDate: **26-Apr-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	U	0.000200								

LCS Sample ID: **LCS-192964** Units: **mg/L** Analysis Date: **26-Apr-2023 13:20**
Client ID: Run ID: **HG04_433673** SeqNo: **7263129** PrepDate: **26-Apr-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00446	0.000200	0.005	0	89.2	80 - 120				

MS Sample ID: **HS23040694-02MS** Units: **mg/L** Analysis Date: **26-Apr-2023 13:47**
Client ID: **MW-23A** Run ID: **HG04_433673** SeqNo: **7263143** PrepDate: **26-Apr-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00485	0.000200	0.005	0.000005	96.9	75 - 125				

MSD Sample ID: **HS23040694-02MSD** Units: **mg/L** Analysis Date: **26-Apr-2023 13:49**
Client ID: **MW-23A** Run ID: **HG04_433673** SeqNo: **7263144** PrepDate: **26-Apr-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00508	0.000200	0.005	0.000005	102	75 - 125	0.00485	4.63	20	

The following samples were analyzed in this batch:

HS23040694-01	HS23040694-02	HS23040694-03	HS23040694-04
HS23040694-05	HS23040694-06	HS23040694-07	HS23040694-08
HS23040694-09			

Client: Altamira
Project: WFEC / CCR Impoundment
WorkOrder: HS23040694

QC BATCH REPORT

Batch ID: R432628 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY E300.0, REV 2.1, 1993**

MBLK Sample ID: **MBLK** Units: **mg/L** Analysis Date: **13-Apr-2023 12:00**
Client ID: Run ID: **ICS-Integrion_432628** SeqNo: **7236424** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	U	0.500								
Fluoride	U	0.100								
Nitrogen, Nitrate (As N)	U	0.100								
Sulfate	U	0.500								

LCS Sample ID: **LCS** Units: **mg/L** Analysis Date: **13-Apr-2023 12:06**
Client ID: Run ID: **ICS-Integrion_432628** SeqNo: **7236425** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.68	0.500	20	0	98.4	90 - 110				
Fluoride	4.036	0.100	4	0	101	90 - 110				
Nitrogen, Nitrate (As N)	3.962	0.100	4	0	99.1	90 - 110				
Sulfate	19.55	0.500	20	0	97.8	90 - 110				

MS Sample ID: **HS23040694-02MS** Units: **mg/L** Analysis Date: **13-Apr-2023 12:18**
Client ID: **MW-23A** Run ID: **ICS-Integrion_432628** SeqNo: **7236427** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	21.86	0.500	10	12.16	97.0	80 - 120				
Fluoride	2.095	0.100	2	0.302	89.6	80 - 120				
Nitrogen, Nitrate (As N)	1.827	0.100	2	0	91.3	80 - 120				
Sulfate	1696	0.500	10	1763	-672	80 - 120				SEO

MS Sample ID: **HS23040411-01MS** Units: **mg/L** Analysis Date: **13-Apr-2023 17:54**
Client ID: Run ID: **ICS-Integrion_432628** SeqNo: **7236472** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	609.2	5.00	100	536.6	72.6	80 - 120				SO
Fluoride	24.99	1.00	20	4.704	101	80 - 120				
Nitrogen, Nitrate (As N)	29.92	1.00	20	10.5	97.1	80 - 120				
Sulfate	933.2	5.00	100	905	28.3	80 - 120				SO

Client: Altamira
Project: WFEC / CCR Impoundment
WorkOrder: HS23040694

QC BATCH REPORT

Batch ID: R432628 (0) **Instrument:** ICS-Integrion **Method:** ANIONS BY E300.0, REV 2.1, 1993

MSD Sample ID: **HS23040694-02MSD** Units: **mg/L** Analysis Date: **13-Apr-2023 12:24**
Client ID: **MW-23A** Run ID: **ICS-Integrion_432628** SeqNo: **7236428** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	21.99	0.500	10	12.16	98.3	80 - 120	21.86	0.597	20	
Fluoride	2.345	0.100	2	0.302	102	80 - 120	2.095	11.3	20	
Nitrogen, Nitrate (As N)	1.837	0.100	2	0	91.9	80 - 120	1.827	0.568	20	
Sulfate	1698	0.500	10	1763	-652	80 - 120	1696	0.122	20	SEO

MSD Sample ID: **HS23040411-01MSD** Units: **mg/L** Analysis Date: **13-Apr-2023 18:00**
Client ID: Run ID: **ICS-Integrion_432628** SeqNo: **7236473** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	608.9	5.00	100	536.6	72.3	80 - 120	609.2	0.0558	20	SO
Fluoride	25.07	1.00	20	4.704	102	80 - 120	24.99	0.332	20	
Nitrogen, Nitrate (As N)	29.95	1.00	20	10.5	97.2	80 - 120	29.92	0.104	20	
Sulfate	930.2	5.00	100	905	25.2	80 - 120	933.2	0.328	20	SO

The following samples were analyzed in this batch: HS23040694-01 HS23040694-02 HS23040694-03 HS23040694-04

Client: Altamira
Project: WFEC / CCR Impoundment
WorkOrder: HS23040694

QC BATCH REPORT

Batch ID: R432718 (0) **Instrument:** WetChem_HS **Method:** SPECIFIC CONDUCTANCE BY SM 2510B-2011

MBLK Sample ID: **MBLK-R432718** Units: **umhos/cm @ 25.0 °C** Analysis Date: **14-Apr-2023 17:01**
Client ID: Run ID: **WetChem_HS_432718** SeqNo: **7238632** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	U	5.00								

LCS Sample ID: **LCS-R432718** Units: **umhos/cm @ 25.0 °C** Analysis Date: **14-Apr-2023 17:01**
Client ID: Run ID: **WetChem_HS_432718** SeqNo: **7238631** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	1390	5.00	1413	0	98.4	80 - 120				

DUP Sample ID: **HS23040694-02DUP** Units: **umhos/cm @ 25.0 °C** Analysis Date: **14-Apr-2023 17:01**
Client ID: **MW-23A** Run ID: **WetChem_HS_432718** SeqNo: **7238633** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	3310	5.00					3280	0.91	20	

The following samples were analyzed in this batch: HS23040694-01 HS23040694-02 HS23040694-03 HS23040694-04 HS23040694-05

Client: Altamira
Project: WFEC / CCR Impoundment
WorkOrder: HS23040694

QC BATCH REPORT

Batch ID: R432738 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY E300.0, REV 2.1, 1993**

MBLK Sample ID: **MBLK** Units: **mg/L** Analysis Date: **14-Apr-2023 14:36**
Client ID: Run ID: **ICS-Integrion_432738** SeqNo: **7239550** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	U	0.500								
Fluoride	U	0.100								
Nitrogen, Nitrate (As N)	U	0.100								
Nitrogen, Nitrite (As N)	U	0.100								
Sulfate	U	0.500								

LCS Sample ID: **LCS** Units: **mg/L** Analysis Date: **14-Apr-2023 14:44**
Client ID: Run ID: **ICS-Integrion_432738** SeqNo: **7239551** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.5	0.500	20	0	97.5	90 - 110				
Fluoride	4.074	0.100	4	0	102	90 - 110				
Nitrogen, Nitrate (As N)	3.936	0.100	4	0	98.4	90 - 110				
Nitrogen, Nitrite (As N)	3.943	0.100	4	0	98.6	90 - 110				
Sulfate	19.2	0.500	20	0	96.0	90 - 110				

MS Sample ID: **HS23040723-01MS** Units: **mg/L** Analysis Date: **14-Apr-2023 14:24**
Client ID: Run ID: **ICS-Integrion_432738** SeqNo: **7239548** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	57.35	0.500	10	49.54	78.1	80 - 120				SO
Fluoride	2.653	0.100	2	0.551	105	80 - 120				
Nitrogen, Nitrate (As N)	3.546	0.100	2	1.569	98.9	80 - 120				
Nitrogen, Nitrite (As N)	1.847	0.100	2	0	92.4	80 - 120				
Sulfate	59.31	0.500	10	53.38	59.3	80 - 120				SO

Client: Altamira
Project: WFEC / CCR Impoundment
WorkOrder: HS23040694

QC BATCH REPORT

Batch ID: R432738 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY E300.0, REV 2.1, 1993**

MSD Sample ID: **HS23040723-01MSD** Units: **mg/L** Analysis Date: **14-Apr-2023 14:30**
Client ID: Run ID: **ICS-Integrion_432738** SeqNo: **7239549** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	57.34	0.500	10	49.54	78.0	80 - 120	57.35	0.0122	20	SO
Fluoride	2.623	0.100	2	0.551	104	80 - 120	2.653	1.14	20	
Nitrogen, Nitrate (As N)	3.544	0.100	2	1.569	98.8	80 - 120	3.546	0.0536	20	
Nitrogen, Nitrite (As N)	1.841	0.100	2	0	92.0	80 - 120	1.847	0.347	20	
Sulfate	59.26	0.500	10	53.38	58.8	80 - 120	59.31	0.0852	20	SO

The following samples were analyzed in this batch: HS23040694-05 HS23040694-06 HS23040694-07 HS23040694-08

Client: Altamira
Project: WFEC / CCR Impoundment
WorkOrder: HS23040694

QC BATCH REPORT

Batch ID: R432824 (0) **Instrument:** Balance1 **Method:** TOTAL DISSOLVED SOLIDS BY SM2540C-2011

MBLK Sample ID: **WBLK-04142023** Units: **mg/L** Analysis Date: **14-Apr-2023 13:07**
Client ID: Run ID: **Balance1_432824** SeqNo: **7241643** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	U	10.0								

LCS Sample ID: **LCS-04142023** Units: **mg/L** Analysis Date: **14-Apr-2023 13:07**
Client ID: Run ID: **Balance1_432824** SeqNo: **7241642** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	1060	10.0	1000	0	106	85 - 115				

DUP Sample ID: **HS23040697-05DUP** Units: **mg/L** Analysis Date: **14-Apr-2023 13:07**
Client ID: Run ID: **Balance1_432824** SeqNo: **7241632** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	2240	10.0					2236	0.179	20	

DUP Sample ID: **HS23040694-02DUP** Units: **mg/L** Analysis Date: **14-Apr-2023 13:07**
Client ID: **MW-23A** Run ID: **Balance1_432824** SeqNo: **7241624** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	3240	10.0					3220	0.619	20	

The following samples were analyzed in this batch: HS23040694-01 HS23040694-02 HS23040694-03 HS23040694-04

Client: Altamira
Project: WFEC / CCR Impoundment
WorkOrder: HS23040694

QC BATCH REPORT

Batch ID: R432924 (0) **Instrument:** Balance1 **Method:** TOTAL DISSOLVED SOLIDS BY SM2540C-2011

MBLK Sample ID: **WBLK-04172023** Units: **mg/L** Analysis Date: **17-Apr-2023 02:30**
Client ID: Run ID: **Balance1_432924** SeqNo: **7244450** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	U	10.0								

LCS Sample ID: **LCS-04172023** Units: **mg/L** Analysis Date: **17-Apr-2023 02:30**
Client ID: Run ID: **Balance1_432924** SeqNo: **7244449** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	1074	10.0	1000	0	107	85 - 115				

DUP Sample ID: **HS23040843-04DUP** Units: **mg/L** Analysis Date: **17-Apr-2023 02:30**
Client ID: Run ID: **Balance1_432924** SeqNo: **7244446** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	6760	10.0					6780	0.295	20	

DUP Sample ID: **HS23040819-04DUP** Units: **mg/L** Analysis Date: **17-Apr-2023 02:30**
Client ID: Run ID: **Balance1_432924** SeqNo: **7244440** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	630	10.0					632	0.317	20	

The following samples were analyzed in this batch: HS23040694-05 HS23040694-06 HS23040694-07

Client: Altamira
Project: WFEC / CCR Impoundment
WorkOrder: HS23040694

QC BATCH REPORT

Batch ID: R432930 (0) **Instrument:** Balance1 **Method:** TOTAL DISSOLVED SOLIDS BY SM2540C-2011

MBLK Sample ID: **WBLK-04172023** Units: **mg/L** Analysis Date: **17-Apr-2023 12:00**
Client ID: Run ID: **Balance1_432930** SeqNo: **7244542** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	U	10.0								

LCS Sample ID: **LCS-04172023** Units: **mg/L** Analysis Date: **17-Apr-2023 12:00**
Client ID: Run ID: **Balance1_432930** SeqNo: **7244541** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	1074	10.0	1000	0	107	85 - 115				

DUP Sample ID: **HS23040897-02DUP** Units: **mg/L** Analysis Date: **17-Apr-2023 12:00**
Client ID: Run ID: **Balance1_432930** SeqNo: **7244536** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	728	10.0					730	0.274	20	

DUP Sample ID: **HS23040808-01DUP** Units: **mg/L** Analysis Date: **17-Apr-2023 12:00**
Client ID: Run ID: **Balance1_432930** SeqNo: **7244527** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	786	10.0					784	0.255	20	

The following samples were analyzed in this batch: HS23040694-08

Client: Altamira
Project: WFEC / CCR Impoundment
WorkOrder: HS23040694

QC BATCH REPORT

Batch ID: R433149 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY E300.0, REV 2.1, 1993**

MBLK Sample ID: **MBLK** Units: **mg/L** Analysis Date: **19-Apr-2023 11:18**
Client ID: Run ID: **ICS-Integrion_433149** SeqNo: **7249953** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	U	0.500								
Fluoride	U	0.100								
Nitrogen, Nitrate (As N)	U	0.100								
Nitrogen, Nitrite (As N)	U	0.100								
Nitrate/Nitrite (as N)	U	0.200								
Sulfate	U	0.500								

LCS Sample ID: **LCS** Units: **mg/L** Analysis Date: **19-Apr-2023 11:24**
Client ID: Run ID: **ICS-Integrion_433149** SeqNo: **7249954** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	20.2	0.500	20	0	101	90 - 110				
Fluoride	4.12	0.100	4	0	103	90 - 110				
Nitrogen, Nitrate (As N)	4.088	0.100	4	0	102	90 - 110				
Nitrogen, Nitrite (As N)	4.04	0.100	4	0	101	90 - 110				
Nitrate/Nitrite (as N)	8.128	0.200	8	0	102	90 - 110				
Sulfate	19.9	0.500	20	0	99.5	90 - 110				

MS Sample ID: **HS23040697-13MS** Units: **mg/L** Analysis Date: **19-Apr-2023 13:06**
Client ID: Run ID: **ICS-Integrion_433149** SeqNo: **7249966** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	22.48	0.500	10	12.79	96.9	80 - 120				
Fluoride	3.324	0.100	2	1.474	92.5	80 - 120				
Nitrogen, Nitrate (As N)	1.815	0.100	2	0	90.7	80 - 120				
Nitrogen, Nitrite (As N)	0.4816	0.100	2	0	24.1	80 - 120				S
Nitrate/Nitrite (as N)	2.296	0.200	4	0	57.4	80 - 120				S
Sulfate	1400	0.500	10	1470	-695	80 - 120				SEO

Client: Altamira
Project: WFEC / CCR Impoundment
WorkOrder: HS23040694

QC BATCH REPORT

Batch ID: R433149 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY E300.0, REV 2.1, 1993**

MS Sample ID: **HS23040356-02MS** Units: **mg/L** Analysis Date: **19-Apr-2023 14:56**
Client ID: Run ID: **ICS-Integrion_433149** SeqNo: **7249980** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	25.06	0.500	10	15	101	80 - 120				
Fluoride	2.487	0.100	2	0.4276	103	80 - 120				
Nitrogen, Nitrate (As N)	2.563	0.100	2	0.4626	105	80 - 120				
Nitrogen, Nitrite (As N)	1.299	0.100	2	0	65.0	80 - 120				S
Nitrate/Nitrite (as N)	3.862	0.200	4	0.4626	85.0	80 - 120				
Sulfate	659.4	0.500	10	670.2	-108	80 - 120				SEO

MSD Sample ID: **HS23040697-13MSD** Units: **mg/L** Analysis Date: **19-Apr-2023 13:12**
Client ID: Run ID: **ICS-Integrion_433149** SeqNo: **7249967** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	22.48	0.500	10	12.79	96.8	80 - 120	22.48	0.00445	20	
Fluoride	3.473	0.100	2	1.474	100.0	80 - 120	3.324	4.4	20	
Nitrogen, Nitrate (As N)	1.814	0.100	2	0	90.7	80 - 120	1.815	0.0496	20	
Nitrogen, Nitrite (As N)	0.4803	0.100	2	0	24.0	80 - 120	0.4816	0.27	20	S
Nitrate/Nitrite (as N)	2.294	0.200	4	0	57.4	80 - 120	2.296	0.0958	20	S
Sulfate	1399	0.500	10	1470	-706	80 - 120	1400	0.081	20	SEO

MSD Sample ID: **HS23040356-02MSD** Units: **mg/L** Analysis Date: **19-Apr-2023 15:02**
Client ID: Run ID: **ICS-Integrion_433149** SeqNo: **7249981** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	24.98	0.500	10	15	99.7	80 - 120	25.06	0.344	20	
Fluoride	2.519	0.100	2	0.4276	105	80 - 120	2.487	1.27	20	
Nitrogen, Nitrate (As N)	2.563	0.100	2	0.4626	105	80 - 120	2.563	0.0117	20	
Nitrogen, Nitrite (As N)	1.283	0.100	2	0	64.1	80 - 120	1.299	1.3	20	S
Nitrate/Nitrite (as N)	3.845	0.200	4	0.4626	84.6	80 - 120	3.862	0.444	20	
Sulfate	656.1	0.500	10	670.2	-142	80 - 120	659.4	0.508	20	SEO

The following samples were analyzed in this batch: HS23040694-09

Client: Altamira
Project: WFEC / CCR Impoundment
WorkOrder: HS23040694

QC BATCH REPORT

Batch ID: R433183 (0) **Instrument:** UV-2450 **Method:** FERROUS IRON BY SM3500 FE D (DISSOLVED)

MBLK Sample ID: **MBLK-R433183** Units: **mg/L** Analysis Date: **19-Apr-2023 15:47**
Client ID: Run ID: **UV-2450_433183** SeqNo: **7250698** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ferrous Iron, Dissolved	U	0.0500								

LCS Sample ID: **LCS-R433183** Units: **mg/L** Analysis Date: **19-Apr-2023 15:47**
Client ID: Run ID: **UV-2450_433183** SeqNo: **7250697** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ferrous Iron, Dissolved	0.269	0.0500	0.25	0	108	80 - 120				

MS Sample ID: **HS23040697-13MS** Units: **mg/L** Analysis Date: **19-Apr-2023 15:47**
Client ID: Run ID: **UV-2450_433183** SeqNo: **7250700** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ferrous Iron, Dissolved	0.27	0.0500	0.25	0.018	101	80 - 120				

MSD Sample ID: **HS23040697-13MSD** Units: **mg/L** Analysis Date: **19-Apr-2023 15:47**
Client ID: Run ID: **UV-2450_433183** SeqNo: **7250699** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ferrous Iron, Dissolved	0.267	0.0500	0.25	0.018	99.6	80 - 120	0.27	1.12	20	

The following samples were analyzed in this batch: HS23040694-09

Client: Altamira
Project: WFEC / CCR Impoundment
WorkOrder: HS23040694

QC BATCH REPORT

Batch ID: R433330 (0) **Instrument:** WetChem_HS **Method:** SPECIFIC CONDUCTANCE BY SM 2510B-2011

MBLK Sample ID: **MBLK-R433330** Units: **umhos/cm @ 25.0 °C** Analysis Date: **21-Apr-2023 16:54**
Client ID: Run ID: **WetChem_HS_433330** SeqNo: **7254411** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	U	5.00								

LCS Sample ID: **LCS-R433330** Units: **umhos/cm @ 25.0 °C** Analysis Date: **21-Apr-2023 16:54**
Client ID: Run ID: **WetChem_HS_433330** SeqNo: **7254410** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	1370	5.00	1413	0	97.0	80 - 120				

DUP Sample ID: **HS23040697-13DUP** Units: **umhos/cm @ 25.0 °C** Analysis Date: **21-Apr-2023 16:54**
Client ID: Run ID: **WetChem_HS_433330** SeqNo: **7254412** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	3290	5.00					3270	0.61	20	

The following samples were analyzed in this batch: HS23040694-06 HS23040694-07

Client: Altamira
Project: WFEC / CCR Impoundment
WorkOrder: HS23040694

QC BATCH REPORT

Batch ID: **R433350 (0)** **Instrument:** **WetChem_HS** **Method:** **PH BY SM4500H+ B-2011**

DUP Sample ID: **HS23040694-02DUP** Units: **pH Units** Analysis Date: **22-Apr-2023 11:11**
Client ID: **MW-23A** Run ID: **WetChem_HS_433350** SeqNo: **7255068** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	6.98	0.100					6.95	0.431	10	
Temp Deg C @pH	20.4	0					20.4	0	10	

The following samples were analyzed in this batch: HS23040694-01 HS23040694-02 HS23040694-03 HS23040694-04 HS23040694-05

Client: Altamira
Project: WFEC / CCR Impoundment
WorkOrder: HS23040694

QC BATCH REPORT

Batch ID: R433352 (0) **Instrument: WetChem_HS** **Method: SULFIDE BY SM4500 S2-F-2011**

MBLK Sample ID: **MBLK-R433352** Units: **mg/L** Analysis Date: **22-Apr-2023 11:39**
Client ID: Run ID: **WetChem_HS_433352** SeqNo: **7255088** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfide	U	2.00								

LCS Sample ID: **LCS-R433352** Units: **mg/L** Analysis Date: **22-Apr-2023 11:39**
Client ID: Run ID: **WetChem_HS_433352** SeqNo: **7255087** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfide	22.08	2.00	25	0	88.3	85 - 115				

LCSD Sample ID: **LCSD-R433352** Units: **mg/L** Analysis Date: **22-Apr-2023 11:39**
Client ID: Run ID: **WetChem_HS_433352** SeqNo: **7255086** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfide	21.88	2.00	25	0	87.5	85 - 115	22.08	0.91	20	

MS Sample ID: **HS23041012-06MS** Units: **mg/L** Analysis Date: **22-Apr-2023 11:39**
Client ID: Run ID: **WetChem_HS_433352** SeqNo: **7255090** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfide	22.08	2.00	25	-2.72	99.2	80 - 120				

MSD Sample ID: **HS23041012-06MSD** Units: **mg/L** Analysis Date: **22-Apr-2023 11:39**
Client ID: Run ID: **WetChem_HS_433352** SeqNo: **7255089** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfide	22.08	2.00	25	-2.72	99.2	80 - 120	22.08	0	20	

The following samples were analyzed in this batch: HS23040694-09

Client: Altamira
Project: WFEC / CCR Impoundment
WorkOrder: HS23040694

QC BATCH REPORT

Batch ID: R433354 (0) **Instrument:** WetChem_HS **Method:** PH BY SM4500H+ B-2011

DUP Sample ID: **HS23040697-13DUP** Units: **pH Units** Analysis Date: **22-Apr-2023 14:02**
Client ID: Run ID: **WetChem_HS_433354** SeqNo: **7255166** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	10.64	0.100					10.6	0.377	10	
Temp Deg C @pH	20.6	0					20.6	0	10	

The following samples were analyzed in this batch: HS23040694-08

Client: Altamira
Project: WFEC / CCR Impoundment
WorkOrder: HS23040694

QC BATCH REPORT

Batch ID: R433412 (0) **Instrument:** Balance1 **Method:** TOTAL DISSOLVED SOLIDS BY SM2540C-2011

