



2021 Annual Groundwater Monitoring and Corrective Action Report and Semi- Annual Remedy Selection and Design Progress Report

for Compliance with the Coal Combustion
Residuals (CCR) Rule

Pawnee Station

Public Service Company of Colorado Energy

January 31, 2022

Table of Contents

Certification	iv
1.0 Introduction	1
2.0 Facility Description	1
2.1 Hydrogeology	2
2.2 Monitoring Well Network	2
2.2.1 North CCR Landfill	2
2.2.2 Bottom Ash Storage Pond	3
2.2.3 Ash Water Recovery Pond	3
2.2.4 East CCR Landfill	3
3.0 Monitoring	6
3.1 Frequency	6
3.1.1 North CCR Landfill	6
3.1.2 Bottom Ash Storage Pond	7
3.1.3 Ash Water Recovery Pond	8
3.1.4 East CCR Landfill	9
3.2 Water Levels and Sample Collection	10
3.3 Analytical Testing	10
3.4 Data Validation and Data Management	11
4.0 Monitoring Results	11
4.1 Water Levels and Groundwater Flow Direction	11
4.2 Water Quality	11
4.2.1 North CCR Landfill	11
4.2.2 Bottom Ash Storage Pond	13
4.2.3 Ash Water Recovery Pond	14
4.2.4 East CCR Landfill	15
5.0 Remedy Selection Progress	16
5.1 North CCR Landfill	16
5.2 AWRP and BASP	17
5.2.1 Source Control Measures Undertaken	17
5.2.2 Progress Towards Remedy Selection	17
6.0 Summary	18
7.0 References	21



List of Tables

Table 1. Groundwater quality parameters.....	6
Table 2. Number and dates of groundwater samples collected for each North CCR Landfill well and the required monitoring programs (257.90(e)(3)).....	7
Table 3. Number and dates of groundwater samples collected for each well at the (closed) Bottom Ash Storage Pond and the required monitoring programs (257.90(e)(3))	8
Table 4. Number and dates of groundwater samples collected for each well at the (closed) Ash Water Recycle Pond and the required monitoring programs (257.90(e)(3))	9
Table 5. Number and dates of groundwater samples collected for each well at the East CCR Landfill and the required monitoring programs (257.90(e)(3)).....	10
Table 6. Groundwater Protection Standards for Detected Appendix IV COIs for the North CCR Landfill 257.95(d)(3)	12
Table 7. Groundwater Protection Standards for Detected Appendix IV COIs for the Bottom Ash Storage Pond 257.95(d)(3)	13
Table 8. Groundwater Protection Standards for Detected Appendix IV COIs for the Ash Water Recovery Pond 257.95(d)(3)	15

List of Figures

Figure 1. Vicinity map for Pawnee Station.	4
Figure 2. Pawnee Station – CCR units and monitoring well location map.....	5

List of Appendices

Appendix A: Monitoring types to comply with specific CCR Rule Requirements
Appendix B: Groundwater Potentiometric Maps
Appendix C: Laboratory Reports



Table of Abbreviations and Acronyms

Abbreviation	Definition
BTV	Background threshold value
CCR	Coal combustion residuals
COI	Constituent of interest
EPA	Environmental Protection Agency
GPS	Groundwater protection standard
LCL	Lower confidence limit
LCS	Laboratory control samples
MS/MSD	Matrix spike/ matrix spike duplicate
PSCo	Public Service Company of Colorado
QC	Quality control
RPD	Relative percent difference
SOP	Standard Operating Procedure
SSI	Statistically significant increase
SSL	Statistically significant level
TDS	Total dissolved solids
TSS	Total suspended solids
UPL	Upper prediction limit

Certification

2021 Groundwater Monitoring Annual Report for Pawnee Station

I hereby certify to the best of my knowledge that this groundwater monitoring annual report is designed to meet the performance standard in 40 CFR Part 257 of the Federal Coal Combustion Residuals (CCR) Rule.

I am duly licensed Professional Engineer under the laws of the State of Colorado.



Matthew Rohr, PE
Colorado PE License 0053467
License renewal date October 31, 2023

31-JAN-2022



Summary of 40 CFR Section § 257.90(e)(6) Groundwater Monitoring System Requirements and Site-Specific Compliance					
§ 257.90(e)(6) A section at the beginning of the annual report that provides an overview of the current status of groundwater monitoring and corrective action programs for the CCR unit. At a minimum, the summary must specify all of the following:		North Landfill Status	Former Bottom Ash Storage Pond Status	Former Ash Water Recovery Pond	East Landfill Status
§257.90(e)(6)(i)	At the start of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in § 257.94 or the assessment monitoring program in § 257.95.	Assessment Monitoring Program and Evaluation of Potential Remedies	Assessment Monitoring Program and Evaluation of Potential Remedies	Assessment Monitoring Program and Evaluation of Potential Remedies	Detection Monitoring program
§257.90(e)(6)(ii)	At the end of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in § 257.94 or the assessment monitoring program in § 257.95.	Assessment Monitoring Program and Evaluation of Potential Remedies	Assessment Monitoring Program and Evaluation of Potential Remedies	Assessment Monitoring Program and Evaluation of Potential Remedies	Detection Monitoring Program
§257.90(e)(6)(iii)	If it was determined that there was a statistically significant increase over background for one or more constituents listed in appendix III to this part pursuant to § 257.94(e):	Yes	Yes	Yes	Yes but an ASD successfully completed
§257.90(e)(6)(iii)(A)	Identify those constituents listed in appendix III to this part and the names of the monitoring wells associated with such an increase.	• PNMW-1B – chloride, sulfate, TDS • PNMW-15 – boron, calcium, pH, sulfate, TDS • PNMW-16 - boron, calcium, pH, sulfate, TDS	• PNMW-21 - chloride, sulfate, TDS • PNMW-22 – fluoride, sulfate • PNMW-23 – sulfate, TDS	• PNMW-18 - sulfate, TDS • PNMW-20 – boron, calcium, chloride, sulfate, TDS	• PNMW-21 - TDS • PNMW-22 – sulfate, TDS • PNMW-23 – sulfate, TDS
§257.90(e)(6)(iii)(B)	Provide the date when the assessment monitoring program was initiated for the CCR unit.	January 15, 2018	August 6, 2019	August 6, 2019	N/A
§257.90(e)(6)(iv)	If it was determined that there was a statistically significant level above the groundwater protection standard for one or more constituents listed in appendix IV to this part pursuant to § 257.95(g) include all of the following:	Yes	Yes	Yes	N/A
§257.90(e)(6)(iv) (A)	Identify those constituents listed in appendix IV to this part and the names of the monitoring wells associated with such an increase.	• PNMW-15 – lithium • PNMW-16 – lithium	• PNMW-21 – lithium • PNMW-22 - lithium	• PNMW-20 – lithium	N/A
§257.90(e)(6)(iv) (B)	Provide the date when the assessment of corrective measures was initiated for the CCR unit.	April 3, 2019	August 6, 2020	August 6, 2020	N/A
§257.90(e)(6)(iv)(C)	Provide the date when the public meeting was held for the assessment of corrective measures for the CCR unit.	Will be held 30 days prior to remedy selection	Will be held 30 days prior to remedy selection	Will be held 30 days prior to remedy selection	N/A
§257.90(e)(6)(iv)(D)	Provide the date when the assessment of corrective measures was completed for the CCR unit.	August 30, 2019	January 27, 2021	January 27, 2021	N/A
§257.90(e)(6)(v)	Whether a remedy was selected pursuant to § 257.97 during the current annual reporting period, and if so, the date of remedy selection.	Evaluation of potential remedies ongoing	Evaluation of potential remedies ongoing	Evaluation of potential remedies ongoing	N/A
§257.90(e)(6)(vi)	(vi) Whether remedial activities were initiated or are ongoing pursuant to § 257.98 during the current annual reporting period.	Evaluation of potential remedies ongoing	Ongoing – Source Removal complete in March 2017	Ongoing – Source Removal complete in April 2017	N/A

1.0 Introduction

The U.S. Environmental Protection Agency's (EPA) final Coal Combustion Residuals (CCR) Rule establishes a comprehensive set of requirements for the management and disposal of CCR (or coal ash) in landfills and surface impoundments by electric utilities. Pawnee Station, located in Morgan County, Colorado (**Figure 1**), is owned and operated by Public Service Company of Colorado (PSCo), an Xcel Energy Company. Pawnee Station has two existing CCR units subject to the CCR Rule: the North CCR Landfill and the East CCR Landfill (**Figure 2**). In addition, Pawnee Station has two closed CCR units, the former Bottom Ash Storage Pond (BASP) and the former Ash Water Recovery Pond (AWRP) (**Figure 2**). The BASP and AWRP were both physically closed in 2017 by removal of CCR, with ongoing groundwater monitoring. The East CCR Landfill was constructed in 2018 in the same footprint as the former BASP, and ash was initially placed in the East CCR Landfill on July 8, 2019.

In 2021, groundwater monitoring was conducted at Pawnee to collect assessment monitoring samples at the North CCR Landfill, the former AWRP, and the former BASP as specified under Part 257.95. The East CCR Landfill was put into operation in July 2019 and detection monitoring initiated in November 2019 and continued through 2021. This Annual Groundwater Monitoring Report presents the sampling and analysis completed in 2021:

- The status of the groundwater monitoring program for the North CCR Landfill at the end of 2021 is assessment monitoring and evaluation of potential remedies.
- The status of the groundwater monitoring program for the former BASP at the end of 2021 is assessment monitoring and evaluation of potential remedies.
- The status of the groundwater monitoring program for the former AWRP at the end of 2021 is assessment monitoring and evaluation of potential remedies.
- The status of the groundwater monitoring program for the East CCR Landfill at the end of 2021 is detection monitoring.

2.0 Facility Description

Pawnee Station is a coal-fired, steam turbine electric generating station. The fuel source for the existing coal-fired units is sub-bituminous, low-sulfur coal from the Eagle Butte Mine near Gillette, Wyoming. In 2021 Pawnee Station had one operating unlined landfill unit, the North CCR Landfill, used for storage of CCR that has been in use since operations began in 1981 (**Figure 2**). Landfill operations consist primarily of management of CCR bottom ash and fly ash and disposal of minor amounts of other approved non-CCR waste. The North CCR landfill is operated as a single cell approximately 16 acres in area. A second landfill unit, the East CCR Landfill, was constructed in 2018 with a CCR compliant composite liner system and was put into operation with the first ash placement on July 8, 2019. The East CCR Landfill is located within the footprint of the former BASP (**Figure 2**).

The former BASP was in the southeast portion of the site and was included in the original construction of the Pawnee Station in 1980 and encompasses 13.1 acres. The pond was approximately 950 feet long by 600 feet wide and had a maximum depth of 23 feet. The pond

was constructed with a composite liner system consisting of a synthetic liner over approximately 2 feet of clay. Historically, the BASP accepted sluiced bottom ash from the boiler and cooling water blowdown and discharged to the AWRP. The BASP was physically closed by final removal of CCR and liner material, which was completed in March 2017; completion of CCR removal was certified by a Professional Engineer.