MBLK Sample ID: **WBLK-04202023** Units: **mg/L** Analysis Date: **20-Apr-2023 11:00**
Client ID: Run ID: **Balance1_433412** SeqNo: **7256671** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	U	10.0								

LCS Sample ID: **LCS-04202023** Units: **mg/L** Analysis Date: **20-Apr-2023 11:00**
Client ID: Run ID: **Balance1_433412** SeqNo: **7256670** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	1082	10.0	1000	0	108	85 - 115				

DUP Sample ID: **HS23041120-11DUP** Units: **mg/L** Analysis Date: **20-Apr-2023 11:00**
Client ID: Run ID: **Balance1_433412** SeqNo: **7256667** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	678	10.0					680	0.295	20	

DUP Sample ID: **HS23040697-13DUP** Units: **mg/L** Analysis Date: **20-Apr-2023 11:00**
Client ID: Run ID: **Balance1_433412** SeqNo: **7256651** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids (Residue, Filterable)	2310	10.0					2310	0	20	

The following samples were analyzed in this batch: HS23040694-09

Client: Altamira
Project: WFEC / CCR Impoundment
WorkOrder: HS23040694

QC BATCH REPORT

Batch ID: R433610 (0) **Instrument:** WetChem_HS **Method:** PH BY SM4500H+ B-2011

DUP Sample ID: **HS23040694-06DUP** Units: **pH Units** Analysis Date: **25-Apr-2023 10:08**
Client ID: **MW-10** Run ID: **WetChem_HS_433610** SeqNo: **7261722** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.7	0.100					7.67	0.39	10	
Temp Deg C @pH	20.7	0					20.7	0	10	

The following samples were analyzed in this batch: HS23040694-06 HS23040694-09

Client: Altamira
Project: WFEC / CCR Impoundment
WorkOrder: HS23040694

QC BATCH REPORT

Batch ID: R433630 (0) **Instrument: Skalar 03** **Method: ALKALINITY BY SM 2320B-2011**

MBLK Sample ID: **MBLK-04252023** Units: **mg/L** Analysis Date: **25-Apr-2023 17:46**
Client ID: Run ID: **Skalar 03_433630** SeqNo: **7262133** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	U	5.00								
Alkalinity, Carbonate (As CaCO3)	U	5.00								
Alkalinity, Hydroxide (As CaCO3)	U	5.00								
Alkalinity, Total (As CaCO3)	U	5.00								

LCS Sample ID: **LCS-04252023** Units: **mg/L** Analysis Date: **25-Apr-2023 17:52**
Client ID: Run ID: **Skalar 03_433630** SeqNo: **7262134** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Carbonate (As CaCO3)	930.2	5.00	1000	0	93.0	85 - 115				
Alkalinity, Total (As CaCO3)	930.7	5.00	1000	0	93.1	85 - 115				

LCSD Sample ID: **LCSD-04252023** Units: **mg/L** Analysis Date: **25-Apr-2023 17:59**
Client ID: Run ID: **Skalar 03_433630** SeqNo: **7262135** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Carbonate (As CaCO3)	927.8	5.00	1000	0	92.8	85 - 115	930.2	0.258	20	
Alkalinity, Total (As CaCO3)	928.6	5.00	1000	0	92.9	85 - 115	930.7	0.226	20	

DUP Sample ID: **HS23040697-13DUP** Units: **mg/L** Analysis Date: **25-Apr-2023 18:07**
Client ID: Run ID: **Skalar 03_433630** SeqNo: **7262137** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (As CaCO3)	U	5.00					0	0	20	
Alkalinity, Carbonate (As CaCO3)	55.4	5.00					62.4	11.9	20	
Alkalinity, Hydroxide (As CaCO3)	64.1	5.00					62	3.33	20	
Alkalinity, Total (As CaCO3)	119.5	5.00					124.4	4.02	20	

The following samples were analyzed in this batch: HS23040694-09

Client: Altamira
Project: WFEC / CCR Impoundment
WorkOrder: HS23040694

QC BATCH REPORT

Batch ID: R433632 (0) **Instrument:** WetChem_HS **Method:** CHEMICAL OXYGEN DEMAND BY E410.4, REV 2.0, 1993

MBLK Sample ID: **MBLK-R433632** Units: **mg/L** Analysis Date: **26-Apr-2023 11:00**
Client ID: Run ID: **WetChem_HS_433632** SeqNo: **7262199** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	U	15.0								

LCS Sample ID: **LCS-R433632** Units: **mg/L** Analysis Date: **26-Apr-2023 11:00**
Client ID: Run ID: **WetChem_HS_433632** SeqNo: **7262198** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	98	15.0	100	0	98.0	85 - 115				

MS Sample ID: **HS23040694-02MS** Units: **mg/L** Analysis Date: **26-Apr-2023 11:00**
Client ID: **MW-23A** Run ID: **WetChem_HS_433632** SeqNo: **7262201** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	52	15.0	50	5	94.0	80 - 120				

MSD Sample ID: **HS23040694-02MSD** Units: **mg/L** Analysis Date: **26-Apr-2023 11:00**
Client ID: **MW-23A** Run ID: **WetChem_HS_433632** SeqNo: **7262200** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	53	15.0	50	5	96.0	80 - 120	52	1.9	20	

The following samples were analyzed in this batch:

HS23040694-01	HS23040694-02	HS23040694-03	HS23040694-04
HS23040694-05	HS23040694-06	HS23040694-07	HS23040694-08
HS23040694-09			

Client: Altamira
Project: WFEC / CCR Impoundment
WorkOrder: HS23040694

QC BATCH REPORT

Batch ID: R433653 (0) **Instrument:** WetChem_HS **Method:** SPECIFIC CONDUCTANCE BY SM 2510B-2011

MBLK Sample ID: **MBLK-R433653** Units: **umhos/cm @ 25.0 °C** Analysis Date: **26-Apr-2023 14:29**
Client ID: Run ID: **WetChem_HS_433653** SeqNo: **7262822** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	U	5.00								

LCS Sample ID: **LCS-R433653** Units: **umhos/cm @ 25.0 °C** Analysis Date: **26-Apr-2023 14:29**
Client ID: Run ID: **WetChem_HS_433653** SeqNo: **7262821** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	1347	5.00	1413	0	95.3	80 - 120				

DUP Sample ID: **HS23041189-04DUP** Units: **umhos/cm @ 25.0 °C** Analysis Date: **26-Apr-2023 14:29**
Client ID: Run ID: **WetChem_HS_433653** SeqNo: **7262823** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductivity	564	5.00					560	0.712	20	

The following samples were analyzed in this batch: HS23040694-08 HS23040694-09

Client: Altamira
Project: WFEC / CCR Impoundment
WorkOrder: HS23040694

QC BATCH REPORT

Batch ID: R433657 (0) **Instrument:** WetChem_HS **Method:** PH BY SM4500H+ B-2011

DUP Sample ID: **HS23040694-07DUP** Units: **pH Units** Analysis Date: **26-Apr-2023 15:03**
Client ID: **MW-11** Run ID: **WetChem_HS_433657** SeqNo: **7262854** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.72	0.100					7.69	0.389	10	
Temp Deg C @pH	20.3	0					20.3	0	10	

The following samples were analyzed in this batch: HS23040694-07

Client: Altamira
Project: WFEC / CCR Impoundment
WorkOrder: HS23040694

QC BATCH REPORT

Batch ID: R433664 (0) **Instrument: UV-2450** **Method: FERROUS IRON BY SM3500 FE B**

MBLK Sample ID: **MBLK-R433664** Units: **mg/L** Analysis Date: **19-Apr-2023 15:10**
Client ID: Run ID: **UV-2450_433664** SeqNo: **7262960** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ferrous Iron	U	0.0500				80 - 120				

LCS Sample ID: **LCS-R433664** Units: **mg/L** Analysis Date: **19-Apr-2023 15:10**
Client ID: Run ID: **UV-2450_433664** SeqNo: **7262959** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ferrous Iron	0.265	0.0500	0.25	0	106	80 - 120				

MS Sample ID: **HS23040697-13MS** Units: **mg/L** Analysis Date: **19-Apr-2023 15:10**
Client ID: Run ID: **UV-2450_433664** SeqNo: **7262965** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ferrous Iron	0.266	0.0500	0.25	0.063	81.2	75 - 125				

MSD Sample ID: **HS23040697-13MSD** Units: **mg/L** Analysis Date: **19-Apr-2023 15:10**
Client ID: Run ID: **UV-2450_433664** SeqNo: **7262964** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ferrous Iron	0.265	0.0500	0.25	0.063	80.8	75 - 125	0.266	0.377	20	

The following samples were analyzed in this batch: HS23040694-09

Client: Altamira
Project: WFEC / CCR Impoundment
WorkOrder: HS23040694

QC BATCH REPORT

Batch ID: R433745 (0) **Instrument:** WetChem_HS **Method:** PH BY SM4500H+ B-2011

DUP Sample ID: **HS23040694-07DUP** Units: **°C** Analysis Date: **26-Apr-2023 13:45**
Client ID: **MW-11** Run ID: **WetChem_HS_433745** SeqNo: **7265146** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Temp Deg C @pH	20.3	0					20.3	0	10	

The following samples were analyzed in this batch: HS23040694-07

Client: Altamira
Project: WFEC / CCR Impoundment
WorkOrder: **HS23040694**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	88-00356	27-Mar-2024
California	2919; 2024	30-Apr-2024
Dept of Defense	L23-358	31-May-2025
Florida	E87611-37	30-Jun-2023
Illinois	2000322023-11	30-Jun-2024
Kansas	E-10352; 2022-2023	31-Jul-2023
Louisiana	03087, 2022-2023	30-Jun-2023
Maryland	343, 2022-2023	30-Jun-2023
North Carolina	624-2023	31-Dec-2023
Oklahoma	2022-141	31-Aug-2023
Texas	T104704231-23-31	30-Apr-2024
Utah	TX026932022-13	31-Jul-2023

Sample Receipt Checklist

Work Order ID: HS23040694 **Date/Time Received:** **12-Apr-2023 09:00**

Client Name: Enviro Clean Services-Tulsa **Received by:** **Corey Grandits**

Completed By:	/S/ Corey Grandits	13-Apr-2023 11:18	**Reviewed by:**	/S/ Anna Kinchen	17-Apr-2023 09:11
	eSignature	Date/Time		eSignature	Date/Time

Matrices: **W** Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	2.5UC/2.0C	IR31
Cooler(s)/Kit(s):	49498	
Date/Time sample(s) sent to storage:	4/13/23	

Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Sample Receipt Checklist

Work Order ID: HS23040694 **Date/Time Received:** **12-Apr-2023 09:00**

Client Name: Enviro Clean Services-Tulsa **Received by:** **Corey Grandits**

Completed By:	/S/ Corey Grandits	14-Apr-2023 10:42	**Reviewed by:**	/S/ Anna Kinchen	24-Apr-2023 13:30
	eSignature	Date/Time		eSignature	Date/Time

Matrices: **W** Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	1.7UC/1.2C	IR31
Cooler(s)/Kit(s):	Red	
Date/Time sample(s) sent to storage:	4/14/23	

Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Sample Receipt Checklist

Work Order ID: HS23040694 **Date/Time Received:** 12-Apr-2023 09:00

Client Name: Enviro Clean Services-Tulsa **Received by:** Corey Grandits

Completed By: /S/ Corey Grandits (eSignature) 19-Apr-2023 12:07 (Date/Time) **Reviewed by:** (eSignature) (Date/Time)

Matrices: W Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	4.0UC/3.5C	IR31
Cooler(s)/Kit(s):	Red	
Date/Time sample(s) sent to storage:	4/19/23	

Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY RECORD

ALTAMIRA
Formerly known as Arcadis U.S., Inc.

PROJECT NUMBER: WFEE160023 / 1001
PROJECT NAME: WFEC / CCR Programs, Impoundment
COC: 1 of X
CLIENT CONTACT: Heather Tiffany / Bert Smith
CLIENT EMAIL: laladata@altamira-us.com; Heather.Tiffany
CLIENT PHONE: 405-618-2021
LABORATORY / LAB PM: ALS
CLIENT ADDRESS: 525 Central Park Dr Ste 500 OKC, OK 73105
TAT: Standard
LAB ADDRESS: 10450 Stanciff Ste 210 Houston, TX 77099
SPECIAL INSTRUCTIONS: Short Hold: NO3 & Ferr Fe
*App. A - B, Ca, Cl, F, pH, SO3, TDS
**App. B -
SHIPMENT METHOD: FedEx
TRACKING:

NO.	SAMPLE DESCRIPTION	DATE	TIME	MATRIX	PRES.	NUMBER OF CONTAINERS	FIELD FILTERED (YES / NO)	Appendix A*	Appendix B**	Nitrate as N	COD	Specific Conductivity	Fe, Total	Fe, Ferric & Ferrous	Dissolved: Ferrous Fe	Dissolved: Fe, Mn, Ferric Fe	K, Mg, Na	Sulfide	HCO_3 + CO_3, Hydroxide, Alkalinity	HOLD
1	MW-8	4/11/23	1750	W	2,3,9	3	N	X	X	X	X	X								
2	~~MW-9~~						N	X	X	X	X	X								
3	~~MW-10~~						N	X	X	X	X	X								
4	~~MW-11~~						N	X	X	X	X	X								
5	~~MW-22A~~				1,2,3,4,9		Y	X	X	X	X	X	X	X	X						
6	MW-23A	4/11/23	1545		2,3,9	3	N	X	X	X	X	X								
7	MW-24	4/11/23	1855				N	X	X	X	X	X								
8	~~MW-25R~~						N	X	X	X	X	X								
9	Temp Blank	—	—		—	1		~~X~~ BV												
10	MW-23A MS	4/11/23	1545	W	2,3,9	3	N	X	X	X	X	X								
11	MW-23A MSD	4/11/23	1545	W	2,3,9	3	N	X	X	X	X	X								
12																				
13																				
14																				
15	Dup 3	4/11/23	1750	W	2,3,9	3	N	X	X	X	X	X								

HS23040694
Altamira
WFEC / CCR Impoundment

SAMPLER(S) NAME: Bradley VanCleave / Pasha Khlystov
DATE: 4/12/23
TIME: 1400
Total # of Containers:
SAMPLER(S) SIGNATURE: Bradley VanCleave / Pasha Khlystov
DATE: 4/12/23
TIME: 1400

RELINQUISHED BY: Bradley VanCleave
DATE: 4/12/23
TIME: 1400
RECEIVED BY:
DATE:
TIME:
LOGGED BY:
DATE:
TIME:
COOLER TEMP:

PRESERVATION KEY: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7- 4 Degrees C 8-9035 9-Other:
POINT OF ORIGIN: ☐ Norman ☐ Oklahoma City ☐ Tulsa ☐ Yukon ☐ Midland ☐ Other:

ALTAMIRA-US, LLC

CHAIN OF CUSTODY RECORD

ALTAMIRA
Formerly known as Environ Clean Corporation

PROJECT NUMBER: WFEC160023/ ~~1001~~ BV 1001

PROJECT NAME: WFEC/ CCR Program / Impoundment

COC: 2 of X

CLIENT CONTACT: Heather, ~~TH~~ BV Tiffany / Bert Smith

CLIENT EMAIL: labdata@altamira-us.com

CLIENT PHONE: 405-618-2021

LABORATORY / LAB PM: ALS Houston

CLIENT ADDRESS: 525 Central Park Dr Ste 500 OKC, OK 73105

TAT: Standard

LAB ADDRESS: 10450 Stancliff Rd Ste 210 Houston, TX 77099

SPECIAL INSTRUCTIONS: SHORT Hold*
** App A - B, Ca, Cl, F, pH, SO_4, TDS
*** App B - Sb, As, Ba, Be, Cd, Cr, Co, F, Pb, Li, Hg, Mo, Se, Th

SHIPMENT METHOD: FEDEX

TRACKING:

PARAMETERS

NO.	SAMPLE DESCRIPTION	DATE	TIME	MATRIX	PRES.	NUMBER OF CONTAINERS	FIELD FILTERED (YES / NO)	Appendix A**	Appendix B***	Nitrate as N	COD	Specific Conductivity	Fe, Total	Fe, Ferrous & Ferric*	Dissolved - Ferrous Fe*	Dissolved - Fe, Mn, Ferric Fe	K, Mg, Na	Sulfide	Hydroxide, HCO_3, CO_3, Alkalinity	HOLD
1	MW-9	4/13/23	~~9/7/23~~	W	2,3,9	3	N	X	X	X	X	X								
2	MW-10	4/13/23	1022			3		X	X	X	X	X								
3	MW-11	4/13/23	1127			3		X	X	X	X	X								
4	~~MW-22A~~							X	X	X	X	X	X	X	X	X	X	X	X	X
5	Temp Blank				~~2,3,9~~ W	1	X													
6	MW-25R	4/14/23	1409		2,3,9	3	N	X	X	X	X	X								
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				

HS23040694
Altamira
WFEC / CCR Impoundment

SAMPLER(S) NAME: Bradley VanClave

DATE: 4/13/23
TIME: 1800

Total # of Containers:

SAMPLER(S) SIGNATURE: Bradley VanClave

DATE: 4/13/23
TIME: 1830

RELINQUISHED BY: Bradley VanClave

DATE: 4/13/23
TIME: 1830

RECEIVED BY:

DATE:
TIME:

LOGGED BY:

DATE:
TIME:

COOLER TEMP:

PRESERVATION KEY: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7- 4 Degrees C 8-9035 9-Other :

POINT OF ORIGIN: ☐ Norman ☒ Oklahoma City ☐ Tulsa ☐ Yukon ☐ Midland ☐ Other :

ALTAMIRA-US, LLC

CHAIN OF CUSTODY RECORD

ALTAMIRA
formerly known as Enviro Clean Cardinal

PROJECT NUMBER:	WFEE160023 / 1001
PROJECT NAME:	WFEC / CCR Impoundment
COC:	3 of X
CLIENT CONTACT:	Bert Smith, Heather Tiffany
CLIENT EMAIL:	labdata@altamira-us.com, Heather Tiffany
CLIENT PHONE:	405-618-2021
LABORATORY / LAB PM:	ALS Houston
CLIENT ADDRESS:	525 Central Park Dr Ste 520 OKC OK 73105
TAT:	Standard
LAB ADDRESS:	10450 Stancliff Rd Ste 210 Houston, TX 77099
SPECIAL INSTRUCTIONS:	SHORT Hold *** *App A - B, Ca, Cl, F, pH, SO3, TDS **App B - Sb, As, Ba, Be, Cd, Cr, Co, F, Pb, Li, Hg, Mo, Se, Th
SHIPMENT METHOD:	FedEx
TRACKING:	6230 2997 3522

PARAMETERS

NO.	SAMPLE DESCRIPTION	DATE	TIME	MATRIX	PRES.	NUMBER OF CONTAINERS	FIELD FILTERED (YES / NO)	App A *	App B **	Nitrate as N **	COD	Specific Conductivity	Fe Total	Fe, Ferrous + Ferric **	Dissolved - Ferrous Fe	Dissolved - Fe, Mo, Ferric	K, Mg, Na	Sulfide	HCO3, CO3, Hydroxide Alkalinity	HOLD
1	MW-22A	4/18/23	1113	W	1,2,3,4,9	7	Y	X	X	X	X	X	X	X	X	X	X	X	X	
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				

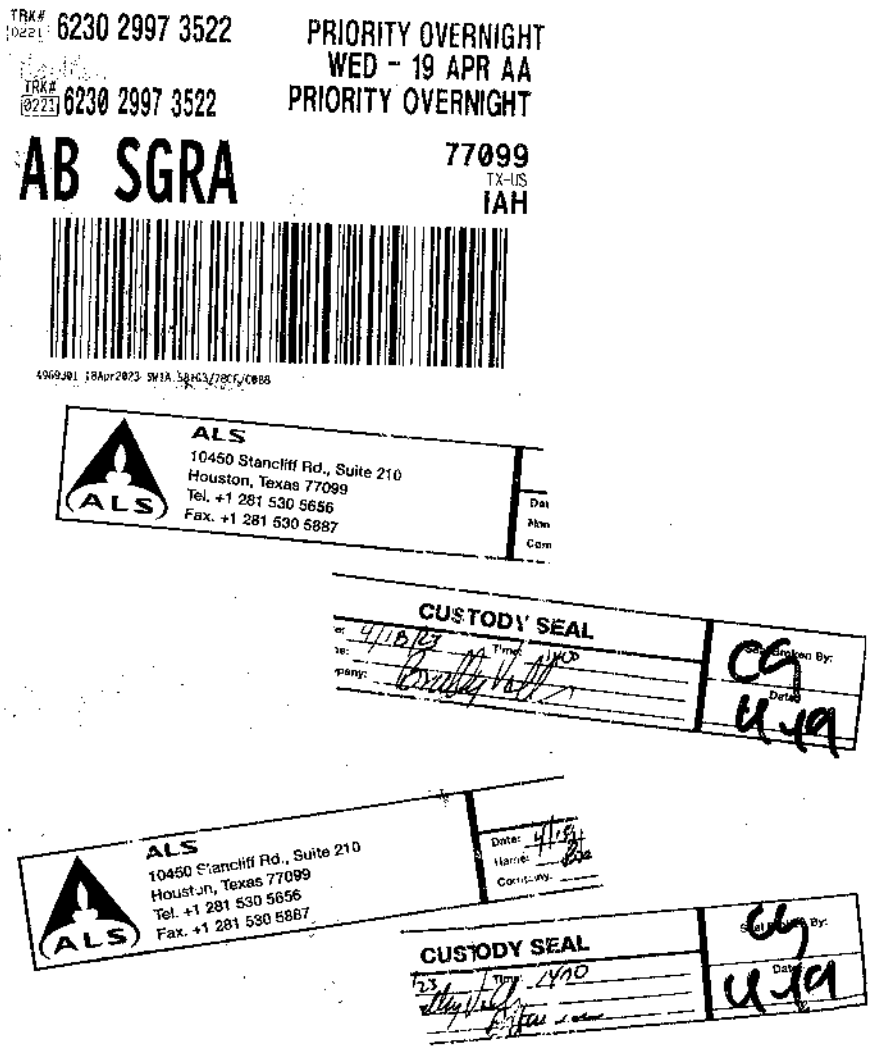
HS23040694
Altamira
WFEC / CCR Impoundment

SAMPLER(S) NAME: Bradley VanCleave	DATE: 4/18/23 TIME: 1400	Total # of Containers:	SAMPLER(S) SIGNATURE: [signature]	DATE: 4/18/23 TIME: 1400
RELINQUISHED BY: [signature]	DATE: 4/18/23 TIME: 1400	RECEIVED BY:	DATE: TIME:	LOGGED BY:	DATE: TIME:	COOLER TEMP:

PRESERVATION KEY: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7- 4 Degrees C 8-9035 9-Other None, ZnAC

POINT OF ORIGIN: ☐ Norman ☐ Oklahoma City ☐ Tulsa ☐ Yukon ☐ Midland ☐ Other:

ALTAMIRA-US, LLC



ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

Rcd

CUSTODY SEAL

Date: 4/13/23 Time: 1800
Name:
Company:

Seal Broken By:
Date: 04/14/23

Rcd

ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

Rcd

4/13/23 **CUSTODY SEAL**

Date:
Name:
Company:

Seal Broken By:
Date: 04/14/23

Rcd

ORIGIN ID:SGRA (918) 794-7828
HEATHER TIFFANY
ALTAMIRA
2870 TRENTON RD

NORMAN, OK 73069
UNITED STATES US

SHIP DATE: 28MAR23
ACTWGT: 1.00 LB MAN
CAD: 0221247/CAFE3702
DIMS: 19x16x13 IN

TO SHIPPING DEPT
ALS LABORATORY GROUP
10450 STANCLIFF RD
SUITE 210
HOUSTON TX 77099
(281) 530-5665
REF: WFEC/AZR MW-2 INJECT/00EC=BO 91859/-AK

RMA:

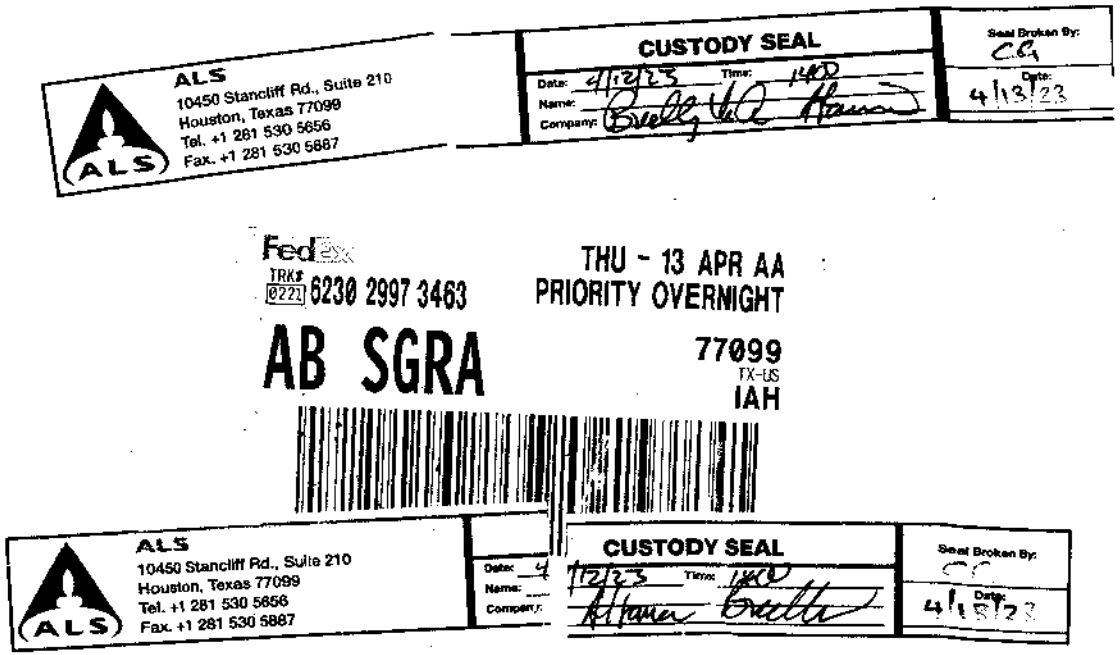
FedEx Express

FedEx
TRK# 0221 6230 2997 4058

FRI - 14 APR 10:30A
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US IAH



GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Altamira
Address : 525 Central Park Dr
Suite 500
Oklahoma City, Oklahoma 73105

Report Date: June 19, 2023

Contact: Heather Tiffany
Project: Radiochemistry

Client Sample ID: MW-8
Sample ID: 618844010
Matrix: Ground Water
Collect Date: 11-APR-23
Receive Date: 19-APR-23
Collector: Client

Project: ALMI00122
Client ID: ALMI001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
EPA 904.0 Radium-228 in Drinking Water "As Received"														
Radium-228	U	0.368	+/-0.393	0.654	+/-0.397	1.00	pCi/L			JE1	05/15/23	1138	2416326	1
Radium-226+Radium-228 Calculation "See Parent Products"														
Radium-226+228 Sum		0.465	+/-0.420		+/-0.425		pCi/L		1	TON1	06/15/23	1120	2416324	2
Rad Radium-226														
Radium-226 in Drinking Water EPA 903.1 (De-emanation) "As Received"														
Radium-226	U	0.0973	+/-0.151	0.269	+/-0.152	1.00	pCi/L			LXP1	05/17/23	0857	2416321	3

The following Analytical Methods were performed

Method	Description
1	EPA 904.0/ EPA 9320
2	Calculation
3	EPA 903.1

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium Carrier	EPA 904.0 Radium-228 in Drinking Water "As Received"	2416326	90.7	(25%-125%)
Yttrium Carrier	EPA 904.0 Radium-228 in Drinking Water "As Received"	2416326	92.2	(25%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Altamira
Address : 525 Central Park Dr
Suite 500
Oklahoma City, Oklahoma 73105

Report Date: June 19, 2023

Contact: Heather Tiffany
Project: Radiochemistry

Client Sample ID: Dup 3
Sample ID: 618844007
Matrix: Ground Water
Collect Date: 11-APR-23
Receive Date: 19-APR-23
Collector: Client

Project: ALMI00122
Client ID: ALMI001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
EPA 904.0 Radium-228 in Drinking Water "As Received"														
Radium-228		0.747	+/-0.471	0.717	+/-0.486	1.00	pCi/L			JE1	05/15/23	1137	2416326	1
Radium-226+Radium-228 Calculation "See Parent Products"														
Radium-226+228 Sum		0.906	+/-0.484		+/-0.499		pCi/L		1	TON1	06/15/23	1120	2416324	2
Rad Radium-226														
Radium-226 in Drinking Water EPA 903.1 (De-emanation) "As Received"														
Radium-226		0.159	+/-0.112	0.109	+/-0.114	1.00	pCi/L			LXP1	05/17/23	0857	2416321	3

The following Analytical Methods were performed

Method	Description
1	EPA 904.0/ EPA 9320
2	Calculation
3	EPA 903.1

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium Carrier	EPA 904.0 Radium-228 in Drinking Water "As Received"	2416326	92.3	(25%-125%)
Yttrium Carrier	EPA 904.0 Radium-228 in Drinking Water "As Received"	2416326	77.5	(25%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Altamira
Address : 525 Central Park Dr
Suite 500
Oklahoma City, Oklahoma 73105

Report Date: May 25, 2023

Contact: Heather Tiffany
Project: Radiochemistry

Client Sample ID: MW-9
Sample ID: 618855003
Matrix: Water
Collect Date: 13-APR-23
Receive Date: 19-APR-23
Collector: Client

Project: ALMI00122
Client ID: ALMI001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
EPA 904.0 Radium-228 in Drinking Water "As Received"														
Radium-228	U	-0.206	+/-0.511	0.989	+/-0.511	1.00	pCi/L			JE1	05/12/23	1442	2416327	1
Radium-226+Radium-228 Calculation "See Parent Products"														
Radium-226+228 Sum		0.0295	+/-0.519		+/-0.519		pCi/L			NXL1	05/25/23	1326	2416325	2
Rad Radium-226														
Radium-226 in Drinking Water EPA 903.1 (De-emanation) "As Received"														
Radium-226	U	0.0295	+/-0.0914	0.207	+/-0.0917	1.00	pCi/L			LXP1	05/25/23	0757	2416323	3

The following Analytical Methods were performed

Method	Description
1	EPA 904.0/ EPA 9320
2	Calculation
3	EPA 903.1

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium Carrier	EPA 904.0 Radium-228 in Drinking Water "As Received"	2416327	66.3	(25%-125%)
Yttrium Carrier	EPA 904.0 Radium-228 in Drinking Water "As Received"	2416327	46.1	(25%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Altamira
Address : 525 Central Park Dr
Suite 500
Oklahoma City, Oklahoma 73105

Report Date: May 30, 2023

Contact: Heather Tiffany

Project: Radiochemistry

Client Sample ID: MW-10
Sample ID: 619993003
Matrix: Water
Collect Date: 13-APR-23
Receive Date: 27-APR-23
Collector: Client

Project: ALMI00122
Client ID: ALMI001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
GFPC Ra228, Liquid "As Received"														
Radium-228	U	0.610	+/-1.07	1.88	+/-1.08	3.00	pCi/L			JE1	05/24/23	1550	2423918	1
Radium-226+Radium-228 Calculation "See Parent Products"														
Radium-226+228 Sum		0.714	+/-1.09		+/-1.10		pCi/L			NXL1	05/30/23	1641	2429540	2
Rad Radium-226														
Lucas Cell, Ra226, Liquid "As Received"														
Radium-226	U	0.104	+/-0.203	0.397	+/-0.204	1.00	pCi/L			LXP1	05/18/23	0919	2423869	3

The following Analytical Methods were performed

Method	Description
1	EPA 904.0/SW846 9320 Modified
2	Calculation
3	EPA 903.1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2423918	78.9	(15%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Altamira
Address : 525 Central Park Dr
Suite 500
Oklahoma City, Oklahoma 73105

Report Date: May 30, 2023

Contact: Heather Tiffany
Project: Radiochemistry

Client Sample ID: MW-11
Sample ID: 619994001
Matrix: Water
Collect Date: 13-APR-23
Receive Date: 27-APR-23
Collector: Client

Project: ALMI00122
Client ID: ALMI001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
GFPC Ra228, Liquid "As Received"														
Radium-228		2.60	+/-1.20	1.67	+/-1.37	3.00	pCi/L			JE1	05/26/23	1517	2423918	1
Radium-226+Radium-228 Calculation "See Parent Products"														
Radium-226+228 Sum		3.27	+/-1.26		+/-1.42		pCi/L			NXL1	05/30/23	1641	2429540	2
Rad Radium-226														
Lucas Cell, Ra226, Liquid "As Received"														
Radium-226		0.666	+/-0.365	0.399	+/-0.383	1.00	pCi/L			LXP1	05/18/23	1009	2423869	3

The following Analytical Methods were performed

Method	Description
1	EPA 904.0/SW846 9320 Modified
2	Calculation
3	EPA 903.1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2423918	79.3	(15%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Altamira
Address : 525 Central Park Dr
Suite 500
Oklahoma City, Oklahoma 73105

Report Date: May 30, 2023

Contact: Heather Tiffany
Project: Radiochemistry

Client Sample ID: MW-22A
Sample ID: 619994003
Matrix: Water
Collect Date: 18-APR-23
Receive Date: 27-APR-23
Collector: Client

Project: ALMI00122
Client ID: ALMI001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
GFPC Ra228, Liquid "As Received"														
Radium-228		2.69	+/-1.41	2.10	+/-1.57	3.00	pCi/L			JE1	05/24/23	1550	2423918	1
Radium-226+Radium-228 Calculation "See Parent Products"														
Radium-226+228 Sum		4.45	+/-1.55		+/-1.73		pCi/L			NXL1	05/30/23	1641	2429540	2
Rad Radium-226														
Lucas Cell, Ra226, Liquid "As Received"														
Radium-226		1.76	+/-0.654	0.591	+/-0.730	1.00	pCi/L			LXP1	05/18/23	1009	2423869	3

The following Analytical Methods were performed

Method	Description
1	EPA 904.0/SW846 9320 Modified
2	Calculation
3	EPA 903.1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC Ra228, Liquid "As Received"	2423918	82	(15%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Altamira
Address : 525 Central Park Dr
Suite 500
Oklahoma City, Oklahoma 73105

Report Date: May 25, 2023

Contact: Heather Tiffany
Project: Radiochemistry

Client Sample ID: MW-23A
Sample ID: 618855004
Matrix: Water
Collect Date: 11-APR-23
Receive Date: 19-APR-23
Collector: Client

Project: ALMI00122
Client ID: ALMI001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
EPA 904.0 Radium-228 in Drinking Water "As Received"														
Radium-228	U	0.458	+/-0.534	0.899	+/-0.540	1.00	pCi/L			JE1	05/12/23	1122	2416327	1
Radium-226+Radium-228 Calculation "See Parent Products"														
Radium-226+228 Sum		0.538	+/-0.546		+/-0.552		pCi/L			NXL1	05/25/23	1326	2416325	2
Rad Radium-226														
Radium-226 in Drinking Water EPA 903.1 (De-emanation) "As Received"														
Radium-226	U	0.0805	+/-0.115	0.201	+/-0.116	1.00	pCi/L			LXP1	05/25/23	0757	2416323	3

The following Analytical Methods were performed

Method	Description
1	EPA 904.0/ EPA 9320
2	Calculation
3	EPA 903.1

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium Carrier	EPA 904.0 Radium-228 in Drinking Water "As Received"	2416327	81.2	(25%-125%)
Yttrium Carrier	EPA 904.0 Radium-228 in Drinking Water "As Received"	2416327	68.3	(25%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Altamira
Address : 525 Central Park Dr
Suite 500
Oklahoma City, Oklahoma 73105

Report Date: June 19, 2023

Contact: Heather Tiffany
Project: Radiochemistry

Client Sample ID: MW-24
Sample ID: 618844009
Matrix: Ground Water
Collect Date: 11-APR-23
Receive Date: 19-APR-23
Collector: Client

Project: ALMI00122
Client ID: ALMI001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
EPA 904.0 Radium-228 in Drinking Water "As Received"														
Radium-228	U	-0.123	+/-0.368	0.730	+/-0.368	1.00	pCi/L			JE1	05/15/23	1137	2416326	1
Radium-226+Radium-228 Calculation "See Parent Products"														
Radium-226+228 Sum		0.281	+/-0.398		+/-0.401		pCi/L		1	TON1	06/15/23	1120	2416324	2
Rad Radium-226														
Radium-226 in Drinking Water EPA 903.1 (De-emanation) "As Received"														
Radium-226		0.281	+/-0.154	0.122	+/-0.161	1.00	pCi/L			LXP1	05/17/23	0857	2416321	3

The following Analytical Methods were performed

Method	Description
1	EPA 904.0/ EPA 9320
2	Calculation
3	EPA 903.1

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium Carrier	EPA 904.0 Radium-228 in Drinking Water "As Received"	2416326	89.9	(25%-125%)
Yttrium Carrier	EPA 904.0 Radium-228 in Drinking Water "As Received"	2416326	77.8	(25%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Altamira
Address : 525 Central Park Dr
Suite 500
Oklahoma City, Oklahoma 73105

Report Date: June 19, 2023

Contact: Heather Tiffany

Project: Radiochemistry

Client Sample ID: MW-25R
Sample ID: 618844008
Matrix: Ground Water
Collect Date: 12-APR-23
Receive Date: 19-APR-23
Collector: Client

Project: ALMI00122
Client ID: ALMI001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
EPA 904.0 Radium-228 in Drinking Water "As Received"														
Radium-228	U	0.300	+/-0.457	0.794	+/-0.459	1.00	pCi/L			JE1	05/15/23	1137	2416326	1
Radium-226+Radium-228 Calculation "See Parent Products"														
Radium-226+228 Sum		0.300	+/-0.460		+/-0.462		pCi/L		1	TON1	06/15/23	1120	2416324	2
Rad Radium-226														
Radium-226 in Drinking Water EPA 903.1 (De-emanation) "As Received"														
Radium-226	U	-0.00988	+/-0.0512	0.157	+/-0.0513	1.00	pCi/L			LXP1	05/17/23	0857	2416321	3

The following Analytical Methods were performed

Method	Description
1	EPA 904.0/ EPA 9320
2	Calculation
3	EPA 903.1

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Barium Carrier	EPA 904.0 Radium-228 in Drinking Water "As Received"	2416326	89.7	(25%-125%)
Yttrium Carrier	EPA 904.0 Radium-228 in Drinking Water "As Received"	2416326	60.5	(25%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

ATTACHMENT D

DATA SUMMARY TABLES
(SURFACE IMPOUNDMENT CCR UNIT)

ATTACHMENT D
GROUNDWATER SAMPLE DATA TO DATE FOR SURFACE IMPOUNDMENT CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID:	MW-8	MW-8	MW-8	MW-8	DUP 2	MW-8	MW-8	MW-8	MW-8	MW-8	DUP 2
				Sample Date:	6-Jun-16	2-Aug-16	4-Oct-16	7-Dec-16	7-Dec-16	2-Feb-17	6-Apr-17	8-Jun-17	14-Aug-17	24-May-18	24-May-18
					BACKGROUND 1	BACKGROUND 2	BACKGROUND 3	BACKGROUND 4		BACKGROUND 5	BACKGROUND 6	BACKGROUND 7	BACKGROUND 8	DETECTION MON. #1	
Detection Monitoring Parameters				*Units*											
Boron	None	Background Well (Not Applicable)	Not Applicable	mg/L	1.27	1.26	1.29	1.59	1.38	1.72	1.2	1.41	1.36	1.47	1.6
Calcium	None		Not Applicable	mg/L	701	629	644	676	623	550	906	747	754	603	676
Chloride	250		Not Applicable	mg/L	3.74	3.92	3.60 J*	3.91	3.5	3.41 J*	3.87	3.55	3.36	4.09	4.06
Fluoride	4		Not Applicable	mg/L	0.252	0.235	0.394 J*	0.382 J*	0.388 J*	0.429 J*	0.692	0.307	2.84	1.29	2.99
pH (laboratory)	6.5 - 8.5		Not Applicable	S.U.	7.63	8	7	7.4	7.4	7	6.9	6.8	6.9	6.8	7.5
Sulfate	250		Not Applicable	mg/L	1940	1690	1800	1830	1830	1560	1620	1660	1530	1610	1900
Total Dissolved Solids	500		Not Applicable	mg/L	2760	2820	2660	2640	2620	2680	2740	2800	2860	2770	2710
Assessment Monitoring Parameters															
Antimony	0.006	Not Applicable	Background Well (Not Applicable)	mg/L	<0.000500	<0.00100	<0.00400	<0.00400	<0.00400	<0.000800	<0.00400	<0.00400	<0.000800	---	---
Arsenic	0.010	Not Applicable		mg/L	0.00169 J	0.00152 J	<0.00200	<0.00200	<0.00200	0.000908 J	0.00338 J	0.00243 J	<0.00200	---	---
Barium	2	Not Applicable		mg/L	0.0049	0.00461	0.00618 J	0.00657 J	0.00962 J	0.00599	0.00541 J	0.00603 J	0.0054	---	---
Beryllium	0.004	Not Applicable		mg/L	<0.00100	<0.00200	<0.000500	<0.000500	<0.000500	<0.000100	<0.000500	<0.000500	<0.000100	---	---
Cadmium	0.005	Not Applicable		mg/L	<0.000400	<0.000800	<0.000500	<0.000500	<0.000500	<0.000100	0.000647 J	<0.000500	<0.000100	---	---
Chromium	0.1	Not Applicable		mg/L	<0.000500	<0.00100	<0.00250	<0.00250	<0.00250	<0.000500	<0.00250	<0.00250	U (0.000867)	---	---
Cobalt	None	Not Applicable		mg/L	0.000975 J	0.00103 J	0.00164 J	0.00200 J	0.00270 J	0.00171 J	0.00322 J	0.00228 J	0.00209	---	---
Fluoride	4	Not Applicable		mg/L	0.252	0.235	0.394 J*	0.382 J*	0.388 J*	0.429 J*	0.692	0.307	2.84	1.29	2.99
Lead	0.015	Not Applicable		mg/L	<0.000200	<0.000200	<0.000500	<0.000500	<0.000500	<0.000100	0.000942 J	<0.000500	<0.000100	---	---
Lithium	None	Not Applicable		mg/L	0.329	0.355	0.303	0.332	0.282	0.345	0.481	0.335	0.282	---	---
Mercury	0.002	Not Applicable		mg/L	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	---	---
Molybdenum	None	Not Applicable		mg/L	<0.000500	<0.00100	<0.00500	<0.00500	<0.00500	<0.00100	<0.00500	<0.00500	<0.00100	---	---
Selenium	0.05	Not Applicable		mg/L	<0.000600	<0.00120	<0.00150	<0.00150	<0.00150	<0.000300	<0.00150	<0.00150	<0.000300	---	---
Thallium	0.002	Not Applicable		mg/L	<0.000500	<0.00100	<0.00400	<0.00400	<0.00400	<0.000800	<0.00400	<0.00400	<0.000800	---	---
Ra-226 + Ra-228 (combined)	5	Not Applicable		pCi/L	0.159 +/- 0.238 U	0.320 +/- 0.310 U	0.657 +/- 0.272	0.677 +/- 0.373	0.952 +/- 0.441	0.787 +/- 0.350	0.00926 +/- 0.253 U	0.279 +/- 0.208 U	0.815 +/- 0.324	---	---
Other Parameters															
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<5.00	---	---
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	280	---	---
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<5.00	---	---
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	74.1	---	---
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Potassium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	11.3	---	---
Sodium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	73.2	---	---
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	---	---	---	---	---	---	---	---	---	---	---
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Field Parameters															
Temperature	None	Not Applicable	Not Applicable	ºC	22.02	25.42	21.25	17.48	---	16.01	19.66	19.48	22.38	21.65	---
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	6.67	6.81	6.8	6.73	---	6.76	6.78	6.7	6.77	6.91	---
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	2,744	2,900	2,951	2,941	---	2,934	2,929	2,890	2,895	2,845	---
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	0.24	0.21	0.12	0.15	---	0.35	0.33	0.13	0.15	0.53	---
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	-62.7	-2.1	-87.3	-132.3	---	-159.1	-22.3	61	9.4	-48.6	---
Turbidity	None	Not Applicable	Not Applicable	NTU	5.07	0.87	3.74	0.2	---	0.24	0.28	1.03	0.72	0.39	---