Included in the original site construction, the former AWRP was built in 1980, encompasses 0.92 acres, and is located immediately northwest of the former BASP (**Figure 2**). The pond is approximately 400 feet long by 100 feet wide and has a maximum depth of 12 feet. The pond was constructed with a composite liner system consisting of a synthetic liner over approximately 2 feet of clay. Historically, the influent water was from the BASP and the effluent water was recirculated to the plant to sluice bottom ash from the boiler. The AWRP was taken out of service with the construction of the Ash Water Recycle Pond in 2005. The AWRP was physically closed by final removal of CCR and liner material, which was completed in April 2017; completion of CCR removal was certified by a Professional Engineer.

2.1 Hydrogeology

The stratigraphic units present at the Pawnee Station include bedrock of the Pierre Shale, overlain by residual soil/transition zone bedrock derived from in-situ weathering of the Pierre Shale, which is also referred to as sandy silt deposits. The residual soil is overlain by dune sand deposits at the surface. The residual soil unit is laterally continuous and varies in thickness from approximately 8 to 45 feet. The transition zone bedrock is typically less than 5 feet (1.5 m) thick and consists of friable, blocky siltstone. The transition zone bedrock is confined below by competent bedrock of the Pierre Shale. Dune sand overlies the residual soil and ranges in thickness from 8 to 70 feet (2.4 to 21 m). The lithology is the same under all of the CCR units.

Saturated conditions occur at the base of the residual soil within the transition zone bedrock. The groundwater in this zone is perched on top of competent, low permeability, Pierre Shale. Regional groundwater flow is generally to the northeast across the site towards the South Platte River. Groundwater flow under the CCR units is to the east.

2.2 Monitoring Well Network

2.2.1 North CCR Landfill

Six monitoring wells located around the perimeter of the landfill are monitored for compliance with the CCR Rule. Groundwater flows east under the landfill; therefore, monitoring wells PNMW-2B, PNMW-13, and PNMW-14 are upgradient of the landfill, and wells PNMW-1B, PNMW-15, and PNMW-16 are located downgradient of the landfill waste boundary as described in the Pawnee Station Groundwater Monitoring System Certification (HDR, 2018). The well locations are shown on **Figure 2**.

Existing monitoring wells P6, P7, P18B, and PNMW-6B were sampled as part of the assessment of corrective measures for the North CCR Landfill. These wells are sampled to delineate the extents of the groundwater protection standard (GPS) exceedances, evaluate groundwater flow moving northeast away from the North CCR Landfill, and monitor the downgradient station property boundary in compliance with CCR Rule § 257.95(g)(1) (**Figure 2**). No landfill monitoring wells were installed or abandoned in 2021.

2.2.2 Bottom Ash Storage Pond

Four wells are located at the former BASP for CCR compliance. Groundwater flows east under the former pond. Therefore, well PNMW-17 was located upgradient of the BASP and downgradient of the North CCR Landfill. Monitoring wells PNMW-21, PNMW-22, and PNMW-23 were located along the perimeter of the east side of the pond to serve as downgradient wells at the waste boundary (**Figure 2**). While water quality at PNMW-17 does not represent site-wide background water quality because of its location downgradient of the North CCR Landfill, it does represent water quality upgradient of the BASP and therefore the background water quality for that CCR unit. The BASP monitoring wells were installed in 2017, as described in the Groundwater Monitoring System Certification report (HDR, 2018). No monitoring wells were installed or abandoned in 2021 for the BASP.

2.2.3 Ash Water Recovery Pond

Four wells were sited at the former AWRP for CCR compliance. Groundwater flows east under the pond. Therefore, well PNMW-17 serves as the upgradient well for both the BASP and the AWRP. While water quality at PNMW-17 does not represent site-wide background water quality because of its location downgradient of the North CCR Landfill, it does represent water quality upgradient of the AWRP and therefore the background water quality for that CCR unit. Monitoring wells PNMW-18, PNMW-19, and PNMW-20 were located along the perimeter of the east side of the pond to serve as downgradient wells at the waste boundary (**Figure 2**). The AWRP monitoring wells were installed in 2017, as described in the Groundwater Monitoring System Certification report (HDR, 2018). No monitoring wells were installed or abandoned in 2021 for the AWRP.

2.2.4 East CCR Landfill

The East CCR Landfill is within the footprint of the former BASP. Removal of CCR and all areas affected by releases of CCR at the BASP was completed by March 31, 2017. The East CCR Landfill was constructed in 2018 and took first receipt of CCR on July 8, 2019. Therefore, the monitoring wells are the same for the East CCR Landfill as the BASP. Groundwater flows east under the East CCR Landfill. Four wells are located at the East CCR Landfill for CCR compliance. Well PNMW-17 was located upgradient of the East CCR Landfill and downgradient of the North CCR Landfill. Monitoring wells PNMW-21, PNMW-22, and PNMW-23 were located along the east side of the landfill waste boundary to serve as downgradient wells (**Figure 2**). While water quality at PNMW-17 does not represent site-wide background water quality because of its location downgradient of the North CCR Landfill, it does represent water quality upgradient of the East CCR Landfill and therefore the background water quality for that CCR unit. The East CCR Landfill monitoring wells were installed in 2017, as described in the Groundwater Monitoring System Certification report (HDR, 2018). No monitoring wells were installed or abandoned in 2021 for the East CCR Landfill.

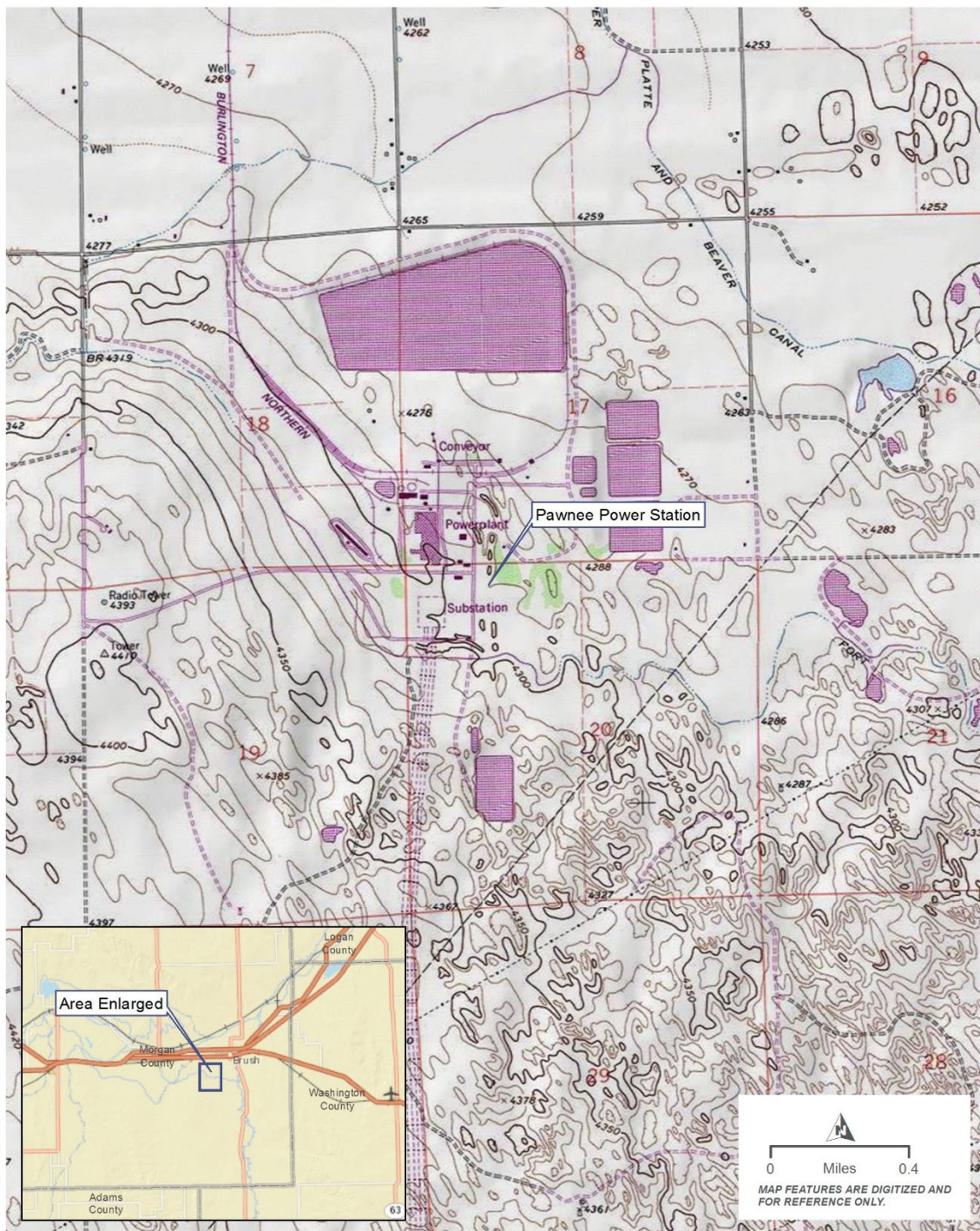


Figure 1. Vicinity map for Pawnee Station.