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT D
GROUNDWATER SAMPLE DATA TO DATE FOR SURFACE IMPOUNDMENT CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID:	MW-8 (Shallow)	MW-8 (Deep)	DUP2 (Deep)	MW-8	DUP 1	MW-8		MW-8	MW-8	MW-8	MW-8	DUP 1
				Sample Date:	2-Aug-18	10-Aug-18	10-Aug-18	27-Sep-18	27-Sep-18	8-Jan-19		24-Apr-19	3-Oct-19	16-Jun-20	6-Oct-20	
					EVALUATION SAMPLE	VERIFICATION SAMPLE		INITIAL ASSESSMENT MON.		INITIAL ASSESSMENT MON. (RESAMPLE)		FIRST 2019 ASSESSMENT MON.	SECOND 2019 ASSESSMENT MON.	FIRST 2020 ASSESSMENT MON.	SECOND 2020 ASSESSMENT MON.	
Detection Monitoring Parameters				***Units***						UNFILTERED	FILTERED					
Boron	None	Background Well (Not Applicable)	Not Applicable	mg/L	0.629	1.48	1.5	1.26 #	1.35	1.61	1.46	1.33	0.876	1.08	1.01	0.978
Calcium	None		Not Applicable	mg/L	375	748	690	544 #	715	634	593	511	481	420	460	430
Chloride	250		Not Applicable	mg/L	4.37	3.81	3.71	3.91 #	3.83	3.68	3.72	3.96	3.87	3.72	3.75	3.74
Fluoride	4		Not Applicable	mg/L	0.364	0.287	0.284	0.293 #	0.306	0.294	0.118	0.382 J	0.3	0.299	0.205	0.206
pH (laboratory)	6.5 - 8.5		Not Applicable	S.U.	7.5	7	7	7.9 #	7.9	6.51	---	7.58	6.74	6.78	7.33	7.5
Sulfate	250		Not Applicable	mg/L	918	1620	1570	1650 #	1680	1690	1710	1180	1350	1970	1620	1730
Total Dissolved Solids	500		Not Applicable	mg/L	1590	2840	2840	2760 #	2760	2550	2600	2380	2240	2540	2490	2560
Assessment Monitoring Parameters																
Antimony	0.006	Not Applicable	Background Well (Not Applicable)	mg/L	---	---	---	<0.00800 #	<0.00800	<0.0004	<0.0004	<0.000400	<0.000400	0.00160 J	<0.000400	<0.000400
Arsenic	0.010	Not Applicable		mg/L	---	---	---	<0.00400 #	<0.00400	0.000515 J	0.000428 J	0.00147 J	<0.000400	<0.000400	<0.000400	0.000446 J
Barium	2	Not Applicable		mg/L	---	---	---	0.00726 J #	0.00747 J	0.00588	0.00523	0.0056	0.00401	0.00503	0.00408	0.00414
Beryllium	0.004	Not Applicable		mg/L	---	---	---	<0.000100 #	<0.000100	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200
Cadmium	0.005	Not Applicable		mg/L	---	---	---	<0.00100 #	<0.00100	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200
Chromium	0.1	Not Applicable		mg/L	---	---	---	0.00107 J #	<0.005	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400
Cobalt	None	Not Applicable		mg/L	---	---	---	0.00169 J #	0.00267 J	0.00130 J	0.00135 J	0.00172 J	0.00141 J	0.00170 J	0.00140 J	0.00137 J
Fluoride	4	Not Applicable		mg/L	0.364	0.287	0.284	0.293 #	0.306	0.294	0.118	0.382 J	0.3	0.299	0.205	0.206
Lead	0.015	Not Applicable		mg/L	---	---	---	0.000515 J #	<0.001	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600
Lithium	None	Not Applicable		mg/L	0.134	0.252	0.272	0.208 #	0.347 J	0.376	0.359	0.279	0.217	0.236	0.225	0.217
Mercury	0.002	Not Applicable		mg/L	---	---	---	<0.000150 #	<0.000150	0.0000350 J	0.0000560 J	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300
Molybdenum	None	Not Applicable		mg/L	<0.00100	<0.00100	<0.00100	<0.00100 #	<0.01	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600
Selenium	0.05	Not Applicable		mg/L	---	---	---	<0.00300 #	0.00472 J	<0.0011	<0.0011	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110
Thallium	0.002	Not Applicable		mg/L	---	---	---	<0.000800 #	<0.000800	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200
Ra-226 + Ra-228 (combined)	5	Not Applicable		pCi/L	---	---	---	0.644 +/- 0.223 #	0.772 +/- 0.235	<0.89	---	<0.78	<0.69	<0.72	<0.71	<0.68
Other Parameters																
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	---	---	---	<5 #	<5	<5	---	<5.00	6.00 J	---	6.00 J	8.00 J
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	<5	---	---	---	---	---	---
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	301	---	---	---	---	---	---
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	<5	---	---	---	---	---	---
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	83	81.2	---	---	---	---	---
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	---	---	---	<0.049 #	<0.049	<0.03	0.106	<0.150	0.243	<0.0300	<0.300	<0.300
Potassium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	12.1	11.8	---	---	---	---	---
Sodium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	81	78.9	---	---	---	---	---
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	---	---	---	2950 #	2,940	2,870	---	---	---	---	2,890	2,920
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters										UNFILTERED						
Temperature	None	Not Applicable	Not Applicable	°C	23.21	23.03	---	20.6	---	18.1	---	18.63	24.6	22.25	22.5	---
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	7	6.56	---	6.69	---	6.64	---	7.04	6.79	6.85	6.85	---
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	1,947	2,981	---	2,912	---	2,884	---	2,893	3,000	2,685	2,853	---
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	4.15	3.01	---	0.93	---	0.65	---	1.61	0.7	0.99	0.7	---
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	166.7	84.6	---	153.9	---	157	---	75.9	72.1	-32.3	243.1	---
Turbidity	None	Not Applicable	Not Applicable	NTU	4.05	3.69	---	197	---	0.92	---	1.91	1.74	2.64	0.71	---

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. °C : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT D
GROUNDWATER SAMPLE DATA TO DATE FOR SURFACE IMPOUNDMENT CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID:	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	DUP-3
				Sample Date:	1-Apr-21	12-Oct-21	29-Mar-22	1-Jun-22	4-Oct-22	11-Apr-23	
Detection Monitoring Parameters				*Units*	FIRST 2021 ASSESSMENT MON.	SECOND 2021 ASSESSMENT MON.	FIRST 2022 ASSESSMENT MON.	FIRST 2022 ASSESSMENT MON. (RESAMPLE)	SECOND 2022 ASSESSMENT MON.	FIRST 2023 ASSESSMENT MON.	
Boron	None	Background Well (Not Applicable)	Not Applicable	mg/L	1.5	0.904	1.15	---	1.28	1.36	1.34
Calcium	None		Not Applicable	mg/L	554	424	583	---	599	586	596
Chloride	250		Not Applicable	mg/L	3.48	3.82	4.47	---	3.82	3.43	3.43
Fluoride	4		Not Applicable	mg/L	0.322	0.335	0.377	---	0.326	0.329	0.334
pH (laboratory)	6.5 - 8.5		Not Applicable	S.U.	7.07	6.82	7.63	---	7.78	7.21	7.04
Sulfate	250		Not Applicable	mg/L	1640	1660	1670	---	1630	2120	2110
Total Dissolved Solids	500		Not Applicable	mg/L	2770	2550	2730	---	2800	2540	2860
Assessment Monitoring Parameters											
Antimony	0.006	Not Applicable	Background Well (Not Applicable)	mg/L	<0.000400	<0.000400	<0.000400	---	<0.000400	<0.000400	<0.000400
Arsenic	0.010	Not Applicable		mg/L	<0.000400	<0.000400	0.000521 J	---	<0.000400	0.000479 J	0.000532 J
Barium	2	Not Applicable		mg/L	0.00456	0.00511	0.00522	---	0.00474	0.00607	0.00608
Beryllium	0.004	Not Applicable		mg/L	<0.000200	<0.000200	<0.000200	---	<0.000200	<0.000200	<0.000200
Cadmium	0.005	Not Applicable		mg/L	<0.000200	<0.000200	<0.000200	---	<0.000200	<0.000200	<0.000200
Chromium	0.1	Not Applicable		mg/L	<0.000400	0.000686 J	0.000463 J	---	<0.000400	<0.000400	<0.000400
Cobalt	None	Not Applicable		mg/L	0.00189 J	0.00213 J	0.00289 J	---	0.00205 J	0.00318 J	0.00324 J
Fluoride	4	Not Applicable		mg/L	0.322	0.335	0.377	---	0.326	0.329	0.334
Lead	0.015	Not Applicable		mg/L	<0.000600	<0.000600	<0.000600	---	<0.000600	<0.000600	<0.000600
Lithium	None	Not Applicable		mg/L	0.28	0.213	0.272	---	0.26	0.318	0.305
Mercury	0.002	Not Applicable		mg/L	0.000105 J	<0.0000300	0.0000970 J	---	<0.0000300	<0.0000300	<0.0000300
Molybdenum	None	Not Applicable		mg/L	<0.000600	<0.000600	<0.000600	---	<0.000600	<0.000600	<0.000600
Selenium	0.05	Not Applicable		mg/L	<0.00110	<0.00110	<0.00110	---	<0.00110	<0.00110	<0.00110
Thallium	0.002	Not Applicable		mg/L	<0.000200	<0.000200	<0.000200	---	<0.000200	<0.000200	<0.000200
Ra-226 + Ra-228 (combined)	5	Not Applicable		pCi/L	<0.78	<0.86	<0.86	---	0.918	0.465 +/- 0.420	0.906 +/- 0.484
Other Parameters											
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	<5.00	8.00 J	<5.00	---	7.00 J	8.00 J	7.00 J
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	1.16	0.469	0.660	---	0.134	<0.0300	<0.0300
Potassium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---
Sodium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	2,940	2,820	2,910	---	3340	2,960	3,000
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---
Field Parameters											
Temperature	None	Not Applicable	Not Applicable	ºC	18	20.2	19.1	---	23.4	19.7	---
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	6.81	6.86	6.83	---	6.83	6.63	---
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	2,907	2,884	2,878	---	2647	2,523	---
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	0.99	1.22	0.89	---	1.48	1.03	---
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	198.3	150.2	160.2	---	45.2	81.0	---
Turbidity	None	Not Applicable	Not Applicable	NTU	1	2.04	2.79	---	1.9	4.70	---

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT D
GROUNDWATER SAMPLE DATA TO DATE FOR SURFACE IMPOUNDMENT CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID:	MW-9	MW-9	MW-9	MW-9	MW-9	MW-9	DUP 3	MW-9	MW-9	MW-9	MW-9 (Shallow)	MW-9 (Deep)
				Sample Date:	6-Jun-16	2-Aug-16	5-Oct-16	8-Dec-16	2-Feb-17	6-Apr-17	6-Apr-17	8-Jun-17	7-Aug-17	24-May-18	2-Aug-18	10-Aug-18
Detection Monitoring Parameters				***Units***	BACKGROUND 1	BACKGROUND 2	BACKGROUND 3	BACKGROUND 4	BACKGROUND 5	BACKGROUND 6		BACKGROUND 7	BACKGROUND 8	DETECTION MON. #1	EVALUATION SAMPLE	VERIFICATION SAMPLE
Boron	None	1.935	Not Applicable	mg/L	0.0318 J	0.0589 J	0.322 J	0.0838 J	<0.175	0.0364	0.0596 J	0.0561 J	0.0528 J*	0.217	0.0420 J	<0.0350
Calcium	None	961.40	Not Applicable	mg/L	41.1	54.9	159	20.5	26.6	28.3	28.9	33.7	32.8	33.5	31.5	4.82
Chloride	250	11.6	Not Applicable	mg/L	1.42	1.86	0.743 J	3.38	5.72	3.93	3.95	3.4	3.08	2.48	3.25	2.43
Fluoride	4	2.84	Not Applicable	mg/L	0.189	0.175	0.337 J*	0.36	0.275	0.242	0.237	0.185	0.214 J*	0.231	0.272	0.231
pH (laboratory)	6.5 - 8.5	8	Not Applicable	S.U.	7.14	8.3	7.9	7.7	7.7	7.3	7.3	7	7	7.7	7.3	7.7
Sulfate	250	2,156	Not Applicable	mg/L	14.1	16	18.1	21.4	19.8	13.4	13	11.5	15.5	21.3	25.5	33.9
Total Dissolved Solids	500	244	Not Applicable	mg/L	163	216	158	151	167	164	164	189	209	199	173	206
Assessment Monitoring Parameters																
Antimony	0.006	Not Applicable	0.006 (MCL)	mg/L	<0.000500	<0.00100	<0.00400	<0.000800	0.00108 J	<0.000800	<0.000800	<0.000800	<0.000800	---	---	---
Arsenic	0.010	Not Applicable	0.01 (MCL)	mg/L	0.000776 J	0.00191 J	0.00438 J	0.000828 J	0.000651 J	0.000787 J	0.000694 J	0.000869 J	0.00147 J	---	---	---
Barium	2	Not Applicable	2 (MCL)	mg/L	0.0447	0.0446	0.151	0.0304	0.0284	0.0364	0.0375	0.0327	0.0546 J*	---	---	---
Beryllium	0.004	Not Applicable	0.004 (MCL)	mg/L	<0.00100	<0.00200	<0.000500	0.000155 J	<0.000100	U (0.000503)	U (0.000511)	<0.000100	0.000246 J	---	---	---
Cadmium	0.005	Not Applicable	0.005 (MCL)	mg/L	<0.000400	<0.000800	<0.000500	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100	---	---	---
Chromium	0.1	Not Applicable	0.1 (MCL)	mg/L	0.0023	<0.00100	0.00622 J	U (0.00483)	0.00288	0.0046	0.00451	0.00163 J	0.00577	---	---	---
Cobalt	None	Not Applicable	0.006 (ODEQ)	mg/L	<0.000500	<0.00100	0.00179 J	0.000531 J	0.000204 J	0.000349 J	0.000357 J	0.000346 J	0.000547 J	---	---	---
Fluoride	4	Not Applicable	4 (MCL)	mg/L	0.189	0.175	0.337 J*	0.36	0.275	0.242	0.237	0.185	0.214 J*	0.231	0.272	0.231
Lead	0.015	Not Applicable	0.015 (MCL)	mg/L	0.000495 J	<0.000200	0.000934 J	0.00106 J	0.000556 J	0.000872 J	0.000873 J	0.000281 J	0.00118 J	---	---	---
Lithium	None	Not Applicable	0.4282 (UTL)	mg/L	<0.0100	0.00214 J	<0.0150	0.00368 J	<0.00300	<0.00300	<0.00300	<0.00300	0.00422 J*	---	<0.00300	<0.00300
Mercury	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	---	---	---
Molybdenum	None	Not Applicable	0.1 (ODEQ)	mg/L	<0.000500	<0.00100	<0.00500	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	---	<0.00100	<0.00100
Selenium	0.05	Not Applicable	0.05 (MCL)	mg/L	<0.000600	0.00135 J	<0.000300	U (0.000973)	0.000636 J	<0.000300	<0.000300	0.000403 J	0.000470 J	---	---	---
Thallium	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000500	<0.00100	<0.00400	<0.000800	<0.000800	<0.000800	<0.000800	<0.000800	<0.000800	---	---	---
Ra-226 + Ra-228 (combined)	5	Not Applicable	5 (MCL)	pCi/L	0.0807 +/- 0.312 U	0.112 +/- 0.250 U	0.575 +/- 0.291	1.44 +/- 1.38 U	0.180 +/- 0.504 U	0.486 +/- 0.461 U	-0.0852 +/- 0.379 U	0.202 +/- 0.198 U	0.621 +/- 0.396	---	---	---
Other Parameters																
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<5.00	---	---	---
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	104	---	---	---
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<5.00	---	---	---
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	2.64	---	---	---
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Potassium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	0.887 J	---	---	---
Sodium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	19.5	---	---	---
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	---	---	---	---	---	---	---	---	---	---	---	---
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																
Temperature	None	Not Applicable	Not Applicable	ºC	22.3	23.74	21.8	16.41	16.18	16.94	---	22.33	24.14	22.3	24.21	21.97
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	6.54	7.13	7.21	7.3	7.44	7.2	---	7.01	6.67	7.42	6.62	7.15
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	263	372	254	207	229	230	---	262	314	251	394	423
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	1.52	0.24	0.08	3.02	1.82	0.22	---	0.04	2.16	3.52	3.16	1.79
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	-52.6	-28.3	-116	-131.7	-124.8	-29	---	53.2	51.4	-1.6	235.2	214.3
Turbidity	None	Not Applicable	Not Applicable	NTU	27	3.09	11.4	55.9	24.8	44.5	---	23.1	82.1	19.8	11.5	11

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT D
GROUNDWATER SAMPLE DATA TO DATE FOR SURFACE IMPOUNDMENT CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID:	MW-9	MW-9		MW-9	MW-9	MW-9	DUP 1	MW-9	MW-9	MW-9	MW-9	MW-9
				Sample Date:	28-Sep-18	9-Jan-19		24-Apr-19	3-Oct-19	16-Jun-20		7-Oct-20	1-Apr-21	12-Oct-21	29-Mar-22	6-Jun-22
Detection Monitoring Parameters				***Units***	INITIAL ASSESSMENT MON.	INITIAL ASSESSMENT MON. (RESAMPLE) UNFILTERED	INITIAL ASSESSMENT MON. (RESAMPLE) FILTERED	FIRST 2019 ASSESSMENT MON.	SECOND 2019 ASSESSMENT MON.	FIRST 2020 ASSESSMENT MON.		SECOND 2020 ASSESSMENT MON.	FIRST 2021 ASSESSMENT MON.	SECOND 2021 ASSESSMENT MON.	FIRST 2022 ASSESSMENT MON.	FIRST 2022 ASSESSMENT MON. (RESAMPLE)
Boron	None	1.935	Not Applicable	mg/L	0.0457 J #	0.0309	0.0244	0.0692	0.0655	0.0446	0.0630	0.0316	0.0273	0.0794	0.0216	---
Calcium	None	961.40	Not Applicable	mg/L	18 #	25.8	25.5	25.6	36.8	36.0	33.5	31.7	24.5	30.5	19.3	---
Chloride	250	11.6	Not Applicable	mg/L	2.35 #	2.79	2.73	1.14	1.35	0.883	0.958	0.834	1.74	2.66	4.71^	1.1
Fluoride	4	2.84	Not Applicable	mg/L	0.354 #	0.199	0.159	0.184	0.161	0.134	0.132	0.139	0.175	0.202	<0.250^	0.172
pH (laboratory)	6.5 - 8.5	8	Not Applicable	S.U.	8 #	6.71	---	7.74	6.44	6.48	6.24	7.23	7.07	6.82	1.29^	7.31
Sulfate	250	2,156	Not Applicable	mg/L	19.6 #	13.0	13.0	13.6	10.5	6.36	5.90	11.3	12.0	13.7	24.5^	5.62
Total Dissolved Solids	500	244	Not Applicable	mg/L	139 #	168	100	184	182	170	152	192	226	144	380^	1.42
Assessment Monitoring Parameters																
Antimony	0.006	Not Applicable	0.006 (MCL)	mg/L	<0.000800 #	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	---
Arsenic	0.010	Not Applicable	0.01 (MCL)	mg/L	0.000508 J #	0.000690 J	<0.000400	0.000973 J	0.000780 J	0.000645 J	0.000677 J	0.000619 J	0.000470 J	0.00227	0.00245	---
Barium	2	Not Applicable	2 (MCL)	mg/L	0.0226 #	0.0331	0.021	0.0507	0.0327	0.0418	0.0382	0.0362	0.0429	0.0294	0.0634	---
Beryllium	0.004	Not Applicable	0.004 (MCL)	mg/L	0.000124 J #	0.000201 J	<0.000200	0.000217 J	<0.000200	<0.000200	<0.000200	<0.000200	0.000230 J	<0.000200	0.000560 J	---
Cadmium	0.005	Not Applicable	0.005 (MCL)	mg/L	<0.000100 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---
Chromium	0.1	Not Applicable	0.1 (MCL)	mg/L	0.002 #	0.00276 J	<0.000400	0.00390 J	<0.000400	0.000441 J	<0.000400	0.00183 J	0.00189 J	0.00168 J	0.0207	---
Cobalt	None	Not Applicable	0.006 (ODEQ)	mg/L	0.000208 J #	0.000352 J	<0.000200	0.000516 J	0.000210 J	0.000328 J	0.000311 J	0.000292 J	0.000433 J	0.000720 J	0.00143 J	---
Fluoride	4	Not Applicable	4 (MCL)	mg/L	0.354 #	0.199	0.159	0.184	0.161	0.134	0.132	0.139	0.175	0.202	<0.250^	0.172
Lead	0.015	Not Applicable	0.015 (MCL)	mg/L	0.000462 J #	0.000850 J	<0.000600	0.00120 J	<0.000600	<0.000600	<0.000600	<0.000600	0.00105 J	<0.000600	0.00312	---
Lithium	None	Not Applicable	0.4282 (UTL)	mg/L	<0.00300 #	0.00188 J	<0.00100	0.00389 J	0.00118 J	0.00189 J	0.00163 J	0.00241 J	0.00177 J	0.00152 J	0.0160	---
Mercury	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000100 #	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	0.000109 J	<0.0000300	<0.0000300	---
Molybdenum	None	Not Applicable	0.1 (ODEQ)	mg/L	<0.00100 #	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	---
Selenium	0.05	Not Applicable	0.05 (MCL)	mg/L	0.000327 J #	<0.0011	<0.0011	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	---
Thallium	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000800 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---
Ra-226 + Ra-228 (combined)	5	Not Applicable	5 (MCL)	pCi/L	0.406 +/- 0.245 #	<0.69	---	<0.99	0.81	<0.72	<0.89	<1.04	<0.79	<0.8	<0.89	---
Other Parameters																
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	13.0 J #	7 J	---	8.00 J	6.00 J	---	---	7.00 J	9.00 J	11.0 J	17^	22.0
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	<5	---	---	---	---	---	---	---	---	---	---
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	77	---	---	---	---	---	---	---	---	---	---
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	<5	---	---	---	---	---	---	---	---	---	---
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	2.51	2.23	---	---	---	---	---	---	---	---	---
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	0.429 #	0.479	0.458	0.422	0.0302 J	0.119	0.0997 J	0.208	0.0895 J	<0.0300	942^	0.0784 J,H
Potassium	None	Not Applicable	Not Applicable	mg/L	---	0.591	0.267	---	---	---	---	---	---	---	---	---
Sodium	None	Not Applicable	Not Applicable	mg/L	---	13.9	14.2	---	---	---	---	---	---	---	---	---
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	197 #	175	---	---	---	---	---	283	213	223	24500^	253
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																
Temperature	None	Not Applicable	Not Applicable	ºC	20.9	14.5	---	18.5	25.86	24.73	---	21.5	16.9	21.1	19.5	26.5
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	6.76	6.65	---	6.79	10.65	6.88	---	6.89	6.8	6.91	7.26	6.74
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	203.2	170.9	---	203.1	3552	258	---	264.3	216	212.2	150.8	232
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	2.45	2.82	---	2.29	0.5	0.39	---	0.36	0.43	0.19	2.01	0.52
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	325.8	252.1	---	46.7	-252.4	245.5	---	160.8	53.1	-164.2	121.3	50
Turbidity	None	Not Applicable	Not Applicable	NTU	26	69.1	4.76	71.1	0.61	32.1	---	28.6	79.9	6.51	99.8	35.00

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT D
GROUNDWATER SAMPLE DATA TO DATE FOR SURFACE IMPOUNDMENT CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID: / Sample Date:	MW-9 4-Oct-22	MW-9 13-Apr-23
Detection Monitoring Parameters				***Units***	**SECOND 2022 ASSESSMENT MON.**	**FIRST 2023 ASSESSMENT MON.**
Boron	None	1.935	Not Applicable	mg/L	0.0982	0.0338
Calcium	None	961.40	Not Applicable	mg/L	37.7	23.3
Chloride	250	11.6	Not Applicable	mg/L	3.7	2.42
Fluoride	4	2.84	Not Applicable	mg/L	<0.0500	0.136
pH (laboratory)	6.5 - 8.5	8	Not Applicable	S.U.	6.95	7.13
Sulfate	250	2,156	Not Applicable	mg/L	5.9	16.4
Total Dissolved Solids	500	244	Not Applicable	mg/L	196	118
Assessment Monitoring Parameters						
Antimony	0.006	Not Applicable	0.006 (MCL)	mg/L	<0.000400	<0.000400
Arsenic	0.010	Not Applicable	0.01 (MCL)	mg/L	0.00186 J	0.000451 J
Barium	2	Not Applicable	2 (MCL)	mg/L	0.0329	0.0381
Beryllium	0.004	Not Applicable	0.004 (MCL)	mg/L	<0.000200	<0.000200
Cadmium	0.005	Not Applicable	0.005 (MCL)	mg/L	<0.000200	<0.000200
Chromium	0.1	Not Applicable	0.1 (MCL)	mg/L	<0.000400	<0.000400
Cobalt	None	Not Applicable	0.006 (ODEQ)	mg/L	0.000507 J	0.000259 J
Fluoride	4	Not Applicable	4 (MCL)	mg/L	<0.0500	0.136
Lead	0.015	Not Applicable	0.015 (MCL)	mg/L	<0.000600	0.000626 J
Lithium	None	Not Applicable	0.4282 (UTL)	mg/L	<0.00100	0.00101 J
Mercury	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.0000300	<0.0000300
Molybdenum	None	Not Applicable	0.1 (ODEQ)	mg/L	<0.000600	<0.000600
Selenium	0.05	Not Applicable	0.05 (MCL)	mg/L	<0.00110	<0.00110
Thallium	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000200	<0.000200
Ra-226 + Ra-228 (combined)	5	Not Applicable	5 (MCL)	pCi/L	0.928	0.0295 +/- 0.519
Other Parameters						
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	9.00 J	11.0 J
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	---
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	---
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	<0.0300	0.198
Potassium	None	Not Applicable	Not Applicable	mg/L	---	---
Sodium	None	Not Applicable	Not Applicable	mg/L	---	---
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	349	200
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---
Field Parameters						
Temperature	None	Not Applicable	Not Applicable	ºC	24	18.2
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	6.6	6.85
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	310.5	235.1
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	0.29	0.73
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	-99.2	-47.1
Turbidity	None	Not Applicable	Not Applicable	NTU	9.40	53.1

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT D
GROUNDWATER SAMPLE DATA TO DATE FOR SURFACE IMPOUNDMENT CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID: / Sample Date:	MW-10 6-Jun-16	DUP 3 6-Jun-16	MW-10 2-Aug-16	MW-10 5-Oct-16	MW-10 9-Dec-16	MW-10 2-Feb-17	MW-10 7-Apr-17	MW-10 8-Jun-17	MW-10 14-Aug-17	MW-10 24-May-18	MW-10 (Shallow) 2-Aug-18	MW-10 (Deep) 10-Aug-18
Detection Monitoring Parameters				***Units***	BACKGROUND 1		BACKGROUND 2	BACKGROUND 3	BACKGROUND 4	BACKGROUND 5	BACKGROUND 6	BACKGROUND 7	BACKGROUND 8	DETECTION MON. #1	EVALUATION SAMPLE	VERIFICATION SAMPLE
Boron	None	1.935	Not Applicable	mg/L	3.05	3.14	2.86	2.82	2.78	4.01	3.72 J*	3.83	3.22	3.95	0.407	3.54
Calcium	None	961.40	Not Applicable	mg/L	245	224	152	139	153	166	246	174	134	152	134	152
Chloride	250	11.6	Not Applicable	mg/L	33.4 H	41.9	37.1	34.4	36.5	31.7	42	34	27.7	39.9	36.5	35.6
Fluoride	4	2.84	Not Applicable	mg/L	0.805	0.809	1.06	1.21 J*	1.21	1.17	1.08	1.01	0.954	1.75	1.04	1
pH (laboratory)	6.5 - 8.5	8	Not Applicable	S.U.	7.52	7.61	7.5	7.7	7.8	7.3	7.4	7.3	7	7.9	7.6	7.6
Sulfate	250	2,156	Not Applicable	mg/L	943 J*	1400	912	959	1220	861	1070	872	988	1050	918	882
Total Dissolved Solids	500	1,632	Not Applicable	mg/L	1610	1580	1540	1540	1520	1570	1530	1560	1520	1570	1490	1550
Assessment Monitoring Parameters																
Antimony	0.006	Not Applicable	0.006 (MCL)	mg/L	<0.000500	<0.000500	<0.000500	<0.000800	<0.00400	<0.000800	<0.00400	<0.000800	<0.000800	---	---	---
Arsenic	0.010	Not Applicable	0.01 (MCL)	mg/L	0.000792 J	0.000865 J	0.00115 J	0.00133 J	<0.00200	0.00102 J	<0.00200	0.00155 J	0.00378 J	---	---	---
Barium	2	Not Applicable	2 (MCL)	mg/L	0.0268	0.0257	0.0229	0.021	0.0224	0.0241	0.0339 J*	0.0226	0.0225	---	---	---
Beryllium	0.004	Not Applicable	0.004 (MCL)	mg/L	<0.00100	<0.00100	<0.00100	<0.000100	<0.000500	<0.000100	<0.000500	<0.000100	<0.000100	---	---	---
Cadmium	0.005	Not Applicable	0.005 (MCL)	mg/L	<0.000400	<0.000400	<0.000400	<0.000100	<0.000500	<0.000100	<0.000500	<0.000100	<0.000100	---	---	---
Chromium	0.1	Not Applicable	0.1 (MCL)	mg/L	<0.000500	0.000501 J	<0.000500	0.0032	<0.00250	<0.000500	0.00502 J	<0.000500	U (0.00111)	---	---	---
Cobalt	None	Not Applicable	0.006 (ODEQ)	mg/L	<0.000500	<0.000500	<0.000500	0.000222 J	<0.000500	0.000365 J	<0.000500	0.000345 J	0.000424 J	---	---	---
Fluoride	4	Not Applicable	4 (MCL)	mg/L	0.805	0.809	1.06	1.21 J*	1.21	1.17	1.08	1.01	0.954	1.75	1.04	1
Lead	0.015	Not Applicable	0.015 (MCL)	mg/L	<0.000200	<0.000200	<0.000200	<0.000100	<0.000500	0.000163 J	<0.000500	<0.000100	<0.000100	---	---	---
Lithium	None	Not Applicable	0.4282 (UTL)	mg/L	0.0673	0.0682	0.0627	0.0646	0.0605 J	0.0669	0.0908 J	0.061	0.0654	---	0.0607	0.0579
Mercury	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000150	<0.000150	<0.000100	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	---	---	---
Molybdenum	None	Not Applicable	0.1 (ODEQ)	mg/L	0.00219	0.00197 J	0.00156 J	0.00143 J	<0.00500	0.00163 J	<0.00500	0.00199 J	0.00190 J	---	0.00219	0.00198 J
Selenium	0.05	Not Applicable	0.05 (MCL)	mg/L	<0.000600	<0.000600	<0.000600	0.000386 J	<0.00150	0.000332 J	<0.00300	<0.000300	<0.000300	---	---	---
Thallium	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000500	<0.000500	<0.000500	<0.000800	<0.00400	<0.000800	<0.00400	<0.000800	<0.000800	---	---	---
Ra-226 + Ra-228 (combined)	5	Not Applicable	5 (MCL)	pCi/L	1.26 +/- 0.315	0.881 +/- 0.248	0.945 +/- 0.304	1.48 +/- 0.362	1.11 +/- 0.402	1.57 +/- 0.440	1.08 +/- 0.301	0.774 +/- 0.234	1.12 +/- 0.306	---	---	---
Other Parameters																
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<5.00	---	---	---
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	107	---	---	---
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<5.00	---	---	---
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	44.9	---	---	---
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Potassium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	11.2	---	---	---
Sodium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	282	---	---	---
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	---	---	---	---	---	---	---	---	---	---	---	---
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																
Temperature	None	Not Applicable	Not Applicable	ºC	20.76	---	22.35	22.95	14.55	15.1	17.67	22.39	22.7	21.58	25.75	22.84
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	7.36	---	7.45	7.46	7.12	7.3	7.29	7.31	7.28	7.67	7.18	7.27
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	2,031	---	2,068	2,129	2,104	2,084	2,087	2,072	2,072	2,051	2,079	2,085
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	0.57	---	0.09	0.05	0.25	1.83	1.29	0.15	0.13	1.75	3.56	3.72
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	-24.2	---	-6.6	-107.8	-142.5	-123.8	33.1	72	8.3	-34.6	177.1	153
Turbidity	None	Not Applicable	Not Applicable	NTU	0.57	---	2.39	1.75	2.94	1.94	0.44	0.68	0.53	0.91	0.02	0.84

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT D
GROUNDWATER SAMPLE DATA TO DATE FOR SURFACE IMPOUNDMENT CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID:	MW-10	MW-10		MW-10	DUP-1	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10	MW-10
				Sample Date:	28-Sep-18	9-Jan-19		23-Apr-19		30-Sep-19	16-Jun-20	13-Oct-20	1-Apr-21	12-Oct-21	29-Mar-22	Jun-22	Oct-22	Apr-23
Detection Monitoring Parameters				***Units***	INITIAL ASSESSMENT MON.	INITIAL ASSESSMENT MON. (RESAMPLE) UNFILTERED	FILTERED	FIRST 2019 ASSESSMENT MON.		SECOND 2019 ASSESSMENT MON.	FIRST 2020 ASSESSMENT MON.	SECOND 2020 ASSESSMENT MON.	FIRST 2021 ASSESSMENT MON.	SECOND 2021 ASSESSMENT MON.	FIRST 2022 ASSESSMENT MON.	FIRST 2022 ASSESSMENT MON. (RESAMPLE)	SECOND 2022 ASSESSMENT MON.	FIRST 2023 ASSESSMENT MON.
Boron	None	1.935	Not Applicable	mg/L	3.04 #	3.71	3.4	3.38	3.48	2.71	2.87	3.11	3.31	2.74	3.14	---	3.14	2.99
Calcium	None	961.40	Not Applicable	mg/L	109 #	155	151	154	146	141	129	116	116	140	143	---	146	138
Chloride	250	11.6	Not Applicable	mg/L	35.3 #	36.8	35.6	33	6.84	34.8	35.9	37.3	35.8	36.0	38.4	---	35.6	35.3
Fluoride	4	2.84	Not Applicable	mg/L	1.06 #	1.08	1.15	0.992	<0.250	1.11	1.09	1.07	1.01	0.928	1.18	---	1.17	1.13
pH (laboratory)	6.5 - 8.5	8	Not Applicable	S.U.	8.2 #	7.21	---	7.94	7.96	7.22	7.12	7.5	7.89	7.61	7.89	---	7.44	7.67
Sulfate	250	2,156	Not Applicable	mg/L	835 #	990 B	1,010 B	976	189	938	1,030	992	954	1,020	959	---	933	1,030
Total Dissolved Solids	500	1,632	Not Applicable	mg/L	1510 #	1,450	1,500	1,560	1,620	1,530	1,580	1,600	1,660	1,520	1,570	---	1670	1,340
Assessment Monitoring Parameters																		
Antimony	0.006	Not Applicable	0.006 (MCL)	mg/L	<0.000800 #	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	---	<0.000400	<0.000400
Arsenic	0.010	Not Applicable	0.01 (MCL)	mg/L	<0.000400 #	0.000979 J	0.000841 J	0.000645 J	0.000688 J	0.000575 J	0.000731 J	0.000686 J	0.000538 J	0.000676 J	0.000942 J	---	0.000650 J	0.000732 J
Barium	2	Not Applicable	2 (MCL)	mg/L	0.0207 #	0.0237	0.0227	0.0266	0.0252	0.0224	0.0251	0.021	0.02	0.0274	0.0259	---	0.0251	0.0257
Beryllium	0.004	Not Applicable	0.004 (MCL)	mg/L	<0.000100 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200	<0.000200
Cadmium	0.005	Not Applicable	0.005 (MCL)	mg/L	<0.000100 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200	<0.000200
Chromium	0.1	Not Applicable	0.1 (MCL)	mg/L	0.000518 J #	<0.000400	<0.000400	0.000471 J	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	0.000853 J	---	<0.000400	0.000406 J
Cobalt	None	Not Applicable	0.006 (ODEQ)	mg/L	0.000151 J #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	0.000379 J	---	<0.000200	0.000252 J
Fluoride	4	Not Applicable	4 (MCL)	mg/L	1.06 #	1.08	1.15	0.992	<0.250	1.11	1.09	1.07	1.01	0.928	1.18	---	1.17	1.13
Lead	0.015	Not Applicable	0.015 (MCL)	mg/L	<0.000100 #	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	---	<0.000600	<0.000600
Lithium	None	Not Applicable	0.4282 (UTL)	mg/L	0.0593 #	0.0705	0.0687	0.0756	0.0734	0.0639	0.0665	0.0625	0.055	0.0644	0.0668	---	0.0618	0.0649
Mercury	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000100 #	<0.0000300	0.0000460 J	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	0.000165 J	<0.0000300	<0.0000300	---	<0.0000300	<0.0000300
Molybdenum	None	Not Applicable	0.1 (ODEQ)	mg/L	0.00162 J #	0.00198 J	0.00193 J	0.00263 J	0.00209 J	0.00182 J	0.00202 J	0.00178 J	0.00208 J	0.00230 J	0.00210 J	---	0.00197 J	0.00208 J
Selenium	0.05	Not Applicable	0.05 (MCL)	mg/L	<0.000300 #	<0.0011	<0.0011	0.00180 J	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	---	<0.00110	<0.00110
Thallium	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000800 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	0.000320 J	<0.000200
Ra-226 + Ra-228 (combined)	5	Not Applicable	5 (MCL)	pCi/L	1.12 +/- 0.314 #	0.97	---	<0.66	0.77	<0.7	1.31	1.98	<0.75	1.14	<0.85	---	1.67	0.714 +/- 1.09
Other Parameters																		
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	<5.00 #	<5.00	---	<5.00	<5.00	6.00 J	---	<5.00	<5.00	<5.00	<5.00	---	5.00 J	<5.00
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	<5	---	---	---	---	---	---	---	---	---	---	---	---
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	112	---	---	---	---	---	---	---	---	---	---	---	---
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	<5	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	55.4	53	---	---	---	---	---	---	---	---	---	---	---
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	0.35 #	1.42	1.36	1.37	0.261 J	0.244	<0.0600	<0.0300	0.547	0.0978 J	1.24	---	0.217	0.627
Potassium	None	Not Applicable	Not Applicable	mg/L	---	13.2	12.8	---	---	---	---	---	---	---	---	---	---	---
Sodium	None	Not Applicable	Not Applicable	mg/L	---	299	288	---	---	---	---	---	---	---	---	---	---	---
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	2020 #	2,080	---	---	---	---	---	2,230	2,180	2,110	2,260	---	2480	2,160
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																		
Temperature	None	Not Applicable	Not Applicable	ºC	22.1	14.9	---	18.2	---	26.33	21.86	21.2	16.52	22.0	19.4	---	21.4	18.2
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	7.4	7.36	---	7.82	---	7.43	7.57	7.52	8.42	7.54	7.76	---	7.1	7.73
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	2,109	2,034	---	2,079	---	2,102	1,967	2,055	2,800	1,910	2,075	---	2077	2,034
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	0.44	2.62	---	6.38	---	1.2	3.58	1.22	6.58	1.72	4.59	---	1.95	3.79
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	101.2	229.1	---	127.6	---	35.2	-12.7	305	70.4	-28.5	138.8	---	108.5	113.3
Turbidity	None	Not Applicable	Not Applicable	NTU	6.98	0.76	0.4	0.42	---	1.37	2.09	3.83	0.75	0.96	2.82	---	2.85	1.94

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT D
GROUNDWATER SAMPLE DATA TO DATE FOR SURFACE IMPOUNDMENT CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID: / Sample Date:	MW-11 7-Jun-16	MW-11 1-Aug-16	MW-11 5-Oct-16	MW-11 9-Dec-16	MW-11 2-Feb-17	MW-11 7-Apr-17	MW-11 8-Jun-17	DUP 3 8-Jun-17	MW-11 14-Aug-17	MW-11 24-May-18	MW-11 (Shallow) 2-Aug-18	MW-11 (Deep) Verification 10-Aug-18
					BACKGROUND 1	BACKGROUND 2	BACKGROUND 3	BACKGROUND 4	BACKGROUND 5	BACKGROUND 6	BACKGROUND 7		BACKGROUND 8	DETECTION MON. #1	EVALUATION SAMPLE	VERIFICATION SAMPLE
Detection Monitoring Parameters				***Units***												
Boron	None	1.935	Not Applicable	mg/L	2.82	2.65	2.87	2.51	0.758	3.11	3.47	3.52 J*	3.13	3.82	0.344	3.09
Calcium	None	961.40	Not Applicable	mg/L	70.9	67.3	51.6	56.1	58.4	57.1	58.7	58.2	45.4	54.9	44.4	54.9
Chloride	250	11.6	Not Applicable	mg/L	61.6	55.9	60.1	59.3	52.7	56.3	58	52.4	49.5	56.6	58.4	62.2
Fluoride	4	2.84	Not Applicable	mg/L	1.25	1.49	1.73 J*	1.52	1.59	1.68	1.47	1.49 J*	1.45	2.2	1.53	1.51
pH (laboratory)	6.5 - 8.5	8	Not Applicable	S.U.	7.78	7.6	7.8	8	7.8	7.9	7.3	7.4	7.3	8	7.7	7.8
Sulfate	250	2,156	Not Applicable	mg/L	854	669	654	675	588	702	637	564	673	644	636	647
Total Dissolved Solids	500	1,328	Not Applicable	mg/L	1270	1280	1270	1220	1220	1200	1250	1240	1200	1290	1240	1260
Assessment Monitoring Parameters																
Antimony	0.006	Not Applicable	0.006 (MCL)	mg/L	<0.000500	<0.000500	<0.000800	0.00438 J	<0.000800	<0.000800	<0.000800	<0.000800	<0.000800	---	---	---
Arsenic	0.010	Not Applicable	0.01 (MCL)	mg/L	0.000665 J	<0.00250	0.000659 J	<0.00200	0.000506 J	0.000563 J	0.000853 J	0.000658 J	0.00308 J	---	---	---
Barium	2	Not Applicable	2 (MCL)	mg/L	0.0262	0.0233	0.0204	0.0191	0.0221	0.0217	0.019	0.0193 J*	0.0196	---	---	---
Beryllium	0.004	Not Applicable	0.004 (MCL)	mg/L	<0.00100	<0.00100	<0.000100	<0.000500	<0.000100	0.000361 U	<0.000100	<0.000100	<0.000100	---	---	---
Cadmium	0.005	Not Applicable	0.005 (MCL)	mg/L	<0.000400	<0.000400	<0.000100	<0.000500	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100	---	---	---
Chromium	0.1	Not Applicable	0.1 (MCL)	mg/L	<0.000500	<0.000500	<0.000500	<0.00250	<0.000500	<0.000500	0.000614 J	0.00138 J	U (0.00121)	---	---	---
Cobalt	None	Not Applicable	0.006 (ODEQ)	mg/L	<0.000500	<0.000500	<0.000100	<0.000500	<0.000100	<0.000100	0.000172 J	<0.000100	0.000187 J	---	---	---
Fluoride	4	Not Applicable	4 (MCL)	mg/L	1.25	1.49	1.73 J*	1.52	1.59	1.68	1.47	1.49 J*	1.45	2.2	1.53	1.51
Lead	0.015	Not Applicable	0.015 (MCL)	mg/L	<0.000200	<0.000200	<0.000100	<0.000500	<0.000100	<0.000100	<0.000100	0.00107 J	<0.000100	---	---	---
Lithium	None	Not Applicable	0.4282 (UTL)	mg/L	0.06	0.0738	0.0567	0.0486 J	0.0562	0.0549	0.0508	0.0508 J*	0.0505	---	0.0511	0.0513
Mercury	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	---	---	---
Molybdenum	None	Not Applicable	0.1 (ODEQ)	mg/L	0.00291	0.00264	0.00262	<0.00500	0.00274	0.00225	0.00275	0.00481	0.00272	---	0.00293	0.00331
Selenium	0.05	Not Applicable	0.05 (MCL)	mg/L	<0.000600	<0.00300	<0.000300	<0.00150	<0.000300	<0.000300	0.000432 J	<0.000300	<0.000300	---	---	---
Thallium	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000500	<0.000500	<0.000800	<0.00400	<0.000800	<0.000800	<0.000800	<0.000800	<0.000800	---	---	---
Ra-226 + Ra-228 (combined)	5	Not Applicable	5 (MCL)	pCi/L	0.546 +/- 0.247	0.924 +/- 0.297	0.752 +/- 0.307	1.40 +/- 0.419	0.480 +/- 0.310	0.708 +/- 0.264	0.338 +/- 0.211	0.661 +/- 0.250	1.01 +/- 0.296	---	---	---
Other Parameters																
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<5.00	---	---	---
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	171	---	---	---
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<5.00	---	---	---
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	16.3	---	---	---
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Potassium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	7.16	---	---	---
Sodium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	352	---	---	---
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	---	---	---	---	---	---	---	---	---	---	---	---
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																
Temperature	None	Not Applicable	Not Applicable	ºC	19.87	23.27	21.85	16.16	16.01	19.8	20.53	---	21.68	21.01	25.94	20.89
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	7.21	7.19	7.65	7.63	7.68	7.6	7.34	---	7.62	7.71	7.17	7.56
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	1,811	1,945	1,907	1,890	1,867	1,865	1,858	---	1,886	1,865	1,934	1,942
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	2.16	1	0.02	0.13	2.31	2.65	0.32	---	0.33	1.69	2.52	1.28
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	-9.8	16.3	-119.9	-142.1	-120.8	-20.8	116.2	---	5	-189.7	176.9	56.4
Turbidity	None	Not Applicable	Not Applicable	NTU	1.35	1.4	1.02	1.04	0.69	1.14	0.97	---	3.3	0.31	0.41	3.85