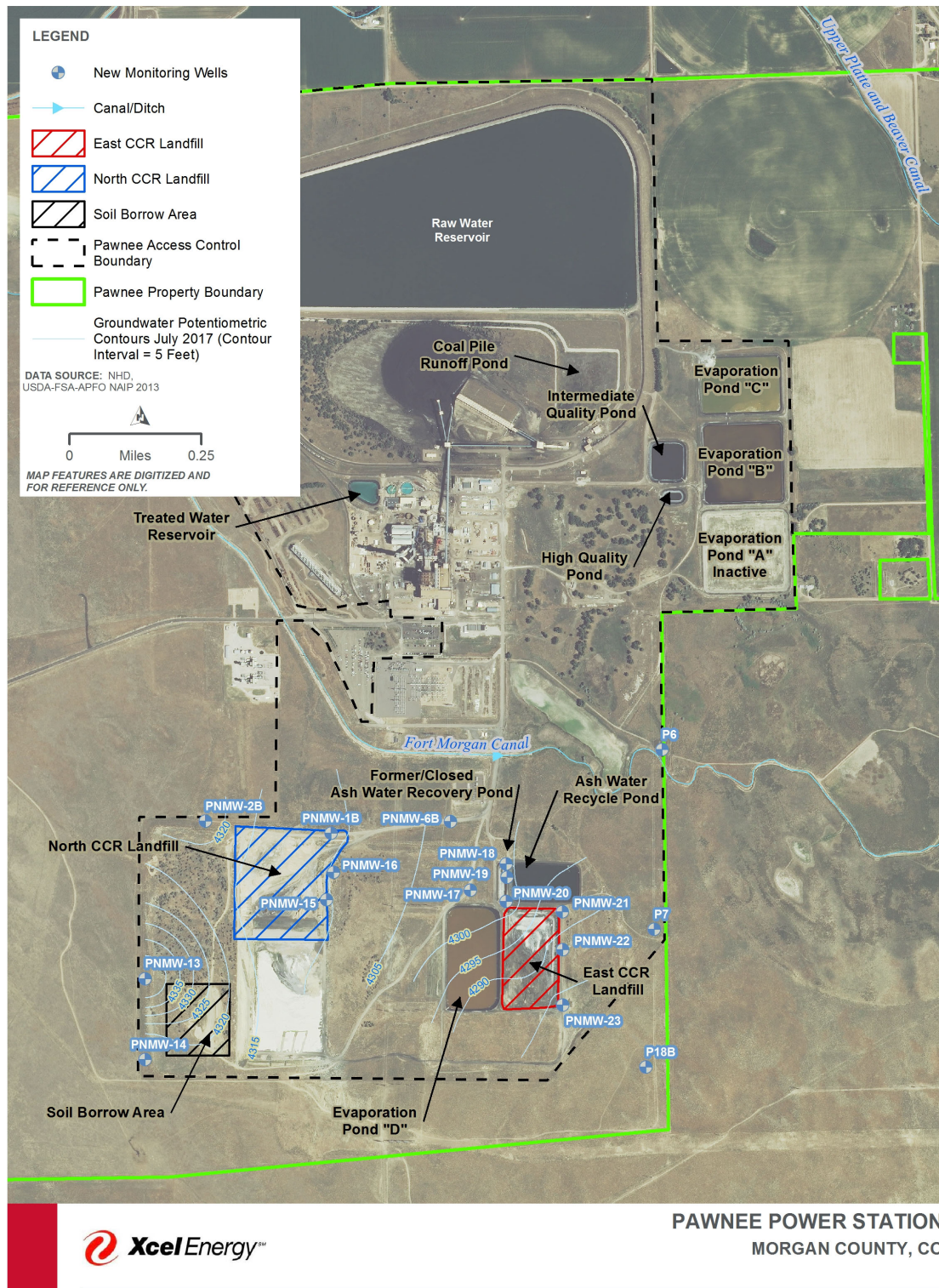


Figure 2. Pawnee Station – CCR units and monitoring well location map.

3.0 Monitoring

3.1 Frequency

3.1.1 North CCR Landfill

Assessment monitoring continued in 2021 for the North CCR Landfill. A semi-annual assessment monitoring event was completed February 1-5, 2021 to sample all of the monitoring wells around the landfill for all Appendix III and IV constituents plus TSS (**Table 1**). Samples were collected from the certified monitoring network of wells (PNMW-1B, PNMW-2B, PNMW-13, PNMW-14, PNMW-15, and PNMW-16), plus from wells P6, P7, P18B, and PNMW-6B. Wells P6, P7, and P18B were sampled to better delineate the extents of the GPS exceedances and monitor the downgradient property boundary in compliance with CCR Rule § 257.95(g)(1). Monitoring well PNMW-6B is located to evaluate groundwater flow moving northeast away from the North CCR Landfill. **Table 2** provides the well identification, dates samples were collected in 2021, and whether the sample was required by the detection monitoring or assessment monitoring programs (per (257.90(e)(3))). **Appendix A** provides the distinctions for the different types of monitoring events and the CCR Rule Part under which the monitoring event was conducted.

On August 3-4, 2021, annual assessment monitoring samples were collected from the North CCR Landfill monitoring wells. Samples were analyzed for all Appendix III and Appendix IV COIs plus TSS. Samples were collected from the certified monitoring network of wells (PNMW-1B, PNMW-2B, PNMW-13, PNMW-14, PNMW-15, and PNMW-16), plus from wells P6, P7, P18B, and PNMW-6B (**Table 2**). All Appendix IV constituents were detected in at least one well except for antimony, cadmium, and mercury.

Table 1. Groundwater quality parameters	
Appendix III Constituents for Detection Monitoring	Appendix IV Constituents for Assessment Monitoring
Boron	Antimony
Calcium	Arsenic
Chloride	Barium
Fluoride	Beryllium
pH	Cadmium
Sulfate	Chromium
Total Dissolved Solids (TDS)	Cobalt
Additional Parameters	Fluoride
Total Suspended Solids (TSS)	Lead
	Lithium
	Mercury
	Molybdenum
	Selenium
	Thallium
	Radium 226 and 228 combined

Table 2. Number and dates of groundwater samples collected for each North CCR Landfill well and the required monitoring programs (257.90(e)(3))

Monitoring Well I.D.	Well Location	Dates Monitored	CCR Rule Monitoring Purpose
PNMW-1B	Downgradient	February 1, 2021	Semi-Annual Assessment Monitoring
		August 3, 2021	Annual Assessment Monitoring
PNMW-2B	Upgradient / Background	February 1, 2021	Semi-Annual Assessment Monitoring
		August 3, 2021	Annual Assessment Monitoring
PNMW-13	Upgradient / Background	February 4, 2021	Semi-Annual Assessment Monitoring
		August 4, 2021	Annual Assessment Monitoring
PNMW-14	Upgradient / Background	February 1, 2021	Semi-Annual Assessment Monitoring
		August 4, 2021	Annual Assessment Monitoring
PNMW-15	Downgradient	February 2, 2021	Semi-Annual Assessment Monitoring
		August 3, 2021	Annual Assessment Monitoring
PNMW-16	Downgradient	February 4, 2021	Semi-Annual Assessment Monitoring
		August 3, 2021	Annual Assessment Monitoring
PNMW-6B*	Downgradient	February 4, 2021	Semi-Annual Assessment Monitoring
		August 3, 2021	Annual Assessment Monitoring
P6*	Downgradient	February 5, 2021	Semi-Annual Assessment Monitoring
		August 4, 2021	Annual Assessment Monitoring
P7*	Downgradient	February 2, 2021	Semi-Annual Assessment Monitoring
		August 4, 2021	Annual Assessment Monitoring
P18B*	Downgradient	February 2, 2021	Semi-Annual Assessment Monitoring
		August 4, 2021	Annual Assessment Monitoring

*Currently not included in the certified network of wells. Data from these new wells is useful to guide decision making and are currently being evaluated for inclusion into the certified network.

3.1.2 Bottom Ash Storage Pond

Assessment monitoring continued in 2021 for the former BASP. An annual assessment monitoring event was completed May 5-7, 2021 to sample all of the monitoring wells around the BASP for all Appendix III and IV constituents plus TSS (**Table 1**). Samples were collected from the certified monitoring network of wells (PNMW-17, PNMW-21, PNMW-22, and PNMW-23).

Table 3 provides the well identification, dates samples were collected in 2021, and whether the sample was required by the detection monitoring or assessment monitoring programs (per (257.90(e)(3))). **Appendix A** provides the distinctions for the different types of monitoring events and the CCR Rule Part under which the monitoring event was conducted.

On November 16-18, 2021, semi-annual assessment monitoring samples were collected from the BASP monitoring wells. Samples were analyzed for Appendix III and detected Appendix IV COIs plus TSS. Samples were collected from the certified monitoring network of wells (PNMW-17, PNMW-21, PNMW-22, and PNMW-23) (**Table 3**).

Table 3. Number and dates of groundwater samples collected for each well at the (closed) Bottom Ash Storage Pond and the required monitoring programs (257.90(e)(3))			
Monitoring Well I.D.	Well Location	Dates Monitored	CCR Rule Monitoring Purpose
PNMW-17	Upgradient / Background	May 5, 2021	Annual Assessment Monitoring
		November 17, 2021	Semi-Annual Assessment Monitoring
PNMW-21	Downgradient	May 6, 2021	Annual Assessment Monitoring
		November 17, 2021	Semi-Annual Assessment Monitoring
PNMW-22	Downgradient	May 6, 2021	Annual Assessment Monitoring
		November 18, 2021	Semi-Annual Assessment Monitoring
PNMW-23	Downgradient	May 6, 2021	Annual Assessment Monitoring
		November 16, 2021	Semi-Annual Assessment Monitoring

3.1.3 Ash Water Recovery Pond

Assessment monitoring continued in 2021 for the AWRP. An annual assessment monitoring event was completed May 5-7, 2021 to sample all of the monitoring wells around the AWRP for all Appendix III and IV constituents plus TSS (**Table 1**). Samples were collected from the certified monitoring network of wells (PNMW-17, PNMW-18, PNMW-19, and PNMW-20). **Table 4** provides the well identification, dates samples were collected in 2021, and whether the sample was required by the detection monitoring or assessment monitoring programs (per (257.90(e)(3))). **Appendix A** provides the distinctions for the different types of monitoring events and the CCR Rule Part under which the monitoring event was conducted.

On November 16-18, 2021, semi-annual assessment monitoring samples were collected from the AWRP monitoring wells. Samples were analyzed for Appendix III and detected Appendix IV COIs plus TSS. Samples were collected from the certified monitoring network of wells (PNMW-17, PNMW-18, PNMW-19, and PNMW-20) (**Table 4**).

Table 4. Number and dates of groundwater samples collected for each well at the (closed) Ash Water Recycle Pond and the required monitoring programs (257.90(e)(3))			
Monitoring Well I.D.	Well Location	Dates Monitored	CCR Rule Monitoring Purpose
PNMW-17	Upgradient / Background	May 5, 2021	Annual Assessment Monitoring
		November 17, 2021	Semi-Annual Assessment Monitoring
PNMW-18	Downgradient	May 5, 2021	Annual Assessment Monitoring
		November 18, 2021	Semi-Annual Assessment Monitoring
PNMW-19	Downgradient	May 6, 2021	Annual Assessment Monitoring
		November 18, 2021	Semi-Annual Assessment Monitoring
PNMW-20	Downgradient	May 7, 2021	Annual Assessment Monitoring
		November 17, 2021	Semi-Annual Assessment Monitoring

3.1.4 East CCR Landfill

The East CCR Landfill is within the footprint of the former BASP. Removal of CCR and all areas affected by releases of CCR at the BASP was completed by March 31, 2017. Seven of the eight sample rounds for background at the East CCR Landfill were completed in 2017 and the eighth background sample event was completed in January 2018. The East CCR Landfill was constructed in 2018 and began operation July 8, 2019. The first detection monitoring event was in November 2019. Detection monitoring was conducted on May 5-7, 2020 and November 16-18, 2021. Samples were analyzed for all Appendix III COIs. **Table 5** provides the well identification, dates samples were collected in 2021, and the monitoring program (per (257.90(e)(3))).