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT D
GROUNDWATER SAMPLE DATA TO DATE FOR SURFACE IMPOUNDMENT CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID:	MW-11	MW-11		MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11	MW-11
				Sample Date:	28-Sep-18	15-Jan-19		23-Apr-19	30-Sep-19	16-Jun-20	7-Oct-20	1-Apr-21	12-Oct-21	29-Mar-22	6-Jun-22	3-Oct-22	13-Apr-23
Detection Monitoring Parameters				***Units***	INITIAL ASSESSMENT MON.	INITIAL ASSESSMENT MON. (RESAMPLE) UNFILTERED	INITIAL ASSESSMENT MON. (RESAMPLE) FILTERED	FIRST 2019 ASSESSMENT MON.	SECOND 2019 ASSESSMENT MON.	FIRST 2020 ASSESSMENT MON.	SECOND 2020 ASSESSMENT MON.	FIRST 2021 ASSESSMENT MON.	SECOND 2021 ASSESSMENT MON.	FIRST 2022 ASSESSMENT MON.	FIRST 2022 ASSESSMENT MON. (RESAMPLE)	SECOND 2022 ASSESSMENT MON.	FIRST 2023 ASSESSMENT MON.
Boron	None	1.935	Not Applicable	mg/L	3.16 #	3.18	3.25	3.29	2.38	2.47	2.49	3.01	2.98	2.82	---	2.91	2.72
Calcium	None	961.40	Not Applicable	mg/L	36 #	47.6	54.1	57.6	46.8	44.5	45.9	45.1	52.6	48.9	---	48.3	47.8
Chloride	250	11.6	Not Applicable	mg/L	53.9 #	56.3	56.2	57.2	56.1	57.5	56.7	57.7	58.6	60.2^	58.7	57.6	56.2
Fluoride	4	2.84	Not Applicable	mg/L	1.55 #	1.45	0.561	1.53	1.59	1.57	1.44	1.58	1.49	2.43^	1.74	1.6	1.53
pH (laboratory)	6.5 - 8.5	8	Not Applicable	S.U.	8.4 #	7.69	---	8.12	6.95	7.23	7.63	7.97	7.71	1.45^	7.86	7.53	7.69
Sulfate	250	2,156	Not Applicable	mg/L	639 #	637	633	659	681	718	717	691	706	1160^	681	683	711
Total Dissolved Solids	500	1,328	Not Applicable	mg/L	1230 #	1,220	1,200	1,220	1,250	1,260	1,220	1,250	1,220	3500^	1,230	1,070	1,130
Assessment Monitoring Parameters																	
Antimony	0.006	Not Applicable	0.006 (MCL)	mg/L	<0.000800 #	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	---	<0.000400	<0.000400
Arsenic	0.010	Not Applicable	0.01 (MCL)	mg/L	<0.000400 #	0.000481 J	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	0.000458 J	<0.000400	---	<0.000400	0.000418 J
Barium	2	Not Applicable	2 (MCL)	mg/L	0.0153 #	0.0213	0.0216	0.0232	0.0171	0.0214	0.0174	0.017	0.0232	0.0194	---	0.0173	0.0185
Beryllium	0.004	Not Applicable	0.004 (MCL)	mg/L	<0.000100 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200	<0.000200
Cadmium	0.005	Not Applicable	0.005 (MCL)	mg/L	<0.000100 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200	<0.000200
Chromium	0.1	Not Applicable	0.1 (MCL)	mg/L	<0.000500 #	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	0.000574 J	0.000813 J	---	<0.000400	<0.000400
Cobalt	None	Not Applicable	0.006 (ODEQ)	mg/L	<0.000100 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	0.000286 J	<0.000200	---	<0.000200	<0.000200
Fluoride	4	Not Applicable	4 (MCL)	mg/L	1.55 #	1.45	0.561	1.53	1.59	1.57	1.44	1.58	1.49	2.43^	1.74	1.6	1.53
Lead	0.015	Not Applicable	0.015 (MCL)	mg/L	<0.000100 #	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	---	<0.000600	<0.000600
Lithium	None	Not Applicable	0.4282 (UTL)	mg/L	0.0443 #	0.0599	0.0641	0.0675	0.0532	0.055	0.0574	0.0524	0.0579	0.0557	---	0.0495	0.0556
Mercury	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000100 #	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	0.000139 J	<0.0000300	<0.0000300	---	<0.0000300	<0.0000300
Molybdenum	None	Not Applicable	0.1 (ODEQ)	mg/L	0.00252 #	0.00333 J	0.00317 J	0.00338 J	0.00340 J	0.00307 J	0.00329 J	0.00295 J	0.00399 J	0.00313 J	---	0.00376 J	0.00314 J
Selenium	0.05	Not Applicable	0.05 (MCL)	mg/L	<0.000300 #	<0.0011	<0.0011	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	---	<0.00110	<0.00110
Thallium	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000800 #	0.000329 J	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200	<0.000200
Ra-226 + Ra-228 (combined)	5	Not Applicable	5 (MCL)	pCi/L	1.14 +/- 0.315 #	<0.94	---	<0.67	<0.71	0.77	1.03	<0.77	1.85	<0.92	---	1.36	3.27 +/- 1.26
Other Parameters																	
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	<5.00 #	<5	---	<5.00	<5.00	---	<5.00	<5.00	<5.00	6.00 J^	21	5.00 J	6.00 J
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	<5	---	---	---	---	---	---	---	---	---	---	---
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	187	---	---	---	---	---	---	---	---	---	---	---
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	<5	---	---	---	---	---	---	---	---	---	---	---
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	18.3	19.5	---	---	---	---	---	---	---	---	---	---
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	0.355 #	0.668	0.66	1.7	0.379	1.15	<0.300	1.04	0.246	695^	0.611	0.902	0.758
Potassium	None	Not Applicable	Not Applicable	mg/L	---	7.9	7.81	---	---	---	---	---	---	---	---	---	---
Sodium	None	Not Applicable	Not Applicable	mg/L	---	356	360	---	---	---	---	---	---	---	---	---	---
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	1840 #	1,850	---	---	---	---	2,060	1,990	1,920	19800^	2,330	2,260	1,950
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																	
Temperature	None	Not Applicable	Not Applicable	ºC		11.9	---	18.23	23.81	20.4	21	17.06	21.5	19.6	21.5	27.2	18.5
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.		7.67	---	8.03	7.65	7.72	7.63	8.37	7.54	7.90	7.54	7.45	7.78
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm		1,844	---	1,869	1,915	1,798	1,873	2,530	1,926	1,651	1,900	1,930	1,838
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L		0.71	---	4.86	3.29	3	0.43	6.42	0.41	3.27	1.27	0.44	2.95
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV		315.2	---	-67.1	-81.6	-25.6	115	62.1	-108.8	160.3	37.7	-54.7	133.3
Turbidity	None	Not Applicable	Not Applicable	NTU		9.03	1.15	1.14	3.09	2.73	1.02	1.9	3.00	1.00	2.41	3.90	2.85

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT D
GROUNDWATER SAMPLE DATA TO DATE FOR SURFACE IMPOUNDMENT CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID: / Sample Date:	MW-22A 2-Jun-16	MW-22A 1-Aug-16	DUP 3 1-Aug-16	MW-22A 3-Oct-16	MW-22A 6-Dec-16	MW-22A 1-Feb-17	MW-22A 5-Apr-17	MW-22A 7-Jun-17	MW-22A 11-Aug-17	MW-22A 22-May-18	MW-22A (Deep) 10-Aug-18
					BACKGROUND 1	BACKGROUND 2		BACKGROUND 3	BACKGROUND 4	BACKGROUND 5	BACKGROUND 6	BACKGROUND 7	BACKGROUND 8	DETECTION MON. #1	VERIFICATION SAMPLE
Detection Monitoring Parameters				***Units***											
Boron	None	Background Well (Not Applicable)	Not Applicable	mg/L	1.69	1.43	1.4	1.11	1.74	1.48	2.11	1.39	1.77	1.74	2.18
Calcium	None		Not Applicable	mg/L	624	853	848	762	832	577	933	942 J*	559	636	697
Chloride	250		Not Applicable	mg/L	3.33	2.86	2.82	2.33	2.39	2.49	2.21 J*	2.12 J*	2.28	2.6	2.41
Fluoride	4		Not Applicable	mg/L	0.376	0.368	0.314	0.625	0.402 J*	0.415	0.279 J*	0.305 J*	0.341	2.24	0.315
pH (laboratory)	6.5 - 8.5		Not Applicable	S.U.	6.99	7	7	6.8	7.2	6.9	6.9	7	6.8	7	7.1
Sulfate	250		Not Applicable	mg/L	1,810 J*	1770	1770	1810	1850	1710	1930	1900	2030	1940	1860
Total Dissolved Solids	500		Not Applicable	mg/L	3060	2870	3050	2820	2720	2910	2900	2990	3030	3090	3050
Assessment Monitoring Parameters															
Antimony	0.006	Not Applicable	Background Well (Not Applicable)	mg/L	<0.00250	<0.000500	<0.000500	<0.00160	<0.00400	<0.000800	<0.000800	<0.00800	<0.000800	---	---
Arsenic	0.010	Not Applicable		mg/L	0.00255 J	0.00412	0.00417	0.00324 J	0.00241 J	0.00154J	0.00324	<0.00400	0.000670 J	---	---
Barium	2	Not Applicable		mg/L	0.0167	0.02	0.0229	0.0262	0.0338	0.0177	0.0164	0.0103 J	0.0114	---	---
Beryllium	0.004	Not Applicable		mg/L	<0.00500	<0.00100	<0.00100	<0.000200	<0.000500	<0.000100	U (0.000409)	<0.00100	<0.000100	---	---
Cadmium	0.005	Not Applicable		mg/L	<0.00200	<0.000400	<0.000400	<0.000200	<0.000500	<0.000100	<0.000100	<0.00100	<0.000100	---	---
Chromium	0.1	Not Applicable		mg/L	0.00315 J	<0.000500	0.000726 J	<0.00100	<0.00250	0.000677 J	<0.000500	<0.00500	<0.000500	---	---
Cobalt	None	Not Applicable		mg/L	<0.00250	0.000998 J	0.00106 J	0.000582 J	0.000578 J	0.000381 J	0.000153 J	<0.00100	0.000158 J	---	---
Fluoride	4	Not Applicable		mg/L	0.376	0.368	0.314	0.625	0.402 J*	0.415	0.279 J*	0.305 J*	0.341	2.24	0.315
Lead	0.015	Not Applicable		mg/L	<0.00100	<0.000200	0.000231 J	<0.000100	<0.000500	0.000127 J	<0.000100	<0.00100	0.000105 J	---	---
Lithium	None	Not Applicable		mg/L	0.342	0.29	0.288	0.337	0.351	0.276	0.303	0.245 J	0.298	---	0.329
Mercury	0.002	Not Applicable		mg/L	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150 UJ	<0.000150	<0.000150	<0.000150	<0.000150	---	---
Molybdenum	None	Not Applicable		mg/L	<0.00250	0.000562 J	0.000653 J	<0.00200	<0.00500	<0.00100	<0.00100	<0.0100	<0.00100	---	<0.00100
Selenium	0.05	Not Applicable		mg/L	<0.00300	<0.000600	<0.000600	0.000622 J	<0.00150	0.000443 J	<0.00300	<0.00300	<0.000300	---	---
Thallium	0.002	Not Applicable		mg/L	<0.00250	<0.000500	<0.000500	<0.00160	<0.00400	<0.000800	<0.000800	<0.00800	<0.000800	---	---
Ra-226 + Ra-228 (combined)	5	Not Applicable		pCi/L	0.842 +/- 0.297	0.629 +/- 0.286	0.177 +/- 0.245 U	1.05 +/- 0.299	1.01 +/- 0.400	0.430 +/- 0.299 U	0.220 +/- 0.228 U	0.277 +/- 0.212 U	0.496 +/- 0.345 U	---	---
Other Parameters															
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<5.00	---	---
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	231	---	---
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<5.00	---	---
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	87.1	---	---
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Potassium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	14.4	---	---
Sodium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	140	---	---
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	---	---	---	---	---	---	---	---	---	---	---
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---
Field Parameters															
Temperature	None	Not Applicable	Not Applicable	ºC	19.36	23.71	---	21.52	15.93	19.96	18.01	20.23	23.05	20.84	24.37
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	6.98	6.93	---	6.83	6.77	6.8	6.8	6.85	6.76	7.01	7.02
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	2,799	3,075	---	3,156	3,172	3,176	3,138	3,178	3,218	3,135	3,244
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	2.02	0.4	---	0.27	0.4	0.34	2.1	1.58	0.43	2.18	2.72
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	138	-9.7	---	-76.3	-133.1	-95.1	77.9	4.2	64.2	-14.8	-30.2
Turbidity	None	Not Applicable	Not Applicable	NTU	2.8	10.5	---	1.45	0.77	0.51	0.72	0.81	5.72	2.09	3.67

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT D
GROUNDWATER SAMPLE DATA TO DATE FOR SURFACE IMPOUNDMENT CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID: / Sample Date:	MW-22A 3-Oct-18	MW-22A 16-Jan-19		MW-22A 25-Apr-19	MW-22A 30-Sep-19	MW-22A 18-Jun-20	MW-22A 9-Oct-20	MW-22A 31-Mar-21	MW-22A 13-Oct-21	MW-22A 1-Apr-22	MW-22A 7-Jun-22	MW-22A 4-Oct-22
Detection Monitoring Parameters				***Units***	INITIAL ASSESSMENT MON.	INITIAL ASSESSMENT MON. (RESAMPLE) UNFILTERED	INITIAL ASSESSMENT MON. (RESAMPLE) FILTERED	FIRST 2019 ASSESSMENT MON.	SECOND 2019 ASSESSMENT MON.	FIRST 2020 ASSESSMENT MON.	SECOND 2020 ASSESSMENT MON.	FIRST 2021 ASSESSMENT MON.	SECOND 2021 ASSESSMENT MON.	FIRST 2022 ASSESSMENT MON.	FIRST 2022 ASSESSMENT MON. (RESAMPLE)	SECOND 2022 ASSESSMENT MON.
Boron	None	Background Well (Not Applicable)	Not Applicable	mg/L	1.45 #	1.78	1.64	1.88	1.49	2.82	1.84	1.6	1.76	2.16	---	1.84
Calcium	None		Not Applicable	mg/L	702 #	643	613	507	481	754	507	529	515	581	---	574
Chloride	250		Not Applicable	mg/L	2.4 #	2.24	2.24	2.56	2.39	2.34	2.05 J	2.17	2.06 J	2.94 J^	2.38	2.46
Fluoride	4		Not Applicable	mg/L	0.329 #	0.299	0.464	0.374 J	0.364	0.237	0.279 J	0.249	0.608	<0.500^	0.329	0.354
pH (laboratory)	6.5 - 8.5		Not Applicable	S.U.	7.4 #	6.49	---	7.61	6.74	7.08	7.48	7.21	7.32	1.62^	7.41	7.18
Sulfate	250		Not Applicable	mg/L	1830 #	1,990	1,920	1,740	1,880	2,160	2,010	2,020	1,970	3760^	1,950	1,910
Total Dissolved Solids	500		Not Applicable	mg/L	1910 #	3,000	3,010	3,170	3,030	3,390	3,160	3,040	3,010	2520^	3,090	3,230
Assessment Monitoring Parameters																
Antimony	0.006	Not Applicable	Background Well (Not Applicable)	mg/L	<0.0008 #	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	---	<0.000400
Arsenic	0.010	Not Applicable		mg/L	0.000486 J #	0.000642 J	0.000760 J	0.000612 J	0.00142 J	0.00134 J	0.000761 J	0.00106 J	0.0137	0.00543	---	0.00304
Barium	2	Not Applicable		mg/L	0.00897 #	0.00592	0.00370 J	0.00618	0.0069	0.00796	0.00341 J	0.00376 J	0.0312	0.0111	---	0.00774
Beryllium	0.004	Not Applicable		mg/L	<0.0001 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200
Cadmium	0.005	Not Applicable		mg/L	<0.0001 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200
Chromium	0.1	Not Applicable		mg/L	0.000707 J #	<0.000400	<0.000400	<0.000400	<0.000400	0.000771 J	<0.000400	<0.000400	<0.000400	0.000631 J	---	<0.000400
Cobalt	None	Not Applicable		mg/L	<0.0001 #	0.000770 J	0.000259 J	0.000251 J	0.000946 J	<0.000200	<0.000200	<0.000200	0.00104 J	0.00322 J	---	0.000786 J
Fluoride	4	Not Applicable		mg/L	0.329 #	0.299	0.464	0.374 J	0.364	0.237	0.279 J	0.249	0.608	<0.500	0.329	0.354
Lead	0.015	Not Applicable		mg/L	<0.0001 #	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	---	<0.000600
Lithium	None	Not Applicable		mg/L	0.305 #	0.294	0.289	0.345	0.256	0.501	0.32	0.315	0.302	0.339	---	0.289
Mercury	0.002	Not Applicable		mg/L	<0.000100 #	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	0.0000830 J	<0.0000300 H	<0.0000300	---	<0.0000300
Molybdenum	None	Not Applicable		mg/L	<0.001 #	<0.000600	0.000822 J	<0.000600	0.000787 J	<0.000600	<0.000600	<0.000600	<0.000600	0.00114 J	---	<0.000600
Selenium	0.05	Not Applicable		mg/L	0.000335 J #	<0.0011	<0.0011	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	---	<0.00110
Thallium	0.002	Not Applicable		mg/L	<0.0008 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200
Ra-226 + Ra-228 (combined)	5	Not Applicable		pCi/L	1.04 +/- 0.320 #	0.71	---	<0.84	<0.72	1	<0.71	<0.77	4.7	1.79	---	4.35
Other Parameters																
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	6.24 J #	<5	---	<5.00	15	---	9.00 J	<5.00	29.0	11.0 J^	18	6.00 J
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	249	249	232	---	<5^	242	262
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	<5	---	---	---	<5	<5	<5	---	<5^	<5	<5
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	256	---	---	---	249	249	232	---	<5^	242	262
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	<5	---	---	---	<5	<5	<5	---	<5^	<5	<5
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	0.0509(J)	<0.0120	0.0536 J	---	0.75^	1.02	0.375
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	<0.0120	0.0121 J	0.0206 J	---	0.371^	0.235	1.04
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	<0.02	<0.02	<0.02	---	0.051^	0.118	1.02
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	<0.02	---	0.253^	0.127	1.16
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	0.0536	---	0.118^	0.785	<0.02
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	0.0206 J	---	0.699^	0.108	<0.02
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	107	101	---	---	126	85	95	---	97.5	---	92.6
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	0.000773(J)	<0.000600	<0.000600	---	0.000982 J	---	<0.0006
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	0.458 #	<0.03	<0.03	<0.150	0.198	<0.0600	<0.150	<0.0600	<0.150	773^	0.0307 J	0.171
Potassium	None	Not Applicable	Not Applicable	mg/L	---	17.8	16.7	---	---	21.7	13.7	15.2	---	16.1	---	14.5
Sodium	None	Not Applicable	Not Applicable	mg/L	---	169	165	---	---	202	135	147	---	153	---	150
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	3180 #	3,170	---	---	---	---	3,450	3,450	3,250	21000^	4,010	3,770
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	1.52	<1	<1	---	<1^	<1	<1
Field Parameters																
Temperature	None	Not Applicable	Not Applicable	ºC	20.9	13.6	---	17.89	22.78	23.52	20.7	18.2	23.3	17.8	21.5	21
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	6.75	6.75	---	7.19	7.02	6.97	6.97	7	7.00	7.16	6.91	6.87
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	3,277	3,181	---	3,208	3,236	3,013	3,165	3,195	2,975	2,681	3,206	2,893
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	0.44	0.9	---	4.05	1.23	3.35	0.68	2	0.26	0.19	0.38	0.39
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	275.1	275.6	---	43.2	-110.1	-36.5	146.4	207.4	-251.1	-77.1	-105.5	-172.7
Turbidity	None	Not Applicable	Not Applicable	NTU	2.71	51.5	4.9	3.81	1.89	9.49	2.92	18.3	7.88	5.90	13.50	3.10

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT D
GROUNDWATER SAMPLE DATA TO DATE FOR SURFACE IMPOUNDMENT CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID: / Sample Date:	MW-22A / 18-Apr-23
Detection Monitoring Parameters				***Units***	**FIRST 2023 ASSESSMENT MON.**
Boron	None	Background Well (Not Applicable)	Not Applicable	mg/L	1.83
Calcium	None		Not Applicable	mg/L	515
Chloride	250		Not Applicable	mg/L	2.32
Fluoride	4		Not Applicable	mg/L	0.319
pH (laboratory)	6.5 - 8.5		Not Applicable	S.U.	7.08
Sulfate	250		Not Applicable	mg/L	2,270
Total Dissolved Solids	500		Not Applicable	mg/L	3,560
Assessment Monitoring Parameters					
Antimony	0.006	Not Applicable	Background Well (Not Applicable)	mg/L	<0.000400
Arsenic	0.010	Not Applicable		mg/L	0.00269
Barium	2	Not Applicable		mg/L	0.00503
Beryllium	0.004	Not Applicable		mg/L	<0.000200
Cadmium	0.005	Not Applicable		mg/L	<0.000200
Chromium	0.1	Not Applicable		mg/L	<0.000400
Cobalt	None	Not Applicable		mg/L	0.00118 J
Fluoride	4	Not Applicable		mg/L	0.319
Lead	0.015	Not Applicable		mg/L	<0.000600
Lithium	None	Not Applicable		mg/L	0.329
Mercury	0.002	Not Applicable		mg/L	<0.0000300
Molybdenum	None	Not Applicable		mg/L	<0.000600
Selenium	0.05	Not Applicable		mg/L	<0.00110
Thallium	0.002	Not Applicable		mg/L	<0.000200
Ra-226 + Ra-228 (combined)	5	Not Applicable		pCi/L	4.45 +/- 1.55
Other Parameters					
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	6.00 J
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	212
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	<5.00
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	212
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	<5.00
Iron, Total	None	Not Applicable	Not Applicable	mg/L	0.159 J
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	0.0511 J
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	0.0430 J
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	<0.0200
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	0.116
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	0.051
Magnesium	None	Not Applicable	Not Applicable	mg/L	102
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	<0.000600
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	0.0482 J
Potassium	None	Not Applicable	Not Applicable	mg/L	17.1
Sodium	None	Not Applicable	Not Applicable	mg/L	161
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	3,330
Sulfide	None	Not Applicable	Not Applicable	mg/L	<1.70
Field Parameters					
Temperature	None	Not Applicable	Not Applicable	ºC	21.8
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	6.88
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	3,155
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	1.07
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	148.8
Turbidity	None	Not Applicable	Not Applicable	NTU	3.64

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT D
GROUNDWATER SAMPLE DATA TO DATE FOR SURFACE IMPOUNDMENT CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID: / Sample Date:	MW-23A 6-Jun-16	MW-23A 3-Aug-16	MW-23A 3-Oct-16	DUP 3 3-Oct-16	MW-23A 7-Dec-16	MW-23A 1-Feb-17	MW-23A 6-Apr-17	MW-23A 8-Jun-17	MW-23A 14-Aug-17	MW-23A 23-May-18	MW-23A (Shallow) 2-Aug-18	MW-23A (Deep) 10-Aug-18
Detection Monitoring Parameters				***Units***	BACKGROUND 1	BACKGROUND 2	BACKGROUND 3		BACKGROUND 4	BACKGROUND 5	BACKGROUND 6	BACKGROUND 7	BACKGROUND 8	DETECTION MON. #1	EVALUATION SAMPLE	VERIFICATION SAMPLE
Boron	None	Background Well (Not Applicable)	Not Applicable	mg/L	1.12	1.23	1.48	1.52	1.52	1.66	1.17	1.21 J*	1.24	1.81	1.14	2.36
Calcium	None		Not Applicable	mg/L	716	593	605	573	661	555	484	827	527	659	553	659
Chloride	250		Not Applicable	mg/L	11.4	11.1	11.6	11.6	9.99	10.1	9.23	10.4	9.6	12.8	9.78	10.7
Fluoride	4		Not Applicable	mg/L	0.737	0.312	0.671	0.575	0.451 J*	0.483	0.331	0.322 J*	1.5	1.35	0.385	0.368
pH (laboratory)	6.5 - 8.5		Not Applicable	S.U.	6.98	8	6.9	6.8	7.5	7	6.9	6.8	6.9	6.9	7.1	7
Sulfate	250		Not Applicable	mg/L	2310	1820	1810	1990	2070	1740	1720	1850	1560	1880	1690	1740
Total Dissolved Solids	500		Not Applicable	mg/L	2960	3080	3040	3080	2950	2950	2850	2990	3050	3080	2830	2850
Assessment Monitoring Parameters																
Antimony	0.006	Not Applicable	Background Well (Not Applicable)	mg/L	<0.000500	<0.00100	<0.00160	<0.00160	<0.00400	<0.000800	<0.00400	<0.000800	<0.000800	---	---	---
Arsenic	0.010	Not Applicable		mg/L	0.00228	0.00237 J	0.00277 J	0.00255 J	<0.00200	0.00163 J	0.00213 J	0.00321 J*	0.00262 J	---	---	---
Barium	2	Not Applicable		mg/L	0.0119	0.00998	0.0141	0.0129	0.0117	0.00789	0.0209	0.00589 J*	0.0051	---	---	---
Beryllium	0.004	Not Applicable		mg/L	<0.00100	<0.00200	<0.000200	<0.000200	<0.000500	<0.000100	<0.000500	<0.000100	<0.000100	---	---	---
Cadmium	0.005	Not Applicable		mg/L	<0.000400	<0.000800	<0.000200	<0.000200	<0.000500	<0.000100	<0.000500	<0.000100	<0.000100	---	---	---
Chromium	0.1	Not Applicable		mg/L	<0.000500	<0.00100	<0.00100	<0.00100	<0.00250	<0.000500	0.00376 J	<0.000500	U (0.00133)	---	---	---
Cobalt	None	Not Applicable		mg/L	0.000570 J	<0.00100	0.000903 J	0.000785 J	0.000996 J	0.000647 J	0.000806 J	<0.000100	0.000927 J	---	---	---
Fluoride	4	Not Applicable		mg/L	0.737	0.312	0.671	0.575	0.451 J*	0.483	0.331	0.322 J*	1.5	1.35	0.385	0.368
Lead	0.015	Not Applicable		mg/L	<0.000200	<0.000200	<0.000200	<0.000200	<0.000500	<0.000100	0.000631 J	<0.000100	0.000224 J	---	---	---
Lithium	None	Not Applicable		mg/L	0.261	0.261	0.311	0.305	0.264	0.277	0.269	0.231 J*	0.228	---	0.211	0.27
Mercury	0.002	Not Applicable		mg/L	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	---	---	---
Molybdenum	None	Not Applicable		mg/L	<0.000500	<0.00100	<0.00200	<0.00200	<0.00500	<0.00100	0.00559 J	<0.00100	<0.00100	---	<0.00100	<0.00100
Selenium	0.05	Not Applicable		mg/L	<0.000600	0.00141 J	0.000640 J	<0.000600	<0.00150	<0.000300	<0.00150	0.000740 J	<0.000300	---	---	---
Thallium	0.002	Not Applicable		mg/L	<0.000500	<0.00100	<0.00160	<0.00160	<0.00400	<0.000800	<0.00400	<0.000800	<0.000800	---	---	---
Ra-226 + Ra-228 (combined)	5	Not Applicable		pCi/L	1.26 +/- 0.325	1.18 +/- 0.374	1.10 +/- 0.309	0.765 +/- 0.284	0.547 +/- 0.335	1.14 +/- 0.370	0.558 +/- 0.262	0.539 +/- 0.250	0.995 +/- 0.311	---	---	---
Other Parameters																
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<5.00	---	---	---
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	292	---	---	---
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<5.00	---	---	---
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	86.5	---	---	---
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Potassium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	13.4	---	---	---
Sodium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	126	---	---	---
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	---	---	---	---	---	---	---	---	---	---	---	---
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																
Temperature	None	Not Applicable	Not Applicable	ºC	21.37	22.68	21.63	---	17.67	19.13	20.24	19.12	22.1	20.98	24.05	24.44
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	6.68	6.79	6.81	---	6.76	6.83	6.84	6.76	6.81	6.96	6.74	6.97
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	2,969	3,154	3,269	---	3,209	3,224	3,171	3,152	3,153	3,160	3,075	3,081
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	0.45	0.3	0.31	---	0.77	1.19	1.1	1.58	0.5	1.75	1.6	2.83
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	-52.2	20.4	-75.9	---	-116.2	-87.5	-9.9	70.3	19.6	-28.1	185.2	-40.2
Turbidity	None	Not Applicable	Not Applicable	NTU	6.36	5	4.82	---	2.34	0.55	1.92	1.53	1.09	3.12	26.1	39.7