Table 5. Number and dates of groundwater samples collected for each well at the East CCR Landfill and the required monitoring programs (257.90(e)(3))			
Monitoring Well I.D.	Well Location	Dates Monitored	CCR Rule Monitoring Purpose
PNMW-17	Upgradient / Background	May 5, 2021	Detection Monitoring
		November 17, 2021	Detection Monitoring
PNMW-21	Downgradient	May 6, 2021	Detection Monitoring
		November 17, 2021	Detection Monitoring
PNMW-22	Downgradient	May 6, 2021	Detection Monitoring
		November 18, 2021	Detection Monitoring
PNMW-23	Downgradient	May 6, 2021	Detection Monitoring
		November 3, 2020	Detection Monitoring

3.2 Water Levels and Sample Collection

Water levels were collected in each well prior to sample collection. Groundwater quality samples were collected in all CCR monitoring network wells unless wells were dry. Groundwater sample collection protocols follow the Groundwater Sample Collection Standard Operating Procedure (SOP) (HDR, 2015). The water samples were collected using a submersible Geotech bladder pump, and the pump and hose were decontaminated between wells following protocols outlined in the Sampling SOP. Each well was purged until field parameters stabilized in accordance with the sampling SOP. In accordance with the CCR Rule, groundwater samples were not field filtered. The field parameters of turbidity, pH, and temperature were measured using a YSI Professional Plus (or an equivalent) portable water quality instrument that was calibrated prior to use each day of sampling. The results of field measurements were recorded on a field data form, which is maintained as part of the field sampling records. For quality control, one field duplicate sample and one field equipment blank sample was collected during each sample event. Water samples were delivered under Chain of Custody to Eurofins TestAmerica in Denver, Colorado.

3.3 Analytical Testing

Groundwater samples for each type of monitoring were analyzed for the COIs shown in **Appendix A** and listed in **Table 1**. Background monitoring analyses include all of the parameters in Appendices III and IV of CCR Rule Part 257, plus TSS. Detection monitoring samples are analyzed for all Appendix III COIs. Initial assessment monitoring samples are analyzed for Appendix IV COIs to determine what COIs are detected. The semi-annual assessment monitoring samples are analyzed for Appendix III and detected Appendix IV COIs, plus TSS. Which COIs were detected at each facility is described in Section 4.2. Annual assessment monitoring samples are analyzed for all Appendix III and Appendix IV COIs, plus TSS. The laboratory analyzed matrix spike/matrix spike duplicates at a rate of 5 percent, per laboratory quality control procedures.

3.4 Data Validation and Data Management

Data validation and data management tasks were performed per the Data Management and Statistical Procedures Plan for Compliance with the Coal Combustion Residuals Rule (HDR, 2017). Data validation was conducted to eliminate data that did not meet validation criteria and designate a data qualifier for any data quality limitation discovered.

All samples and quality control (QC) were reviewed and evaluated, and no samples were rejected. Most QC analyses were within reportable limits; however, when QC was outside control limits, samples were reported as estimated. Relative percent difference (RPD) results for field duplicate and lab duplicate analyses were generally within the control limit criterion of 20%. Laboratory Control Sample (LCS)/LCS duplicates and Matrix Spike/Duplicate (MS/MSD) recoveries and RPDs were generally within control limits. Data analyses required minimal qualifications, and all data were usable, even when qualified.

4.0 Monitoring Results

4.1 Water Levels and Groundwater Flow Direction

The water levels at both upgradient and downgradient monitoring wells were recorded during all monitoring events. The water levels and contour maps (**Appendix B**) confirm that monitoring wells PNMW-2B, PNMW-13, and PNMW-14 are all located upgradient of the North CCR Landfill and continue to be appropriate to represent sitewide background water quality. The contour maps (**Appendix B**) also confirm that monitoring well PNMW-17 is located upgradient of the BASP, the AWRP, and the East CCR Landfill and is appropriate to represent background water quality for those CCR facilities. The groundwater flow direction is generally east under these facilities and is consistent throughout the year. Therefore, the selected downgradient wells continue to be appropriately located to monitor the CCR facilities.

4.2 Water Quality

4.2.1 North CCR Landfill

As stipulated in the CCR Rule, eight rounds of background groundwater sampling and the first detection monitoring sampling event were completed before October 17, 2017 for the North CCR Landfill. Background Threshold Values (BTVs) were calculated, and the detection monitoring results were compared to BTVs. In January 2018, a determination was made that concentrations of several Appendix III COIs have statistically significant increases (SSIs) over BTVs at all three downgradient wells (PNMW-1B, PNMW-15, and PNMW-16). An evaluation of potential alternative sources of the observed SSIs was completed in April 2018, but no alternative source was confirmed at that time. Therefore, these SSIs triggered the assessment monitoring program for the landfill, and the first two assessment monitoring sampling events were completed in 2018. In accordance with CCR Rule 257.95(h), GPS were established for each detected Appendix IV COI, and the assessment monitoring results were compared to the respective GPS values (**Table 6**). In January 2019, downgradient wells were found to have concentrations of lithium at statistically significant levels (SSLs) above the GPS. This triggered the requirement to conduct an assessment of corrective measures for the North CCR Landfill,

which was completed in August 2019. An update on progress towards remedy selection is provided in Section 5.0.

Table 6. Groundwater Protection Standards for Detected Appendix IV COIs for the North CCR Landfill 257.95(d)(3)				
Constituent	Unit	MCL	BTV (UTL)	GPS
Arsenic	mg/l	0.01	0.0140	0.0140
Barium	mg/l	2.0	0.491	2.00
Beryllium	mg/l	0.004	0.00210	0.00400
Chromium, Total	mg/l	0.10	0.240	0.240
Cobalt	mg/l	0.006*	0.0246	0.0246
Fluoride	mg/l	4.0	1.50	4.00
Lead	mg/l	0.015*	0.0385	0.0385
Lithium	mg/l	0.04*	0.0940	0.0940
Molybdenum	mg/l	0.1*	0.0260	0.0260
Radium-226-228	pci/l	5.0^	3.46	5.00
Selenium	mg/l	0.05	0.00629	0.0500
Thallium	mg/l	0.002	0.000780	0.00200

Milligrams per liter (mg/L)

*EPA adopted health-based value in place of MCL.

^Colorado Water Quality Regulation

In February 2021, semi-annual assessment monitoring samples were collected from the North CCR Landfill certified monitoring well network wells plus P6, P7, P-18B, and PNMW-6B and samples were analyzed for all Appendix III and Appendix IV COIs plus TSS. The sample results indicate downgradient wells PNMW-1B, PNMW-15 and PNMW-16 had some COIs above background values. In accordance with CCR Rule 257.95(f), detected Appendix IV COI concentrations in downgradient wells were compared against GPS and were found to exceed GPS. Therefore, in accordance with CCR Rule 257.95(g), the lower confidence limits (LCL) for Appendix IV constituents at each downgradient well was updated to include the February 2021 data. The February sample event found similar results as prior events, downgradient wells PNMW-15 and PNMW-16 had concentrations of lithium at SSLs above the GPS. Laboratory reports are provided in **Appendix C**.

In August 2021, assessment monitoring samples were collected from the North CCR Landfill certified monitoring well network wells plus P6, P7, P-18B, and PNMW-6B and samples were analyzed for all Appendix III and Appendix IV COIs plus TSS. The sample results indicate downgradient wells PNMW-1B, PNMW-15 and PNMW-16 had some COIs above background values. In accordance with CCR Rule 257.95(f), detected Appendix IV COI concentrations in downgradient wells were compared against GPS and were found to exceed GPS. Therefore, in accordance with CCR Rule 257.95(g), the lower confidence limits (LCL) for Appendix IV constituents at each downgradient well was updated to include August 2021 data. The August sample event found similar results as prior events, downgradient wells PNMW-15 and PNMW-16 had concentrations of lithium at SSLs above the GPS. Laboratory reports are provided in **Appendix C**.

In 2022, PSCo will continue to monitor groundwater at the landfill in accordance with the assessment monitoring program and consistent with 257.93(e), while continuing to evaluate the previously assessed corrective measures, as discussed in Section 5.1.

4.2.2 Bottom Ash Storage Pond

Closure of the BASP was completed by March 31, 2017 per 257.102(e)(i), with removal of CCR and all areas affected by releases of CCR. Therefore, it is important to note that all groundwater monitoring at the BASP reflect post-CCR removal conditions.

As stipulated in the CCR Rule, eight rounds of background groundwater sampling were completed between June 2017 and January 2018 for the BASP. The first detection monitoring sampling was done in February 2019. Background Threshold Values (BTVs) were calculated, and the detection monitoring results were compared to BTVs. In June 2019, a determination was made that concentrations of several Appendix III COIs have statistically significant increases (SSIs) over BTVs. These SSIs triggered the assessment monitoring program for the BASP, and the first two assessment monitoring sampling events were completed in 2019. In accordance with CCR Rule 257.95(h), GPS were established for each detected Appendix IV COI, and the assessment monitoring results were compared to the respective GPS values (**Table 7**). In May 2020, downgradient wells PNMW-21 and PNMW-22 were found to have concentrations of lithium at SSLs above the GPS (HDR 2020). This triggered the requirement to conduct an assessment of corrective measures for the former BASP. The *Assessment of Corrective Measures* (ACM) was completed for the BASP and published on the CCR website January 27, 2021. The CCR was removed from the impoundments in 2017, completing physical closure with ongoing groundwater monitoring. However, because the impoundment is in corrective measures evaluation, it will be considered clean closed when Appendix IV constituent concentrations do not exceed GPS for a period of three consecutive years using statistical procedures (95 percent upper confidence limit (UCL)).

Table 7. Groundwater Protection Standards for Detected Appendix IV COIs for the Bottom Ash Storage Pond 257.95(d)(3)

Constituent	Unit	MCL	BTV (UTL)	GPS
Arsenic	mg/l	0.01	0.00200	0.01
Barium	mg/l	2.0	0.120	2.0
Chromium, Total	mg/l	0.10	0.0162	0.10
Cobalt	mg/l	0.006*	0.000500	0.006
Fluoride	mg/l	4.0	.314	4.0
Lithium	mg/l	0.04*	0.0451	0.0451
Molybdenum	mg/l	0.1*	0.00360	0.1
Radium-226-228	pci/l	5.0^	1.07	5.00
Selenium	mg/l	0.05	0.0257	0.05

*EPA adopted health-based value in place of MCL.

^Colorado Water Quality Regulation

Annual and semi-annual assessment monitoring sample collection has continued in 2021 for the monitoring network of wells (PNMW-17, PNMW-21, PNMW-22, PNMW-23) at the BASP.

Assessment monitoring samples were collected and analyzed for all Appendix III and Appendix IV COIs in May 2021. All the COIs were detected in at least one well except for arsenic. Laboratory reports are provided in **Appendix C**. Statistics are completed after each sample event. To determine if the impoundments are meeting clean closure criteria, the UCL for Appendix IV constituents at each downgradient well was calculated to include the May 2021 data. Downgradient wells PNMW-21 and PNMW-22 had UCL concentrations of lithium at SSLs above the GPS.

In November 2021 semi-annual assessment monitoring samples were collected and analyzed for Appendix III and detected Appendix IV COIs. Laboratory reports for 2021 are provided in **Appendix C**. The UCL for Appendix IV constituents at each downgradient well was calculated to include the November 2021 data. Downgradient wells PNMW-21 and PNMW-22 had UCL concentrations of lithium at SSLs above the GPS.

In 2022, PSCo will continue to monitor groundwater at the former BASP in accordance with the assessment monitoring program and consistent with 257.93(e).

4.2.3 Ash Water Recovery Pond

Removal of CCR and all areas affected by releases of CCR at the AWRP was completed by April 10, 2017. The CCR material has been completely removed from the pond. Therefore, it is important to note that all groundwater monitoring occurring after April 2017 at the AWRP reflect post-CCR removal conditions.

As stipulated in the CCR Rule, eight rounds of background groundwater sampling were completed between July 2018 and January 2019 for the AWRP. The first detection monitoring sampling was done in February 2019. Background Threshold Values were calculated, and the detection monitoring results were compared to BTVs. In June 2019, a determination was made that concentrations of several Appendix III COIs had statistically significant increases (SSIs) over BTVs. These SSIs triggered the assessment monitoring program for the AWRP, and the first two assessment monitoring sampling events were completed in 2019. In accordance with CCR Rule 257.95(h), GPS were established for each detected Appendix IV COI, and the assessment monitoring results were compared to the respective GPS values (**Table 8**). In May 2020, downgradient well PNMW-20 was found to have a concentration of lithium at SSLs above the GPS (HDR 2020). This triggered the requirement to conduct an assessment of corrective measures for the former AWRP. The *Assessment of Corrective Measures* (ACM) was completed for the AWRP and published on the CCR website January 27, 2021. The CCR was removed from the impoundments in 2017, completing physical closure with ongoing groundwater monitoring. However, because the impoundment is in corrective measures evaluation, it will be considered clean closed when Appendix IV constituent concentrations do not exceed GPS for a period of three consecutive years using statistical procedures (95 percent upper confidence limit (UCL)).

Table 8. Groundwater Protection Standards for Detected Appendix IV COIs for the Ash Water Recovery Pond 257.95(d)(3)

Constituent	Unit	MCL	BTV (UTL)	GPS
Arsenic	mg/l	0.01	0.00200	0.01
Barium	mg/l	2.0	0.120	2.0
Cadmium	mg/L	0.005	0.000390	0.00500
Chromium, Total	mg/l	0.10	0.0162	0.10
Cobalt	mg/l	0.006*	0.000500	0.006
Fluoride	mg/l	4.0	0.314	4.0
Lead	mg/l	0.015*	0.000730	0.015
Lithium	mg/l	0.04*	0.0451	0.0451
Molybdenum	mg/l	0.1*	0.00360	0.1
Radium-226-228	pci/l	5.0^	1.07	5.00
Selenium	mg/l	0.05	0.0257	0.05

*EPA adopted health-based value in place of MCL.

^Colorado Water Quality Regulation

Annual and semi-annual assessment monitoring sample collection continued in 2021 for the monitoring network of wells (PNMW-17, PNMW-18, PNMW-19, PNMW-20) at the AWRP. Assessment monitoring samples were collected and analyzed for all Appendix III and Appendix IV COIs plus TSS in May 2021. All the COIs were detected in at least one well. Laboratory reports are provided in **Appendix C**. Statistics are completed after each sample event. To determine if the impoundments are meeting clean closure criteria, the UCL for Appendix IV constituents at each downgradient well was calculated to include the May 2021 data. Downgradient well PNMW-20 had concentrations of lithium at an SSL above the GPS.

In November 2021 semi-annual assessment monitoring samples were collected and analyzed for Appendix III and detected Appendix IV COIs, plus TSS. Laboratory reports for 2021 are provided in **Appendix C**. The UCL for Appendix IV constituents at each downgradient well was calculated to include the November 2021 data. Downgradient well PNMW-20 had UCL concentrations of fluoride and lithium at SSLs above the GPS.

In 2022, PSCo will continue to monitor groundwater at the former AWRP in accordance with the assessment monitoring program and consistent with 257.93(e).

4.2.4 East CCR Landfill

The East CCR Landfill is within the footprint of the former BASP. Removal of CCR and all areas affected by releases of CCR at the BASP was completed by March 31, 2017. As stipulated in the CCR Rule, eight rounds of background groundwater sampling were completed between June 2017 and January 2018 at the East CCR Landfill monitoring well network (PNMW-17, PNMW-21, PNMW-22, and PNMW-23). Samples were analyzed for Appendix III and IV COIs plus TSS.

The East CCR Landfill was constructed in 2018 and began operation July 8, 2019. The initial detection monitoring event was conducted November 2019. On March 31, 2020, PSCo documented SSIs in downgradient monitoring wells at the Pawnee Station East Landfill Coal Combustion Residuals (CCR) unit (HDR, 2018a). The SSIs were observed for TDS in well PNMW-21 and sulfate and TDS in wells PNMW-22 and PNMW-23, based on the background

values from PNMW-17 (HDR, 2018b). On June 19, 2020 PSCo documented an Alternative Source Demonstration to describe that the SSLs of the East CCR Landfill were in the same wells as the BASP prior to the first ash placement in the East CCR Landfill (HDR 2020b). The demonstration concluded that the constituents with SSLs were a pre-existing condition in the groundwater before the East CCR Landfill became active, and that the source of the SSLs is the former BASP.

Detection monitoring continued in 2021 with sampling events in May and November. Samples were analyzed for all Appendix III COIs. Laboratory reports for 2021 are provided in **Appendix C**. The detection monitoring results from May and November 2021 were compared to the BTVs for the East CCR Landfill and the same sulfate and TDS BTV exceedances at PNMW-22 and PNMW-23 were identified as prior to the ASD. However, no additional SSLs of Appendix III COIs were identified that had not been addressed by the alternative source demonstration.

In 2022, PSCo will continue to monitor groundwater in accordance with the detection monitoring program and consistent with 257.93(e), and calcium detections will be evaluated to determine whether results indicate an SSL.

5.0 Remedy Selection Progress

This section provides the semi-annual progress report describing the progress towards remedy selection and design for the North CCR Landfill, the former AWRP and the former BASP in accordance with 257.97(a).

5.1 North CCR Landfill

As described in the *Groundwater Protection Standards and Determination of SSLs per 257.95(g)*, downgradient wells at the North Landfill were first found to have concentrations of lithium at SSLs above the GPS in January 2019 (HDR, 2019a). Therefore, PSCo completed the *Conceptual Site Model and Assessment of Corrective Measures* on August 30, 2019 in accordance with CCR Rule 257.96.

A groundwater flow and transport model was developed and used to support the corrective measures assessment as described in the *Conceptual Site Model and Assessment of Corrective Measures Report*.

The model creates a digital representation of the groundwater flow system to predict groundwater movement and constituent fate and transport. The model is a critical tool in evaluating the nature and extent of constituent concentrations and the effectiveness of the identified potential remedies. The flow model was recalibrated in the first half of 2020 and continues to meet the model calibration goals with an acceptable degree of accuracy. Based on the recalibrated flow model, the preliminary model simulations predict that there is groundwater flow with concentrations of lithium above the GPS moving eastward from the North CCR Landfill waste boundary; however, in very small mass fluxes. There is currently no offsite transport of constituents of concern (COCs) at the site, nor does the groundwater flow model simulate offsite migration in the future. The extent of the COCs in groundwater is well within the plant boundary. Numerous simulations of the groundwater flow and transport model have been run to predict groundwater movement and constituent transport under the alternative corrective measures described in the ACM, including:

- Monitored natural attenuation
- Permeable Reactive Barrier
- Partial ash removal
- Complete ash removal
- Partial In-situ solidification

Each model simulation assumed conditions reflective of the corrective measure being evaluated. Each predictive simulation predicts that the extent of the COC in groundwater is well within the Pawnee Station property and does not extend as far as the AWRP and Evaporation Pond D.

In 2021, PSCo developed a Permeable Reactive Barrier PRB feasibility study design to evaluate the feasibility of a PRB via conventional trench, via injection wells, and via funnel and gate, and to evaluate the site-specific geotechnical characteristics of the substrate and geochemical bench testing of reagents with site-specific groundwater. As discussed in the July 2021 semi-annual progress report, the PRB is also being evaluated for treatment of lithium at PSCo's Valmont Power Station, prior to conducting similar site-specific testing for Pawnee. The results of the Valmont preliminary feasibility bench test results were received in 4th quarter 2021 and show that the PRB is effective in reducing some COI concentrations but achieved insufficient reductions in others. Additional reactive media options were identified, and additional bench scale simulations will be conducted for Valmont starting in January 2022. If the additional testing demonstrates effectiveness in treating lithium, the Pawnee site-specific bench testing will be conducted. Assessment monitoring and remedy evaluation will continue in 2022.

5.2 AWRP and BASP

5.2.1 Source Control Measures Undertaken

As described in the Groundwater Protection Standards and Determination of SSLs per 257.95(g), downgradient wells at the AWRP and BASP were first found to have concentrations of constituents at SSLs above the GPS in May 2020 (HDR, 2020). Concentrations of lithium have been observed at SSLs above the GPS in one downgradient AWRP monitoring well and two downgradient BASP wells. The status of the AWRP and BASP remains in assessment monitoring and evaluation of corrective measures as of December 2021.

Removal of CCR and all areas affected by releases of CCR at the AWRP and BASP were complete in April 2017. The CCR material has been completely removed from the ponds. Therefore, it is important to note that all groundwater monitoring occurring after April 2017 at these units reflect post-CCR removal conditions.

5.2.2 Progress Towards Remedy Selection

The Assessment of Corrective Measures (ACM) was completed for the AWRP and the BASP and was published on the CCR website January 27, 2021. PSCo is following a phased approach, which includes source removal (complete) and evaluation of monitored natural attenuation. The reduction of hydraulic loading and recharge of the aquifer that result from pond closure and cleanout are expected to slowly change groundwater redox conditions and the physical removal of CCR is expected to improve groundwater quality. Following source removal

in 2017, PSCo continues assessment monitoring at the former impoundments to evaluate concentration trends and whether natural attenuation, in combination with the previous source removal, is an effective remedy to address groundwater conditions. As described above for the North CCR Landfill, the AWRP and BASP are included within the ongoing numerical groundwater model simulations completed in 2021.

PSCo will continue executing the groundwater compliance schedule, which includes semi-annual assessment monitoring in accordance with §257.95 to monitor groundwater conditions. In accordance with §257.97(a), PSCo will also complete semi-annual progress reporting in 2022 to document work completed towards remedy selection and design.