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT D
GROUNDWATER SAMPLE DATA TO DATE FOR SURFACE IMPOUNDMENT CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID:	MW-23A	MW-23A		MW-23A	MW-23A	MW-23A	MW-23A	MW-23A	MW-23A	DUP 1	MW-23A	MW-23A	DUP 1	MW-23A
				Sample Date:	26-Sep-18	8-Jan-19		24-Apr-19	3-Oct-19	16-Jun-20	6-Oct-20	1-Apr-21	12-Oct-21		29-Mar-22	6-Jun-22		4-Oct-22
Detection Monitoring Parameters				***Units***	INITIAL ASSESSMENT MON.	INITIAL ASSESSMENT MON. (RESAMPLE) UNFILTERED	FILTERED	FIRST 2019 ASSESSMENT MON.	SECOND 2019 ASSESSMENT MON.	FIRST 2020 ASSESSMENT MON.	SECOND 2020 ASSESSMENT MON.	FIRST 2021 ASSESSMENT MON.	SECOND 2021 ASSESSMENT MON.		FIRST 2022 ASSESSMENT MON.	FIRST 2022 ASSESSMENT MON. (RESAMPLE)	FIRST 2022 ASSESSMENT MON. (RESAMPLE)	SECOND 2022 ASSESSMENT MON.
Boron	None	Background Well (Not Applicable)	Not Applicable	mg/L	1.52 #	1.41	1.41	1.42	1.01	1.12	1.18	1.08	0.902	0.943	1.13	---	---	1.31
Calcium	None		Not Applicable	mg/L	546 #	651	605	534	521	465	531	501	358	435	559	---	---	480
Chloride	250		Not Applicable	mg/L	10.4 J* #	10.7	10.6	11.6	12.6	12.5	13.7	13	14.5	12.6	16.4^	13.6	13.4	11.8
Fluoride	4		Not Applicable	mg/L	0.363 J* #	0.361	1.49	0.486 J	0.402	0.374	0.257	0.295	0.313	0.293	<0.250^	0.386	0.253	0.36
pH (laboratory)	6.5 - 8.5		Not Applicable	S.U.	7.2 #	6.66	---	7.54	6.79	6.58	7.86	7.13	6.99	6.39	8.19^	7.06	7.05	6.84
Sulfate	250		Not Applicable	mg/L	1770 #	1,860	1,870	1,770	1,790	1,850	1,950	1,910	1,950	1,880	3160^	1,900	1,880	1,840
Total Dissolved Solids	500		Not Applicable	mg/L	2980 #	2,700	2,780	3,280	2,990	2,970	3,050	3,090	2,960	2,930	3500^	3,030	3,050	3,300
Assessment Monitoring Parameters																		
Antimony	0.006	Not Applicable	Background Well (Not Applicable)	mg/L	<0.000800 #	<0.0004	<0.0004	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	---	---	<0.000400
Arsenic	0.010	Not Applicable		mg/L	0.000642 J #	0.00106 J	0.000812 J	0.00206	<0.000400	0.000721 J	0.000843 J	0.000471 J	0.000685 J	0.000654 J	0.000791 J	---	---	0.000745 J
Barium	2	Not Applicable		mg/L	0.00489 #	0.0044	0.00439	0.00467	0.00298 J	0.00298 J	0.00296 J	0.00262 J	0.00660	0.00414	0.00577	---	---	0.00257 J
Beryllium	0.004	Not Applicable		mg/L	<0.000100 #	<0.0002	<0.0002	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	---	<0.000200
Cadmium	0.005	Not Applicable		mg/L	<0.000100 #	<0.0002	<0.0002	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	---	<0.000200
Chromium	0.1	Not Applicable		mg/L	0.000785 J #	<0.0004	<0.0004	<0.000400	0.000700 J	0.000552 J	<0.000400	0.000426 J	<0.000400	<0.000400	0.000422 J	---	---	0.000690 J
Cobalt	None	Not Applicable		mg/L	0.000176 J #	0.000377 J	0.000597 J	0.000515 J	<0.000200	0.000286 J	<0.000200	<0.000200	0.000264 J	0.000250 J	0.000973 J	---	---	0.000471 J
Fluoride	4	Not Applicable		mg/L	0.363 J* #	0.361	1.49	0.486 J	0.402	0.374	0.257	0.295	0.313	0.293	<0.250^	0.386	0.253	0.36
Lead	0.015	Not Applicable		mg/L	<0.000100 #	<0.0006	<0.0006	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	---	---	<0.000600
Lithium	None	Not Applicable		mg/L	0.152 #	0.294	0.297	0.282	0.206	0.227	0.236	0.23	0.173	0.190	0.236	---	---	0.209
Mercury	0.002	Not Applicable		mg/L	<0.000100 #	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	0.000112 J	<0.0000300	<0.0000300	<0.0000300	---	---	<0.0000300
Molybdenum	None	Not Applicable		mg/L	<0.00100 #	<0.0006	<0.0006	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	---	---	<0.000600
Selenium	0.05	Not Applicable		mg/L	<0.000300 #	<0.0011	<0.0011	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	---	---	<0.00110
Thallium	0.002	Not Applicable		mg/L	<0.000800 #	<0.0002	<0.0002	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	---	<0.000200
Ra-226 + Ra-228 (combined)	5	Not Applicable		pCi/L	0.821 +/- 0.269 #	<0.73	---	<0.75	<0.77	1.26	1	0.85	1.14	<0.86	<0.84	---	---	2.74
Other Parameters																		
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	<5.00 #	<5.00	---	<5.00	<5.00	---	<5.00	<5.00	5.00 J	5.00 J	5.00 J^	15	15	7.00 J
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	<5	---	---	---	---	---	---	---	---	---	---	---	---
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	310	---	---	---	---	---	---	---	---	---	---	---	---
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	<5	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	104	104	---	---	---	---	---	---	---	---	---	---	---
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	0.053 J #	<0.03	<0.03	<0.150	<0.0300	<0.0300	<0.300	<0.0600	0.0616 J	<0.0600 H	761^	0.0673 J, H	0.0962 J, H	0.0763 J
Potassium	None	Not Applicable	Not Applicable	mg/L	---	15.5	15.2	---	---	---	---	---	---	---	---	---	---	---
Sodium	None	Not Applicable	Not Applicable	mg/L	---	153	152	---	---	---	---	---	---	---	---	---	---	---
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	3200 #	3,140	---	---	---	---	3,470	3,350	3,220	3,200	21200^	3,930	3,940	3,830
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																		
Temperature	None	Not Applicable	Not Applicable	ºC	21.3	18.1	---	18.95	23.4	21.52	19.9	19.13	20.5	---	18.9	22.1	---	24.8
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	6.8	6.69	---	7.15	6.69	6.87	6.88	7.24	6.80	---	7.03	6.88	---	6.79
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	3,246	3,240	---	3,167	3,544	3,011	3,281	4,300	2,907	---	2,738	3,156	---	3253
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L		1.17	---	4.19	0.54	2.34	0.56	2.93	0.62	---	1.65	1.22	---	0.63
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV		95.2	---	68.6	33	-28.3	110.6	34.2	-13.1	---	110.5	96	---	-4.3
Turbidity	None	Not Applicable	Not Applicable	NTU		1.42	---	3.35	1.8	8.11	1.79	1.65	2.78	---	1.98	5.01	---	6.99

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT D
GROUNDWATER SAMPLE DATA TO DATE FOR SURFACE IMPOUNDMENT CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID: / Sample Date:	MW-23A / 11-Apr-23
Detection Monitoring Parameters				***Units***	**FIRST 2023 ASSESSMENT MON.**
Boron	None	Background Well (Not Applicable)	Not Applicable	mg/L	1.14
Calcium	None		Not Applicable	mg/L	552
Chloride	250		Not Applicable	mg/L	12.2
Fluoride	4		Not Applicable	mg/L	0.302
pH (laboratory)	6.5 - 8.5		Not Applicable	S.U.	6.95
Sulfate	250		Not Applicable	mg/L	2,430
Total Dissolved Solids	500		Not Applicable	mg/L	3,220
Assessment Monitoring Parameters					
Antimony	0.006	Not Applicable	Background Well (Not Applicable)	mg/L	<0.000400
Arsenic	0.010	Not Applicable		mg/L	0.000667 J
Barium	2	Not Applicable		mg/L	0.00270 J
Beryllium	0.004	Not Applicable		mg/L	<0.000200
Cadmium	0.005	Not Applicable		mg/L	<0.000200
Chromium	0.1	Not Applicable		mg/L	<0.000400
Cobalt	None	Not Applicable		mg/L	0.00105 J
Fluoride	4	Not Applicable		mg/L	0.302
Lead	0.015	Not Applicable		mg/L	<0.000600
Lithium	None	Not Applicable		mg/L	0.246
Mercury	0.002	Not Applicable		mg/L	<0.0000300
Molybdenum	None	Not Applicable		mg/L	<0.000600
Selenium	0.05	Not Applicable		mg/L	<0.00110
Thallium	0.002	Not Applicable		mg/L	0.000252 J
Ra-226 + Ra-228 (combined)	5	Not Applicable		pCi/L	0.538 +/- 0.546
Other Parameters					
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	5.00 J
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---
Magnesium	None	Not Applicable	Not Applicable	mg/L	---
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	<0.0300
Potassium	None	Not Applicable	Not Applicable	mg/L	---
Sodium	None	Not Applicable	Not Applicable	mg/L	---
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	3,280
Sulfide	None	Not Applicable	Not Applicable	mg/L	---
Field Parameters					
Temperature	None	Not Applicable	Not Applicable	ºC	20.3
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	6.73
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	2,812
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	1.90
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	46.3
Turbidity	None	Not Applicable	Not Applicable	NTU	4.19

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT D
GROUNDWATER SAMPLE DATA TO DATE FOR SURFACE IMPOUNDMENT CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID:	MW-24	MW-24	MW-24	MW-24	MW-24	DUP-3	MW-24	MW-24	MW-24	MW-24	MW-24 (Shallow)	MW-24 (Deep) Verification
				Sample Date:	6-Jun-16	2-Aug-16	4-Oct-16	8-Dec-16	2-Feb-17	2-Feb-17	6-Apr-17	8-Jun-17	7-Aug-17	23-May-18	2-Aug-18	10-Aug-18
					BACKGROUND 1	BACKGROUND 2	BACKGROUND 3	BACKGROUND 4	BACKGROUND 5		BACKGROUND 6	BACKGROUND 7	BACKGROUND 8	DETECTION MON. #1	EVALUATION SAMPLE	VERIFICATION SAMPLE
Detection Monitoring Parameters				*Units*												
Boron	None	1.935	Not Applicable	mg/L	1.09	0.999	1.03	1.21 J*	1.30 J*	1.55	1.19 J*	1.48 J*	1.13 J*	1.05	0.112	0.377
Calcium	None	961.40	Not Applicable	mg/L	674	581	499	609	802	726	940	715	531	787	573	31.1
Chloride	250	11.6	Not Applicable	mg/L	18.3	15.4	19.0 J*	14.7	16.6	15.8	14.6	15.5	12.5	19.1	24.9	22.3
Fluoride	4	2.84	Not Applicable	mg/L	0.16	0.325	0.360 J*	0.344 J*	0.428 J*	0.417 J*	0.257	0.228 J*	0.313 J*	2.12	0.277	0.246
pH (laboratory)	6.5 - 8.5	8	Not Applicable	S.U.	6.86	8	7	7.6	7	7	6.9	6.7	6.7	7	7.2	7
Sulfate	250	2,156	Not Applicable	mg/L	2470	1890	1850	2110	1900	1880	1970	1820	1700	2030	1930	1910
Total Dissolved Solids	500	3,333	Not Applicable	mg/L	3200	3140	3010	3030	3030	2980	3200	3140	3170	3230	3180	3270
Assessment Monitoring Parameters																
Antimony	0.006	Not Applicable	0.006 (MCL)	mg/L	<0.000500	<0.00100	<0.00400	U (0.00451)	<0.000800	<0.000800	<0.00400	<0.00800	<0.000800	---	---	---
Arsenic	0.010	Not Applicable	0.01 (MCL)	mg/L	0.00158 J	0.00122 J	<0.00200	<0.00200	<0.00200	0.00117 J	<0.00200	<0.00400	0.00443	---	---	---
Barium	2	Not Applicable	2 (MCL)	mg/L	0.00438	0.0036	0.00400 J	0.00763 J	U (0.00512)	0.00761	0.00617 J	0.00724 J	0.00646 J*	---	---	---
Beryllium	0.004	Not Applicable	0.004 (MCL)	mg/L	<0.00100	<0.00200	<0.000500	0.000551 J	<0.000100	<0.000100	<0.000500	<0.00100	<0.000100	---	---	---
Cadmium	0.005	Not Applicable	0.005 (MCL)	mg/L	<0.000400	<0.000800	<0.000500	<0.000500	<0.000100	<0.000100	<0.000500	<0.00100	<0.00100	---	---	---
Chromium	0.1	Not Applicable	0.1 (MCL)	mg/L	<0.000500	<0.00100	<0.00250	<0.00250	<0.00250	<0.000500	0.00578 J	<0.00500	<0.000500	---	---	---
Cobalt	None	Not Applicable	0.006 (ODEQ)	mg/L	<0.000500	<0.00100	<0.000500	0.000693 J	<0.000500	0.000260 J	<0.000500	<0.00100	0.000577 J	---	---	---
Fluoride	4	Not Applicable	4 (MCL)	mg/L	0.16	0.325	0.360 J*	0.344 J*	0.428 J*	0.417 J*	0.257	0.228 J*	0.313 J*	2.12	0.277	0.246
Lead	0.015	Not Applicable	0.015 (MCL)	mg/L	<0.000200	<0.000200	<0.000500	<0.000500	<0.000100	<0.000100	<0.000500	<0.00100	<0.000100	---	---	---
Lithium	None	Not Applicable	0.4282 (UTL)	mg/L	0.369	0.347	0.328	0.319 J	0.371 J*	0.385	0.392 J*	0.383 J	0.348 J*	---	0.363	0.338
Mercury	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	<0.000150	---	---	---
Molybdenum	None	Not Applicable	0.1 (ODEQ)	mg/L	<0.000500	<0.00100	<0.000500	<0.000500	<0.000500	<0.00100	<0.00500	<0.0100	<0.00100	---	<0.00100	<0.00100
Selenium	0.05	Not Applicable	0.05 (MCL)	mg/L	<0.000600	<0.00120	<0.00150	<0.00150	<0.00150	0.000459 J	0.00300 J	<0.00300	0.000447 J	---	---	---
Thallium	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000500	<0.00100	<0.00400	<0.00400	<0.000800	<0.000800	<0.00400	<0.00800	<0.000800	---	---	---
Ra-226 + Ra-228 (combined)	5	Not Applicable	5 (MCL)	pCi/L	0.446 +/- 0.263	0.758 +/- 0.381	0.910 +/- 0.342	0.721 +/- 0.369	0.728 +/- 0.295	0.547 +/- 0.306	0.769 +/- 0.265	0.819 +/- 0.291	1.32 +/- 0.332	---	---	---
Other Parameters																
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<5.00	---	---	---
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	284	---	---	---
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<5.00	---	---	---
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	85.1	---	---	---
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Potassium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	10.1	---	---	---
Sodium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	213	---	---	---
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	---	---	---	---	---	---	---	---	---	---	---	---
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																
Temperature	None	Not Applicable	Not Applicable	ºC	21.1	23.03	22.15	15.3	16.72	---	18.99	20.76	21.68	21.61	24.93	21.92
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	6.67	6.94	6.83	6.79	6.79	---	6.82	6.73	6.67	6.9	6.62	6.58
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	3,239	3,360	3,487	3,454	3,469	---	3,460	3,426	3,362	3,356	3,546	3,538
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	0.56	0.38	0.08	0.17	0.29	---	0.36	0.22	0.1	0.46	1.21	1.35
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	-45.5	-0.5	-87.3	-181.7	-168.4	---	-22.4	62.4	39.4	-53.5	156	136.5
Turbidity	None	Not Applicable	Not Applicable	NTU	0.67	0.55	0.22	0.32	0.21	---	0.23	0.74	0.38	1.53	0.64	0.16

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT D
GROUNDWATER SAMPLE DATA TO DATE FOR SURFACE IMPOUNDMENT CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID:	MW-24	MW-24		DUP 1		MW-24	MW-24	MW-24	MW-24	MW-24	MW-24	MW-24	MW-24	MW-24	DUP-1
				Sample Date:	27-Sep-18	9-Jan-19				24-Apr-19	3-Oct-19	16-Jun-20	6-Oct-20	1-Apr-21	12-Oct-21	29-Mar-22	6-Jun-22	4-Oct-22	
Detection Monitoring Parameters				***Units***	INITIAL ASSESSMENT MON.	INITIAL ASSESSMENT MON. (RESAMPLE) UNFILTERED	INITIAL ASSESSMENT MON. (RESAMPLE) FILTERED	INITIAL ASSESSMENT MON. (RESAMPLE) UNFILTERED	INITIAL ASSESSMENT MON. (RESAMPLE) FILTERED	FIRST 2019 ASSESSMENT MON.	SECOND 2019 ASSESSMENT MON.	FIRST 2020 ASSESSMENT MON.	SECOND 2020 ASSESSMENT MON.	FIRST 2021 ASSESSMENT MON.	SECOND 2021 ASSESSMENT MON.	FIRST 2022 ASSESSMENT MON.	FIRST 2022 ASSESSMENT MON. (RESAMPLE)	SECOND 2022 ASSESSMENT MON.	SECOND 2022 ASSESSMENT MON.
Boron	None	1.935	Not Applicable	mg/L	0.143 #	1.27	1.52	1.41	1.37	1.42	0.987	1.09	1.16	1.09	1.24	1.26	---	1.2	1.4
Calcium	None	961.40	Not Applicable	mg/L	61.7 #	533	697	671	685	530	532	450	536	498	558	555	---	578	646
Chloride	250	11.6	Not Applicable	mg/L	18.2 #	15.2	14.1	13.5	14	13.8	14.8	13.3	14.8	18	22.5	21.7^	21.6	19.9	17.5
Fluoride	4	2.84	Not Applicable	mg/L	0.266 #	0.267	0.186	0.254	0.152	0.337 J	0.169	0.231	0.181	0.294	0.223	0.404 J^	0.261	0.117	0.124
pH (laboratory)	6.5 - 8.5	8	Not Applicable	S.U.	8 #	6.55	---	6.55	---	7.48	6.77	6.56	7.06	7.31	6.83	1.63^	7.25	6.8	7.7
Sulfate	250	2,156	Not Applicable	mg/L	1950 #	2,230	2,090	2,120	2,080	1,850	1,880	1,990	2,060	2,080	2,070	2560^	2,070	1,990	1,970
Total Dissolved Solids	500	3,333	Not Applicable	mg/L	3290 #	2,940	3,000	2,850	3,100	3,160	3,080	3,120	3,160	3,350	3,240	3640^	3,280	3,410	3,390
Assessment Monitoring Parameters																			
Antimony	0.006	Not Applicable	0.006 (MCL)	mg/L	<0.000800 #	<0.000400	<0.000400	<0.0000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	---	<0.000400	<0.000400
Arsenic	0.010	Not Applicable	0.01 (MCL)	mg/L	<0.000400 #	0.000548 J	0.000587 J	0.000625 J	0.000686 J	0.00153 J	<0.000400	<0.000400	0.000445 J	<0.000400	<0.000400	0.000528 J	---	<0.000400	<0.000400
Barium	2	Not Applicable	2 (MCL)	mg/L	0.00109 J #	0.00782	0.00806	0.00878	0.00842	0.00899	0.00878	0.00853	0.00809	0.00652	0.00598	0.00932	---	0.00498	0.00531
Beryllium	0.004	Not Applicable	0.004 (MCL)	mg/L	<0.000100 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200	<0.000200
Cadmium	0.005	Not Applicable	0.005 (MCL)	mg/L	<0.000100 #	<0.000200	<0.000200	<0.000200	<0.0002	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200	<0.000200
Chromium	0.1	Not Applicable	0.1 (MCL)	mg/L	<0.000500 #	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	0.000410 J	0.000774 J	---	<0.000400	<0.000400
Cobalt	None	Not Applicable	0.006 (ODEQ)	mg/L	<0.000100 #	0.00102 J	0.000967 J	0.000906 J	0.000867 J	0.00102 J	0.000794 J	0.000877 J	0.000990 J	0.000209 J	0.000708 J	0.00154 J	---	0.000385 J	0.000398 J
Fluoride	4	Not Applicable	4 (MCL)	mg/L	0.266 #	0.267	0.186	0.254	0.152	0.337 J	0.169	0.231	0.181	0.294	0.223	0.404 J^	0.261	0.117	0.124
Lead	0.015	Not Applicable	0.015 (MCL)	mg/L	<0.000100 #	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	---	<0.000600	<0.000600
Lithium	None	Not Applicable	0.4282 (UTL)	mg/L	0.0398 J* #	0.376	0.408	0.322	0.32	0.376	0.277	0.295	0.309	0.326	0.367	0.375	---	0.323	0.349
Mercury	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000150 #	<0.0000300	<0.0000300	0.0000350 J	0.0000450 J	<0.0000300	<0.0000300	<0.0000300	<0.0000300	0.0000910 J	<0.0000300	<0.0000300	---	<0.0000300	0.0000390 J
Molybdenum	None	Not Applicable	0.1 (ODEQ)	mg/L	<0.00100 #	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	<0.000600	0.000654 J	<0.000600	---	<0.000600	<0.000600
Selenium	0.05	Not Applicable	0.05 (MCL)	mg/L	U (0.000308) #	<0.0011	<0.0011	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	---	<0.00110	<0.00110
Thallium	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000800 #	0.000503 J	<0.0002	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200	<0.000200
Ra-226 + Ra-228 (combined)	5	Not Applicable	5 (MCL)	pCi/L	0.829 +/- 0.228 #	0.63	---	<0.7	---	<0.71	<0.71	1.16	1.09	<0.78	<0.94	<0.79	---	2.83	2
Other Parameters																			
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	<5.00 #	<5	---	<5	---	<5.00	6.00 J	---	17	<5.00	<5.00	<5.00^	14.0 J	<5.00	<5.00
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	<5	---	<5	---	---	---	---	---	---	---	---	---	---	---
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	303	---	309	---	---	---	---	---	---	---	---	---	---	---
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	<5	---	<5	---	---	---	---	---	---	---	---	---	---	---
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	96.7	111	115	111	---	---	---	---	---	---	---	---	---	---
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	0.366 #	<0.03	<0.03	<0.03	<0.03	<0.150	<0.0300	<0.0300	<0.300	<0.0600	0.152 J	561 H^	0.0516 J	0.103	<0.0300
Potassium	None	Not Applicable	Not Applicable	mg/L	---	10.8	12	13	12.6	---	---	---	---	---	---	---	---	---	---
Sodium	None	Not Applicable	Not Applicable	mg/L	---	223	267	274	272	---	---	---	---	---	---	---	---	---	---
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	3500 #	3,390	---	3,370	---	---	---	---	3,620	3,610	3,520	19000^	4,290	4,110	4,090
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																			
Temperature	None	Not Applicable	Not Applicable	ºC	21.1	15.7	---	---	---	19.5	23.2	22.47	24.1	18.3	21.6	20.5	23.9	22.6	---
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	6.71	6.67	---	---	---	6.72	6.79	6.85	6.86	7.28	6.89	7.01	6.88	6.81	---
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	3,509	3,346	---	---	---	3,386	3,554	3,124	3,288	4,608	3,479	3,062	3,463	3,475	---
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	0.19	0.65	---	---	---	0.8	0.55	1.05	0.51	1.41	0.43	0.64	0.95	0.43	---
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	130	280	---	---	---	635	79.1	-34.4	206.1	40.1	136.6	156.2	90.2	12.7	---
Turbidity	None	Not Applicable	Not Applicable	NTU	3.45	---	---	---	---	0.33	1.6	2.31	0.88	0.6	2.25	0.71	2.51	2.2	---

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT D
GROUNDWATER SAMPLE DATA TO DATE FOR SURFACE IMPOUNDMENT CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID: / Sample Date: / *Units*	MW-24 / 11-Apr-23 / FIRST 2023 ASSESSMENT MON.
Detection Monitoring Parameters					
Boron	None	1.935	Not Applicable	mg/L	1.29
Calcium	None	961.40	Not Applicable	mg/L	521
Chloride	250	11.6	Not Applicable	mg/L	18.7
Fluoride	4	2.84	Not Applicable	mg/L	0.261
pH (laboratory)	6.5 - 8.5	8	Not Applicable	S.U.	7.14
Sulfate	250	2,156	Not Applicable	mg/L	2,620
Total Dissolved Solids	500	3,333	Not Applicable	mg/L	3,430
Assessment Monitoring Parameters					
Antimony	0.006	Not Applicable	0.006 (MCL)	mg/L	<0.000400
Arsenic	0.010	Not Applicable	0.01 (MCL)	mg/L	0.000400 J
Barium	2	Not Applicable	2 (MCL)	mg/L	0.00789
Beryllium	0.004	Not Applicable	0.004 (MCL)	mg/L	<0.000200
Cadmium	0.005	Not Applicable	0.005 (MCL)	mg/L	<0.000200
Chromium	0.1	Not Applicable	0.1 (MCL)	mg/L	<0.000400
Cobalt	None	Not Applicable	0.006 (ODEQ)	mg/L	0.00152 J
Fluoride	4	Not Applicable	4 (MCL)	mg/L	0.261
Lead	0.015	Not Applicable	0.015 (MCL)	mg/L	<0.000600
Lithium	None	Not Applicable	0.4282 (UTL)	mg/L	0.374
Mercury	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.0000300
Molybdenum	None	Not Applicable	0.1 (ODEQ)	mg/L	<0.000600
Selenium	0.05	Not Applicable	0.05 (MCL)	mg/L	<0.00110
Thallium	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000200
Ra-226 + Ra-228 (combined)	5	Not Applicable	5 (MCL)	pCi/L	0.281 +/- 0.398
Other Parameters					
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	14.0 J
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---
Magnesium	None	Not Applicable	Not Applicable	mg/L	---
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	<0.0300
Potassium	None	Not Applicable	Not Applicable	mg/L	---
Sodium	None	Not Applicable	Not Applicable	mg/L	---
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	3,570
Sulfide	None	Not Applicable	Not Applicable	mg/L	---
Field Parameters					
Temperature	None	Not Applicable	Not Applicable	ºC	19.8
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	6.66
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	3,023
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	0.70
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	80.6
Turbidity	None	Not Applicable	Not Applicable	NTU	5.52

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT D
GROUNDWATER SAMPLE DATA TO DATE FOR SURFACE IMPOUNDMENT CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID:	MW-25R	MW-25R	MW-25R	MW-25R	DUP 1	MW-25R	MW-25R	MW-25R	MW-25R	MW-25R	MW-25R (Shallow)	DUP2 (Shallow)	MW-25R (Deep)
				Sample Date:	13-Dec-16	26-Jan-17	3-Feb-17	29-Mar-17	29-Mar-17	7-Apr-17	31-May-17	9-Jun-17	14-Aug-17	24-May-18	2-Aug-18	2-Aug-18	10-Aug-18
					BACKGROUND 1	BACKGROUND 2	BACKGROUND 3	BACKGROUND 4		BACKGROUND 5	BACKGROUND 6	BACKGROUND 7	BACKGROUND 8	DETECTION MON. #1	EVALUATION SAMPLE		VERIFICATION SAMPLE
Detection Monitoring Parameters				***Units***													
Boron	None	1.935	Not Applicable	mg/L	2.41	2.61	2.59	1.2	1.2	0.633	0.937	0.967	1.15	1.2	0.303	0.395	3.38
Calcium	None	961.40	Not Applicable	mg/L	435	368	261	485	499	430	332	372	348	477	327	321	423
Chloride	250	11.6	Not Applicable	mg/L	11.4	12.8	11.8	10.9	10.8	11.8	9.12	9.79	10.4	11.4	29.8	30.8	28.5
Fluoride	4	2.84	Not Applicable	mg/L	0.616 J*	0.433	0.608	0.337	0.288	0.271	0.336	0.354	0.284	1.74	0.488	0.486	0.45
pH (laboratory)	6.5 - 8.5	8	Not Applicable	S.U.	7.8	7.2	7.2	6.9	6.9	7.2	6.8	6.8	6.7	7.5	7.2	7.2	7.2
Sulfate	250	2,156	Not Applicable	mg/L	1260	935	1060	846	869	886	708	671	681	1010	1370	1380	1480
Total Dissolved Solids	500	2,328	Not Applicable	mg/L	2100	1720	1840	1730	1730	1430	1470	1440	1390	1700	2470	2390	2580
Assessment Monitoring Parameters																	
Antimony	0.006	Not Applicable	0.006 (MCL)	mg/L	<0.00400	<0.000800	<0.000800	<0.000800	<0.000800	<0.000800	<0.000800	<0.00400	<0.000800	---	---	---	---
Arsenic	0.010	Not Applicable	0.01 (MCL)	mg/L	<0.00200	0.000954 J	0.00146 J	0.0027	0.00265	0.00137 J	0.00108 J	0.00269 J	<0.00200	---	---	---	---
Barium	2	Not Applicable	2 (MCL)	mg/L	0.0404	0.0206	0.0298	0.00812	0.00805	0.00575	0.00656	0.015	0.00505	---	---	---	---
Beryllium	0.004	Not Applicable	0.004 (MCL)	mg/L	<0.000500	<0.000100	<0.000500	<0.000100	<0.000100	<0.000100	0.000109 J	<0.000500	<0.000100	---	---	---	---
Cadmium	0.005	Not Applicable	0.005 (MCL)	mg/L	<0.000500	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100	<0.000500	<0.000100	---	---	---	---
Chromium	0.1	Not Applicable	0.1 (MCL)	mg/L	<0.00250	<0.000500	<0.00500	<0.00500	<0.00500	0.00145 U	0.00168 J	0.00649 J	U (0.00201)	---	---	---	---
Cobalt	None	Not Applicable	0.006 (ODEQ)	mg/L	0.00176 J	0.000456 J	0.00140 J	0.000353 J	0.000385 J	0.000254 J	<0.000100	0.00243 J	0.000749 J	---	---	---	---
Fluoride	4	Not Applicable	4 (MCL)	mg/L	0.616 J*	0.433	0.608	0.337	0.288	0.271	0.336	0.354	0.284	1.74	0.488	0.486	0.45
Lead	0.015	Not Applicable	0.015 (MCL)	mg/L	<0.000500	0.000414 J	0.00831	0.000437 J	0.000430 J	0.000466 J	0.000480 J	0.0141	0.000202 J	---	---	---	---
Lithium	None	Not Applicable	0.4282 (UTL)	mg/L	0.127 J	0.104	0.137	0.103	0.103	0.0728	0.0895	0.0777 J	0.0621	---	0.135	0.149	0.146
Mercury	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000150	<0.000150	<0.000150	0.000100 UJ	0.000100 UJ	<0.000100	<0.000150	<0.000150	<0.000150	---	---	---	---
Molybdenum	None	Not Applicable	0.1 (ODEQ)	mg/L	<0.00500	0.00120 J	0.00145 J	<0.00100	<0.00100	<0.00100	0.00124 J	<0.00500	0.00327	---	0.00155 J	0.00172 J	0.00212
Selenium	0.05	Not Applicable	0.05 (MCL)	mg/L	<0.00150	<0.000300	0.000378 J	0.000607 J	0.000537 J	<0.000300	<0.000300	<0.00150	<0.000300	---	---	---	---
Thallium	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.00400	<0.000800	<0.000800	<0.000800	<0.000800	<0.000800	<0.000800	<0.00400	<0.000800	---	---	---	---
Ra-226 + Ra-228 (combined)	5	Not Applicable	5 (MCL)	pCi/L	2.11 +/- 0.519	0.870 +/- 0.378	0.813 +/- 0.338	0.614 +/- 0.235	0.459 +/- 0.246	0.532 +/- 0.278	0.0415 +/- 0.194 U	0.296 +/- 0.215 U	0.893 +/- 0.290	---	---	---	---
Other Parameters																	
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<5.00	---	---	---	---
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	350	---	---	---	---
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	<5.00	---	---	---	---
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	29.2	---	---	---	---
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Potassium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	7.32	---	---	---	---
Sodium	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	93.3	---	---	---	---
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	---	---	---	---	---	---	---	---	---	---	---	---	---
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																	
Temperature	None	Not Applicable	Not Applicable	ºC	17.64	13.38	14.65	19.41	---	17.3	21.42	22.14	21.7	21.72	22.19	---	24.95
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	6.83	6.9	6.87	6.85	---	6.9	6.7	6.75	6.77	6.88	6.54	---	6.73
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	2,198	2,188	2,202	1,956	---	1,824	1,791	1,798	1,832	2,014	2,956	---	3,132
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	2.05	2.26	2.32	3.71	---	1.72	0.51	0.12	0.21	0.16	1.53	---	1.72
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	-93.8	-229	-60	-30.2	---	-72.5	-156.6	34.6	11.8	-81.5	196.3	---	148
Turbidity	None	Not Applicable	Not Applicable	NTU	29.7	2.71	4.82	97.3	---	17.7	41.1	3.15	2.84	0.43	3.11	---	3.82

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.

ATTACHMENT D
GROUNDWATER SAMPLE DATA TO DATE FOR SURFACE IMPOUNDMENT CCR UNIT
WESTERN FARMERS ELECTRIC COOPERATIVE - HUGO POWER STATION

Parameters	MCL or SMCL	Established Background (Det. Mon.)	Established GWPS (Ass. Mon.)	Sample ID:	MW-25R	MW-25R		MW-25R	MW-25R	MW-25R	MW-25R	MW-25R	MW-25R	MW-25R	DUP 2	MW-25R	MW-25R	MW-25R
				Sample Date:	28-Sep-18	9-Jan-19		23-Apr-19	30-Sep-19	16-Jun-20	13-Oct-20	1-Apr-21	12-Oct-21	30-Mar-22		6-Jun-22	4-Oct-22	12-Apr-23
Detection Monitoring Parameters				***Units***	INITIAL ASSESSMENT MON.	INITIAL ASSESSMENT MON. (RESAMPLE) UNFILTERED	INITIAL ASSESSMENT MON. (RESAMPLE) FILTERED	FIRST 2019 ASSESSMENT MON.	SECOND 2019 ASSESSMENT MON.	FIRST 2020 ASSESSMENT MON.	SECOND 2020 ASSESSMENT MON.	FIRST 2021 ASSESSMENT MON.	SECOND 2021 ASSESSMENT MON.	FIRST 2022 ASSESSMENT MON.		FIRST 2022 ASSESSMENT MON. (RESAMPLE)	SECOND 2022 ASSESSMENT MON.	FIRST 2023 ASSESSMENT MON.
Boron	None	1.935	Not Applicable	mg/L	1.55 #	1.24	1.29	0.944	1.07	0.997	1.35	0.888	1.16	0.910	1.12	---	1.21	0.814
Calcium	None	961.40	Not Applicable	mg/L	347 #	463	449	413	308	343	338	384	319	363	447	---	330	321
Chloride	250	11.6	Not Applicable	mg/L	16.3 J* #	8.72	9.17	7.31	8.85	5.43	6.1	4.84	7.34	6.96 H ^	4.94 ^	4.77	7.94	3.55
Fluoride	4	2.84	Not Applicable	mg/L	0.496 #	0.348	0.441	0.365	0.409	0.282	0.416	0.309	0.330	<0.250 H ^	0.378 J ^	0.41	0.44	0.376
pH (laboratory)	6.5 - 8.5	8	Not Applicable	S.U.	7.6 #	6.96	---	7.47	6.48	6.59	7.15	7.19	5.98	2.32^	1.87^	7.56	6.81	6.88
Sulfate	250	2,156	Not Applicable	mg/L	1230 #	1,060	1,090	952	1,030	820	894	998	1,150	1590^	1520^	821	1,020	853
Total Dissolved Solids	500	2,328	Not Applicable	mg/L	2180 #	1,780	1,670	1,910	1,820	1,630	1,750	1,840	1,710	3160^	4200^	1,650	2,010	1,480
Assessment Monitoring Parameters																		
Antimony	0.006	Not Applicable	0.006 (MCL)	mg/L	<0.000800 #	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	---	<0.000400	<0.000400
Arsenic	0.010	Not Applicable	0.01 (MCL)	mg/L	<0.00200 #	0.000825 J	0.000552 J	0.000630 J	<0.000400	0.000472 J	0.000432 J	<0.000400	<0.000400	0.000460 J	0.00137 J	---	<0.000400	<0.000400
Barium	2	Not Applicable	2 (MCL)	mg/L	0.0113 #	0.00398 J	0.00361 J	0.00244 J	0.00514	<0.00190	<0.00190	<0.00190	0.00722	<0.00190	0.00628	---	0.0045	<0.00190
Beryllium	0.004	Not Applicable	0.004 (MCL)	mg/L	<0.000100 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	0.000238 J	---	<0.000200	<0.000200
Cadmium	0.005	Not Applicable	0.005 (MCL)	mg/L	<0.000100 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200	<0.000200
Chromium	0.1	Not Applicable	0.1 (MCL)	mg/L	<0.000500 #	0.000691 J	<0.000400	<0.000400	<0.000400	<0.000400	<0.000400	0.000477 J	0.00150 J	<0.000400	0.00335 J	---	0.000581 J	<0.000400
Cobalt	None	Not Applicable	0.006 (ODEQ)	mg/L	0.000436 J #	0.000503 J	<0.000200	0.000344 J	<0.000200	<0.000200	<0.000200	<0.000200	0.000275 J	0.000619 J	0.00192 J	---	<0.000200	0.000622 J
Fluoride	4	Not Applicable	4 (MCL)	mg/L	0.496 #	0.348	0.441	0.365	0.409	0.282	0.416	0.309	0.330	<0.250 H ^	0.378 J ^	0.41	0.44	0.376
Lead	0.015	Not Applicable	0.015 (MCL)	mg/L	0.000229 J #	0.000829 J	<0.000600	0.000819 J	<0.000600	<0.000600	<0.000600	<0.000600	0.00172 J	<0.000600	0.00296	---	<0.000600	<0.000600
Lithium	None	Not Applicable	0.4282 (UTL)	mg/L	0.141 #	0.0985	0.113	0.0767	0.132	0.0596	0.0603	0.0526	0.120	0.0443	0.0678	---	0.128	0.0480
Mercury	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000100 #	0.0000560 J	<0.0000300	<0.0000300	<0.0000300	<0.0000300	<0.0000300	0.000125 J	0.0000660 J	<0.0000300	<0.0000300	---	<0.0000300	<0.0000300
Molybdenum	None	Not Applicable	0.1 (ODEQ)	mg/L	0.00186 J #	0.00134 J	0.00113 J	<0.000600	<0.000600	0.00101 J	0.000602 J	0.000731 J	0.000623 J	<0.000600	0.000935 J	---	<0.000600	0.000748 J
Selenium	0.05	Not Applicable	0.05 (MCL)	mg/L	<0.000300 #	<0.0011	<0.0011	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	<0.00110	---	<0.00110	<0.00110
Thallium	0.002	Not Applicable	0.002 (MCL)	mg/L	<0.000800 #	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	<0.000200	---	<0.000200	<0.000200
Ra-226 + Ra-228 (combined)	5	Not Applicable	5 (MCL)	pCi/L	1.94 +/- 0.367 #	<0.71	---	1.06	0.87	<0.77	0.95	<0.82	0.95	<0.89	0.87	---	0.929	0.300 +/- 0.460
Other Parameters																		
Chemical Oxygen Demand (COD)	None	Not Applicable	Not Applicable	mg/L	5.28 J #	<5	---	5.00 J	<5.00	---	6.00 J	<5.00	6.00 J	5.00 J ^	6.00 J ^	20	11.0 J	5.00 J
Total Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Carbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	<5	---	---	---	---	---	---	---	---	---	---	---	---
Bicarbonate Alkalinity as CaCO3	None	Not Applicable	Not Applicable	mg/L	---	375	---	---	---	---	---	---	---	---	---	---	---	---
Hydroxide Alkalinity	None	Not Applicable	Not Applicable	mg/L	---	<5	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Total	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferrous, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Iron, Ferric, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Magnesium	None	Not Applicable	Not Applicable	mg/L	---	49.4	46.6	---	---	---	---	---	---	---	---	---	---	---
Molybdenum, Dissolved	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Nitrate as N	10	Not Applicable	Not Applicable	mg/L	<0.248 #	<0.03	<0.03	<0.0600	0.354	1.74	<0.0300	<0.0300	0.169 J	235 ^	401 ^	0.0430 J, H	0.432	<0.0300
Potassium	None	Not Applicable	Not Applicable	mg/L	---	8.59	8.78	---	---	---	---	---	---	---	---	---	---	---
Sodium	None	Not Applicable	Not Applicable	mg/L	---	134	131	---	---	---	---	---	---	---	---	---	---	---
Specific Conductance (laboratory)	None	Not Applicable	Not Applicable	umhos/cm	2540 #	2,160	---	---	---	---	2,190	2,190	2,070	4980 ^	9490 ^	2,440	2,610	1,860
Sulfide	None	Not Applicable	Not Applicable	mg/L	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Field Parameters																		
Temperature	None	Not Applicable	Not Applicable	ºC	22.1	18.2	---	20.39	26.24	21.15	23.8	18.3	20.6	17.6	---	23.9	22.2	21.1
pH	6.5 - 8.5	Not Applicable	Not Applicable	S.U.	6.77	6.79	---	7.02	6.89	6.8	6.8	7.44	6.82	6.92	---	6.82	6.65	7.75
Specific Conductance	None	Not Applicable	Not Applicable	µmhos/cm	3,212	2,326	---	2,191	2,239	1,861	2,023	2,798	1,876	1,714	---	1,964	2,251	1,687
Dissolved Oxygen	None	Not Applicable	Not Applicable	mg/L	0.4	3	---	1.43	3.86	1.4	0.73	0.41	2.89	0.30	---	0.31	3.37	0.38
Oxidation-Reduction Potential	None	Not Applicable	Not Applicable	mV	33	135.2	---	100.3	62.7	-37.1	222.2	65.5	99.8	24.4	---	51.2	93.9	-70.4
Turbidity	None	Not Applicable	Not Applicable	NTU	12.1	17	---	12.1	33.8	6.26	1.81	1.36	12.5	4.54	---	4.65	9.79	4.52

Notes:

1. MCL : GWPS is Federal Drinking Water standard, or Tap Water Standard for Lead. UTL : GWPS is upper tolerance limit from pooled background data from upgradient / background wells ODEQ : Revised GWPS to reflect September 15, 2021 regulatory changes to to OAC 252:517.
2. mg/L : milligrams per liter.
3. pCi/L : picoCuries per liter.
4. S.U. : Standard Units.
5. ºC : degrees Celsius.
6. µmhos/cm : micromhos per centimeter.
7. mV : millivolts.
8. NTU : Nephelometric Turbidity Unit.
9. < : Analyte not detected at the laboratory method detection limit (MDL).
10. J : Result is less than the Reporting Limit (RL) but greater than or equal to the MDL and the concentration is an approximate value.
11. Cells shaded in blue indicate results that are above the laboratory MDL.
12. The sulfate value for sample MW-25R collected June 9, 2017 was originally reported by the laboratory as 331 mg/L. The laboratory reprepared and analyzed the sample. The value for sulfate on this table is the result of the reanalysis.
13. --- : no analysis performed.
14. Data validation based on USEPA "National Functional Guidelines", OSWER 9355.0-132, EPA-540-R-014-002, Revision August 2014 for Organics and OSWER 9355.0-131, EPA-540-R-013-001, Revision August 2014 for Inorganics.
    - U ( ) : The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
    - UJ : The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
    - J* : The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
    - R : The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
15. New pumps were installed in MW-5S, MW-7S, MW-19S, and MW-25R in January 2017.
16. # : Data from Initial Assessment Monitoring determined to be invalid due to laboratory issues and are not to be used in statistical evaluation. Resampling was conducted in January 2019 (both filtered and unfiltered). Data from unfiltered analysis from January 2019 is appropriate for statistical evaluation.
17. ^ : Data for select parameters from the First 2022 Assessment Monitoring were determined to not be valid due to use of inappropriate preservative. Resampling for these was conducted in June 2022. For these, data from June 2022 is appropriate for statistical evaluation.