6.0 Summary

The following observations are based on CCR Rule compliance monitoring data collected during the 2021 and prior sample events:

North CCR Landfill

- Assessment monitoring sampling continued in 2021 to include a semi-annual sample event in February 2021, which analyzed for all Appendix III and detected Appendix IV COIs. All 6 certified well network wells for the North CCR Landfill were sampled, along with three additional wells at the eastern property boundary and one midpoint well.
- An annual assessment monitoring event was performed in August 2021 and analyzed for all Appendix III and IV COIs. All 6 certified well network wells for the landfill were sampled, along with three additional wells at the eastern property boundary and one midpoint well.
- Assessment monitoring data from the North CCR Landfill was statistically evaluated after each event and compared to background values and GPS. Water quality results appear stable with only lithium concentrations at SSLs over GPS at two downgradient wells. Monitoring demonstrates that the SSL is contained within Pawnee Station property and modeling indicates it will remain so in the future.
- Pawnee Station North CCR Landfill status at the end of 2021 is assessment monitoring and evaluation of potential remedies. PSCo completed the initial PRB bench testing at Valmont to evaluate effectiveness as a predecessor task to site-specific testing for Pawnee.

(Closed) Bottom Ash Storage Pond

- CCR waste was removed from the pond by March 2017.
- Groundwater flow direction under the BASP is generally to the east.
- Assessment monitoring sampling continued in 2021 to include an annual sample event in May 2021 which analyzed for all Appendix III and IV COIs. All certified well network wells for the former BASP were sampled.
- A semi-annual assessment monitoring event was performed in November 2021 and analyzed for all Appendix III and detected IV COIs. All certified well network wells for the BASP were sampled.
- Water quality results appear stable with only lithium (UCL) concentrations at SSLs over GPS at PNMW-21 and PNMW-22 downgradient wells.

- The BASP *Conceptual Site Model and Assessment of Corrective Measures* report was completed and published to the CCR website January 27, 2021.
- Pawnee Station BASP current status is in assessment monitoring and evaluation of potential remedies; however, because the pond has been closed all monitoring reflects post-CCR waste removal. Assessment monitoring will continue to evaluate whether clean closure criteria in groundwater have been met.

(Closed) Ash Water Recovery Pond

- All CCR waste was removed from the pond by April 2017.
- Groundwater flow direction under the AWRP is generally to the east.
- Assessment monitoring sampling continued in 2021 to include an annual sample event in May 2021 which analyzed for all Appendix III and IV COIs. All certified well network wells for the former AWRP were sampled.
- A semi-annual assessment monitoring event was performed in November 2021 and analyzed for all Appendix III and detected IV COIs. All certified well network wells for the former AWRP were sampled.
- Water quality results show lithium and fluoride (UCL) concentrations at SSLs over GPS at PNMW-20.
- The AWRP *Conceptual Site Model and Assessment of Corrective Measures* report was completed and published to the CCR website January 27, 2021.
- Pawnee Station AWRP current status is in assessment monitoring and evaluation of potential remedies; however, because the pond has been closed all monitoring reflects post-CCR waste removal. Assessment monitoring will continue to evaluate whether clean closure criteria in groundwater have been met.

East CCR Landfill

- In 2018 the East CCR Landfill was constructed in the footprint of the former BASP, which was physically closed by removal of CCR in 2017. PSCo began operation of the East CCR Landfill by placing waste July 8, 2019.
- Groundwater flow direction under the East CCR Landfill is generally to the east.
- Detection monitoring was initiated in November 2019 and SSIs were identified.
- PSCo developed an Alternative Source Determination for the East CCR Landfill Appendix III SSIs that determined the constituents with SSIs were a pre-existing condition in the groundwater before the landfill became active and that the source of the SSIs is the former BASP.
- Detection monitoring sampling continued in 2021 to include semi-annual sampling events in May and November, which analyzed for all Appendix III COIs. All certified well network wells for the East CCR Landfill were sampled.
- Detection monitoring data from the East CCR Landfill were statistically evaluated after each event and compared to background values. No new SSIs have been observed that were not addressed by the alternative source demonstration.
- Pawnee Station East CCR Landfill current status is in detection monitoring. Detection monitoring will continue in 2022, and data will be statistically evaluated to determine if there are any new SSIs over background.

The following activities are proposed to be completed or initiated in the next 6-month period:

- Continued evaluation of geochemical changes and trends at the AWRP and BASP as a result of the changed conditions since clean closure.
- Continued semi-annual groundwater assessment monitoring at the North CCR Landfill, former BASP, and former AWRP.
- Continued semi-annual groundwater detection monitoring at the East CCR Landfill.

7.0 References

HDR, 2015. Groundwater Sample Collection Standard Operating Procedure. October 28, 2015.

HDR, 2018. Groundwater Monitoring System Certification - Compliance with the Coal Combustion Residuals Rule Pawnee Station. December 2018.

HDR, 2018. Data Management and Statistical Procedures Plan for Compliance with the Coal Combustion Residuals Rule. Updated January 15, 2018.

HDR, 2019. Conceptual Site Model and Assessment of Corrective Measures - Compliance with the Coal Combustion Residuals Rule Valmont Station. August 30, 2019.

HDR, 2020. Background Water Quality Statistical Certification. January 31, 2020.

HDR, 2020a. Pawnee Station Ash Water Recovery Pond and Bottom Ash Storage Pond Groundwater Protection Standards and Determination of SSLs per 257.95(g). May 8, 2020.

HDR, 2020b. Alternative Source Determination of Statistically Significant Increases over Background per CCR Rule 257.93(h)(2). June 19, 2020.

HDR 2021. Conceptual Site Model and Assessment of Corrective Measures - Compliance with the Coal Combustion Residuals Rule Pawnee Station Ash Water Recovery Pond and Bottom Ash Storage Pond. January 27, 2021.

Appendix A

Monitoring types to comply with specific CCR Rule requirements

Monitoring types to comply with specific CCR Rule requirements			
Type of Monitoring	Description	CCR Rule Reference	Constituents Analyzed
Background Monitoring	Development of background water quality conditions for Appendix III and Appendix IV COIs	257.94(b)	Appendix III and IV and TSS
Detection Monitoring	Semi-annual detection monitoring for Appendix III COIs	257.94(c)	Appendix III
Assessment Monitoring	Detailed types below.	257.95	Detailed types below.
➤ Initial Assessment	Determining detected Appendix IV COIs	257.95(b)	Appendix IV
➤ Semi-Annual Assessment	Semi-annual assessment monitoring for Appendix III and detected Appendix IV COIs	257.95(d)	Appendix III and detected Appendix IV plus TSS
➤ Annual Assessment	Determining detected Appendix IV COIs on an annual basis. As of 2019 this will also count as the semi-annual sample event.	257.95(b)	Appendix III and all Appendix IV plus TSS
➤ Release Characterization Assessment	Occurs after detection of SSL above the GPS for the purpose of characterizing the nature and extent of the release.	257.95(g)(1)(iv)	Appendix III and detected Appendix IV plus TSS
➤ Corrective Action Assessment	Occurs after a facility has initiated corrective action. This is an PSCo designation (not in the Rule) added to Assessment Monitoring to differentiate that the samples were collected after the corrective action has been implemented.	N/A	Appendix III and detected Appendix IV plus TSS
Post-CCR Removal Monitoring	Occurs after the facility has been physically closed (e.g. all CCR waste removed from the impoundment). This is an PSCo designation added to other types of monitoring (e.g. Background Monitoring or Detection Monitoring).	N/A	Appendix III and/or Appendix IV as applicable plus TSS
Closure Confirmation Monitoring	Occurs after the facility has been physically closed (e.g. all CCR waste removed from the impoundment) in compliance with CCR Rule for certification of Clean Closure.	257.102	Appendix IV

Appendix B

Potentiometric Surface Maps

Appendix C

Laboratory Reports

ANALYTICAL REPORT

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

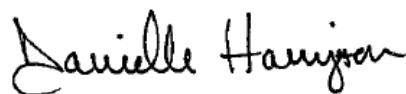
Laboratory Job ID: 280-145303-1

Client Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

For:

HDR Inc
1670 Broadway, Suite 3400
Denver, Colorado 80202

Attn: Molly Reeves



Authorized for release by:
3/9/2021 12:24:52 PM

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page	1
Table of Contents	2
Definitions	3
Case Narrative	4
Detection Summary	6
Method Summary	11
Sample Summary	12
Client Sample Results	13
QC Sample Results	29
QC Association	37
Chronicle	42
Certification Summary	48
Chain of Custody	50
Receipt Checklists	56
Tracer Carrier Summary	59
Field Data Sheets	60



Definitions/Glossary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
L	A negative instrument reading had an absolute value greater than the reporting limit

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Rad

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Job ID: 280-145303-1

Laboratory: Eurofins TestAmerica, Denver

Narrative

CASE NARRATIVE

Client: HDR Inc

Project: Xcel Energy GW CCR Monitoring - Pawnee

Report Number: 280-145303-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 02/05/2021; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt were 0.6° C, 0.6° C, 0.7° C, 1.1° C and 1.2° C.

Please note, the sample time on the chain of custody for sample P6EB states 11:20 but time on container is 11:25; sample was logged per chain of custody. Sample IDs on chain of custody do not have "-" between the PNMW and the number (PMNW-1B, PNMW-2B etc) but sample Labels do. The samples were logged per the bottle labels.

TOTAL RECOVERABLE METALS- Method 6010C/6020A

The accuracy and precision of the Calcium MS/MSD performed on a sample P6 could not be reliably evaluated, as the concentrations present in the parent sample were 4 times greater than the matrix spike concentration. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL MERCURY

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GENERAL CHEMISTRY- VARIOUS ANALYSES

Several samples required dilution prior to analysis for Method 9056A. The reporting limits have been adjusted accordingly.

The pH sample duplicate analysis data associated with QC batch 280-525939 exhibited RPD data outside the QC limits. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

RADIUM-226 (GFPC)

During the in growth process, the following samples needed to be filtered due to sediment present in the sample. This being an indicator of matrix interference. PNMW-14 and PNMW-15.

The following samples were prepared at a reduced aliquot: PNMW-6B and PNMW-16. Sample PNMW-6B contained a cloudy appearance. Sample PNMW-16 contained yellow discoloration.

Case Narrative

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Job ID: 280-145303-1 (Continued)

Laboratory: Eurofins TestAmerica, Denver (Continued)

The following samples were prepared at a reduced aliquot: PNMW-14 and PNMW-15. Sample PNMW-14 contained a cloudy appearance. Sample PNMW-15 contained a yellow discoloration and a cloudy appearance. The method 9315 sample duplicate could not be performed for this batch, due to insufficient sample volume. Method precision and accuracy have been verified by the acceptable LCS/LCSD analysis data.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

RADIUM-228

The following samples were prepared at a reduced aliquot: PNMW-14 and PNMW-15. Sample PNMW-14 contained a cloudy appearance. Sample PNMW-15 contained a yellow discoloration and a cloudy appearance.

The following samples were prepared at a reduced aliquot: PNMW-6B and PNMW-16. Sample PNMW-6B contained a cloudy appearance. Sample PNMW-16 contained yellow discoloration.

The LCS associated with the following samples, recovered at 136% for Ra-228. The limits in our LIMS system at (75-125%) reflect the requirements of a regulatory agency that represents a large amount of our work. However the samples associated with this LCS are not from this agency and are therefore held to our in-house statistical limits of (61-138%) per method requirements. Although there is a qualifier, the LCS passes. No further action is required. During the in growth process, the following samples needed to be filtered due to sediment present in the sample. This being an indicator of matrix interference. PNMW-14 and PNMW-15.

The method 9320 sample duplicate could not be performed for this batch, due to insufficient sample volume. Method precision and accuracy have been verified by the acceptable LCS/LCSD analysis data.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

RADIUM-226/RADIUM-228 (GFPC)

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Client Sample ID: P6

Lab Sample ID: 280-145303-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.24		0.10	0.023	mg/L	1		6010C	Total
									Recoverable
Arsenic	0.0017	J	0.0050	0.00075	mg/L	1		6020A	Total
									Recoverable
Barium	0.035		0.0050	0.0022	mg/L	1		6020A	Total
									Recoverable
Beryllium	0.00041	J	0.0010	0.00031	mg/L	1		6020A	Total
									Recoverable
Calcium	110		1.0	0.58	mg/L	1		6020A	Total
									Recoverable
Cobalt	0.0013		0.0010	0.00019	mg/L	1		6020A	Total
									Recoverable
Molybdenum	0.0045	J	0.010	0.0011	mg/L	1		6020A	Total
									Recoverable
Selenium	0.0011	J	0.0050	0.00089	mg/L	1		6020A	Total
									Recoverable
Thallium	0.00038	J	0.0010	0.00020	mg/L	1		6020A	Total
									Recoverable
Lithium	0.036		0.0080	0.0017	mg/L	1		6020A	Total
									Recoverable
pH adj. to 25 deg C	7.7	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.9	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	110		3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.60		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	360		25	5.2	mg/L	5		9056A	Total/NA
Total Dissolved Solids (TDS)	900		10	4.7	mg/L	1		SM 2540C	Total/NA

Client Sample ID: P7

Lab Sample ID: 280-145303-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.057	J	0.10	0.023	mg/L	1		6010C	Total
									Recoverable
Arsenic	0.0018	J	0.0050	0.00075	mg/L	1		6020A	Total
									Recoverable
Barium	0.040		0.0050	0.0022	mg/L	1		6020A	Total
									Recoverable
Beryllium	0.00042	J	0.0010	0.00031	mg/L	1		6020A	Total
									Recoverable
Calcium	680		1.0	0.58	mg/L	1		6020A	Total
									Recoverable
Cobalt	0.00099	J	0.0010	0.00019	mg/L	1		6020A	Total
									Recoverable
Chromium	0.0017	J	0.0020	0.00098	mg/L	1		6020A	Total
									Recoverable
Selenium	0.0061		0.0050	0.00089	mg/L	1		6020A	Total
									Recoverable
Thallium	0.00045	J	0.0010	0.00020	mg/L	1		6020A	Total
									Recoverable
Lithium	0.049		0.0080	0.0017	mg/L	1		6020A	Total
									Recoverable
pH adj. to 25 deg C	7.4	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.1	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	540		30	10	mg/L	10		9056A	Total/NA
Sulfate	2100		100	21	mg/L	20		9056A	Total/NA
Total Dissolved Solids (TDS)	1400		20	9.4	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Detection Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Client Sample ID: P18B

Lab Sample ID: 280-145303-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.028	J	0.10	0.023	mg/L	1		6010C	Total
									Recoverable
Arsenic	0.0022	J	0.0050	0.00075	mg/L	1		6020A	Total
									Recoverable
Barium	0.046		0.0050	0.0022	mg/L	1		6020A	Total
									Recoverable
Calcium	98		1.0	0.58	mg/L	1		6020A	Total
									Recoverable
Cobalt	0.00020	J	0.0010	0.00019	mg/L	1		6020A	Total
									Recoverable
Chromium	0.0021		0.0020	0.00098	mg/L	1		6020A	Total
									Recoverable
Selenium	0.0024	J	0.0050	0.00089	mg/L	1		6020A	Total
									Recoverable
Lithium	0.025		0.0080	0.0017	mg/L	1		6020A	Total
									Recoverable
pH adj. to 25 deg C	7.8	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.1	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	48		3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.20	J	0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	140		5.0	1.0	mg/L	1		9056A	Total/NA
Total Dissolved Solids (TDS)	520		10	4.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	5.6		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: PNMW-1B

Lab Sample ID: 280-145303-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.25		0.10	0.023	mg/L	1		6010C	Total
									Recoverable
Barium	0.025		0.0050	0.0022	mg/L	1		6020A	Total
									Recoverable
Calcium	120		1.0	0.58	mg/L	1		6020A	Total
									Recoverable
Cobalt	0.00019	J	0.0010	0.00019	mg/L	1		6020A	Total
									Recoverable
Chromium	0.0019	J	0.0020	0.00098	mg/L	1		6020A	Total
									Recoverable
Molybdenum	0.0028	J	0.010	0.0011	mg/L	1		6020A	Total
									Recoverable
Selenium	0.016		0.0050	0.00089	mg/L	1		6020A	Total
									Recoverable
Lithium	0.091		0.0080	0.0017	mg/L	1		6020A	Total
									Recoverable
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	22.8	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	16		3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.49	J	0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	500		25	5.2	mg/L	5		9056A	Total/NA
Total Dissolved Solids (TDS)	1100		10	4.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	5.2		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: PNMW-2B

Lab Sample ID: 280-145303-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.049	J	0.10	0.023	mg/L	1		6010C	Total
									Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Detection Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Client Sample ID: PNMW-2B (Continued)

Lab Sample ID: 280-145303-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.13		0.0050	0.0022	mg/L	1		6020A	Total
Calcium	64		1.0	0.58	mg/L	1		6020A	Recoverable
Chromium	0.0013	J	0.0020	0.00098	mg/L	1		6020A	Total
Molybdenum	0.0030	J	0.010	0.0011	mg/L	1		6020A	Recoverable
Selenium	0.0023	J	0.0050	0.00089	mg/L	1		6020A	Total
Lithium	0.036		0.0080	0.0017	mg/L	1		6020A	Recoverable
pH adj. to 25 deg C	7.9	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.9	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	10		3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.52		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	22		5.0	1.0	mg/L	1		9056A	Total/NA
Total Dissolved Solids (TDS)	400		10	4.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	2.8	J	4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: PNMW-6B

Lab Sample ID: 280-145303-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.29		0.10	0.023	mg/L	1		6010C	Total
Arsenic	0.00075	J	0.0050	0.00075	mg/L	1		6020A	Recoverable
Barium	0.039		0.0050	0.0022	mg/L	1		6020A	Total
Calcium	67		1.0	0.58	mg/L	1		6020A	Recoverable
Cobalt	0.00026	J	0.0010	0.00019	mg/L	1		6020A	Total
Molybdenum	0.0080	J	0.010	0.0011	mg/L	1		6020A	Recoverable
Lithium	0.070		0.0080	0.0017	mg/L	1		6020A	Total
pH adj. to 25 deg C	7.8	HF	0.1	0.1	SU	1		9040B	Recoverable
Temperature	21.8	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	99		3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.74		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	250		25	5.2	mg/L	5		9056A	Total/NA
Total Dissolved Solids (TDS)	830		10	4.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	8.0		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: PNMW-16

Lab Sample ID: 280-145303-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.34		0.10	0.023	mg/L	1		6010C	Total
Arsenic	0.0012	J	0.0050	0.00075	mg/L	1		6020A	Recoverable
Barium	0.022		0.0050	0.0022	mg/L	1		6020A	Total
Calcium	190		1.0	0.58	mg/L	1		6020A	Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Detection Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Client Sample ID: PNMW-16 (Continued)

Lab Sample ID: 280-145303-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	0.0037		0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Lithium	0.15		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.4	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	22.0	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	1.6	J	3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.21	J	0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	1000		50	10	mg/L	10		9056A	Total/NA
Total Dissolved Solids (TDS)	1900		20	9.4	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	17		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: P6EB

Lab Sample ID: 280-145303-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH adj. to 25 deg C	7.3	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.8	HF	1.0	1.0	Degrees C	1		9040B	Total/NA

Client Sample ID: P7DUP

Lab Sample ID: 280-145303-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.064	J	0.10	0.023	mg/L	1		6010C	Total Recoverable
Arsenic	0.0014	J	0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.042		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	790		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cobalt	0.0010		0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Chromium	0.0027		0.0020	0.00098	mg/L	1		6020A	Total Recoverable
Selenium	0.0052		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Lithium	0.051		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	22.8	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	520		30	10	mg/L	10		9056A	Total/NA
Sulfate	2000		100	21	mg/L	20		9056A	Total/NA
Total Dissolved Solids (TDS)	3700		40	19	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	1.6	J	4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: PNMW-14

Lab Sample ID: 280-145303-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.062	J	0.10	0.023	mg/L	1		6010C	Total Recoverable
Barium	0.093		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	39		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cobalt	0.00024	J	0.0010	0.00019	mg/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Detection Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Client Sample ID: PNMW-14 (Continued)

Lab Sample ID: 280-145303-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.0024		0.0020	0.00098	mg/L	1		6020A	Total
									Recoverable
Molybdenum	0.0050	J	0.010	0.0011	mg/L	1		6020A	Total
									Recoverable
Selenium	0.0022	J	0.0050	0.00089	mg/L	1		6020A	Total
									Recoverable
Lithium	0.034		0.0080	0.0017	mg/L	1		6020A	Total
									Recoverable
pH adj. to 25 deg C	8.0	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	22.6	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	1.6	J	3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.92		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	23		5.0	1.0	mg/L	1		9056A	Total/NA
Total Dissolved Solids (TDS)	240		10	4.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	26		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: PNMW-15

Lab Sample ID: 280-145303-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.30		0.10	0.023	mg/L	1		6010C	Total
									Recoverable
Barium	0.026		0.0050	0.0022	mg/L	1		6020A	Total
									Recoverable
Calcium	100		1.0	0.58	mg/L	1		6020A	Total
									Recoverable
Cobalt	0.0016		0.0010	0.00019	mg/L	1		6020A	Total
									Recoverable
Molybdenum	0.0013	J	0.010	0.0011	mg/L	1		6020A	Total
									Recoverable
Selenium	0.00094	J	0.0050	0.00089	mg/L	1		6020A	Total
									Recoverable
Lithium	0.094		0.0080	0.0017	mg/L	1		6020A	Total
									Recoverable
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	22.3	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	4.5		3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.34	J	0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	430		25	5.2	mg/L	5		9056A	Total/NA
Total Dissolved Solids (TDS)	940		10	4.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	22		4.0	1.1	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Method Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CAN
6020A	Metals (ICP/MS)	SW846	TAL CAN
7470A	Mercury (CVAA)	SW846	TAL CAN
9040B	pH	SW846	TAL DEN
9056A	Anions, Ion Chromatography	SW846	TAL DEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL DEN
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL DEN
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN
7470A	Preparation, Mercury	SW846	TAL CAN
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: HDR Inc

Job ID: 280-145303-1

Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
280-145303-1	P6	Water	02/05/21 12:15	02/05/21 15:28	
280-145303-2	P7	Water	02/02/21 17:57	02/05/21 15:28	
280-145303-3	P18B	Water	02/02/21 16:15	02/05/21 15:28	
280-145303-4	PNMW-1B	Water	02/01/21 17:45	02/05/21 15:28	
280-145303-5	PNMW-2B	Water	02/01/21 16:30	02/05/21 15:28	
280-145303-6	PNMW-6B	Water	02/04/21 17:20	02/05/21 15:28	
280-145303-7	PNMW-16	Water	02/04/21 13:50	02/05/21 15:28	
280-145303-8	P6EB	Water	02/05/21 11:20	02/05/21 15:28	
280-145303-9	P7DUP	Water	02/02/21 17:57	02/05/21 15:28	
280-145303-10	PNMW-14	Water	02/01/21 14:25	02/05/21 15:28	
280-145303-11	PNMW-15	Water	02/02/21 13:35	02/05/21 15:28	

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Method: 6010C - Metals (ICP) - Total Recoverable

Client Sample ID: P6
Date Collected: 02/05/21 12:15
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.24		0.10	0.023	mg/L		02/10/21 14:00	02/12/21 11:05	1

Client Sample ID: P7
Date Collected: 02/02/21 17:57
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.057	J	0.10	0.023	mg/L		02/10/21 14:00	02/12/21 11:09	1

Client Sample ID: P18B
Date Collected: 02/02/21 16:15
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.028	J	0.10	0.023	mg/L		02/10/21 14:00	02/12/21 11:23	1

Client Sample ID: PNMW-1B
Date Collected: 02/01/21 17:45
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.25		0.10	0.023	mg/L		02/10/21 14:00	02/12/21 11:27	1

Client Sample ID: PNMW-2B
Date Collected: 02/01/21 16:30
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.049	J	0.10	0.023	mg/L		02/10/21 14:00	02/12/21 11:32	1

Client Sample ID: PNMW-6B
Date Collected: 02/04/21 17:20
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.29		0.10	0.023	mg/L		02/10/21 14:00	02/12/21 11:36	1

Client Sample ID: PNMW-16
Date Collected: 02/04/21 13:50
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.34		0.10	0.023	mg/L		02/10/21 14:00	02/12/21 11:40	1

Client Sample ID: P6EB
Date Collected: 02/05/21 11:20
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.023	mg/L		02/10/21 14:00	02/12/21 11:45	1

Client Sample ID: P7DUP
Date Collected: 02/02/21 17:57
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.064	J	0.10	0.023	mg/L		02/10/21 14:00	02/12/21 11:57	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Method: 6010C - Metals (ICP) - Total Recoverable

Client Sample ID: PNMW-14
Date Collected: 02/01/21 14:25
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.062	J	0.10	0.023	mg/L		02/10/21 14:00	02/12/21 12:02	1

Client Sample ID: PNMW-15
Date Collected: 02/02/21 13:35
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.30		0.10	0.023	mg/L		02/10/21 14:00	02/12/21 12:06	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: P6
Date Collected: 02/05/21 12:15
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		02/10/21 14:00	02/11/21 13:28	1
Arsenic	0.0017	J	0.0050	0.00075	mg/L		02/10/21 14:00	02/11/21 13:28	1
Barium	0.035		0.0050	0.0022	mg/L		02/10/21 14:00	02/11/21 13:28	1
Beryllium	0.00041	J	0.0010	0.00031	mg/L		02/10/21 14:00	02/11/21 13:28	1
Calcium	110		1.0	0.58	mg/L		02/10/21 14:00	02/11/21 13:28	1
Cadmium	ND		0.0010	0.00020	mg/L		02/10/21 14:00	02/11/21 13:28	1
Cobalt	0.0013		0.0010	0.00019	mg/L		02/10/21 14:00	02/11/21 13:28	1
Chromium	ND		0.0020	0.00098	mg/L		02/10/21 14:00	02/11/21 13:28	1
Molybdenum	0.0045	J	0.010	0.0011	mg/L		02/10/21 14:00	02/11/21 13:28	1
Lead	ND		0.0010	0.00045	mg/L		02/10/21 14:00	02/11/21 13:28	1
Selenium	0.0011	J	0.0050	0.00089	mg/L		02/10/21 14:00	02/11/21 13:28	1
Thallium	0.00038	J	0.0010	0.00020	mg/L		02/10/21 14:00	02/11/21 13:28	1
Lithium	0.036		0.0080	0.0017	mg/L		02/10/21 14:00	02/11/21 13:28	1

Client Sample ID: P7
Date Collected: 02/02/21 17:57
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		02/10/21 14:00	02/11/21 13:40	1
Arsenic	0.0018	J	0.0050	0.00075	mg/L		02/10/21 14:00	02/11/21 13:40	1
Barium	0.040		0.0050	0.0022	mg/L		02/10/21 14:00	02/11/21 13:40	1
Beryllium	0.00042	J	0.0010	0.00031	mg/L		02/10/21 14:00	02/11/21 13:40	1
Calcium	680		1.0	0.58	mg/L		02/10/21 14:00	02/11/21 13:40	1
Cadmium	ND		0.0010	0.00020	mg/L		02/10/21 14:00	02/11/21 13:40	1
Cobalt	0.00099	J	0.0010	0.00019	mg/L		02/10/21 14:00	02/11/21 13:40	1
Chromium	0.0017	J	0.0020	0.00098	mg/L		02/10/21 14:00	02/11/21 13:40	1
Molybdenum	ND		0.010	0.0011	mg/L		02/10/21 14:00	02/11/21 13:40	1
Lead	ND		0.0010	0.00045	mg/L		02/10/21 14:00	02/11/21 13:40	1
Selenium	0.0061		0.0050	0.00089	mg/L		02/10/21 14:00	02/11/21 13:40	1
Thallium	0.00045	J	0.0010	0.00020	mg/L		02/10/21 14:00	02/11/21 13:40	1
Lithium	0.049		0.0080	0.0017	mg/L		02/10/21 14:00	02/11/21 13:40	1

Client Sample ID: P18B
Date Collected: 02/02/21 16:15
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		02/10/21 14:00	02/11/21 13:42	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Method: 6020A - Metals (ICP/MS) - Total Recoverable (Continued)

Client Sample ID: P18B
Date Collected: 02/02/21 16:15
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0022	J	0.0050	0.00075	mg/L		02/10/21 14:00	02/11/21 13:42	1
Barium	0.046		0.0050	0.0022	mg/L		02/10/21 14:00	02/11/21 13:42	1
Beryllium	ND		0.0010	0.00031	mg/L		02/10/21 14:00	02/11/21 13:42	1
Calcium	98		1.0	0.58	mg/L		02/10/21 14:00	02/11/21 13:42	1
Cadmium	ND		0.0010	0.00020	mg/L		02/10/21 14:00	02/11/21 13:42	1
Cobalt	0.00020	J	0.0010	0.00019	mg/L		02/10/21 14:00	02/11/21 13:42	1
Chromium	0.0021		0.0020	0.00098	mg/L		02/10/21 14:00	02/11/21 13:42	1
Molybdenum	ND		0.010	0.0011	mg/L		02/10/21 14:00	02/11/21 13:42	1
Lead	ND		0.0010	0.00045	mg/L		02/10/21 14:00	02/11/21 13:42	1
Selenium	0.0024	J	0.0050	0.00089	mg/L		02/10/21 14:00	02/11/21 13:42	1
Thallium	ND		0.0010	0.00020	mg/L		02/10/21 14:00	02/11/21 13:42	1
Lithium	0.025		0.0080	0.0017	mg/L		02/10/21 14:00	02/11/21 13:42	1

Client Sample ID: PNMW-1B
Date Collected: 02/01/21 17:45
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		02/10/21 14:00	02/11/21 13:45	1
Arsenic	ND		0.0050	0.00075	mg/L		02/10/21 14:00	02/11/21 13:45	1
Barium	0.025		0.0050	0.0022	mg/L		02/10/21 14:00	02/11/21 13:45	1
Beryllium	ND		0.0010	0.00031	mg/L		02/10/21 14:00	02/11/21 13:45	1
Calcium	120		1.0	0.58	mg/L		02/10/21 14:00	02/11/21 13:45	1
Cadmium	ND		0.0010	0.00020	mg/L		02/10/21 14:00	02/11/21 13:45	1
Cobalt	0.00019	J	0.0010	0.00019	mg/L		02/10/21 14:00	02/11/21 13:45	1
Chromium	0.0019	J	0.0020	0.00098	mg/L		02/10/21 14:00	02/11/21 13:45	1
Molybdenum	0.0028	J	0.010	0.0011	mg/L		02/10/21 14:00	02/11/21 13:45	1
Lead	ND		0.0010	0.00045	mg/L		02/10/21 14:00	02/11/21 13:45	1
Selenium	0.016		0.0050	0.00089	mg/L		02/10/21 14:00	02/11/21 13:45	1
Thallium	ND		0.0010	0.00020	mg/L		02/10/21 14:00	02/11/21 13:45	1
Lithium	0.091		0.0080	0.0017	mg/L		02/10/21 14:00	02/11/21 13:45	1

Client Sample ID: PNMW-2B
Date Collected: 02/01/21 16:30
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		02/10/21 14:00	02/11/21 13:52	1
Arsenic	ND		0.0050	0.00075	mg/L		02/10/21 14:00	02/11/21 13:52	1
Barium	0.13		0.0050	0.0022	mg/L		02/10/21 14:00	02/11/21 13:52	1
Beryllium	ND		0.0010	0.00031	mg/L		02/10/21 14:00	02/11/21 13:52	1
Calcium	64		1.0	0.58	mg/L		02/10/21 14:00	02/11/21 13:52	1
Cadmium	ND		0.0010	0.00020	mg/L		02/10/21 14:00	02/11/21 13:52	1
Cobalt	ND		0.0010	0.00019	mg/L		02/10/21 14:00	02/11/21 13:52	1
Chromium	0.0013	J	0.0020	0.00098	mg/L		02/10/21 14:00	02/11/21 13:52	1
Molybdenum	0.0030	J	0.010	0.0011	mg/L		02/10/21 14:00	02/11/21 13:52	1
Lead	ND		0.0010	0.00045	mg/L		02/10/21 14:00	02/11/21 13:52	1
Selenium	0.0023	J	0.0050	0.00089	mg/L		02/10/21 14:00	02/11/21 13:52	1
Thallium	ND		0.0010	0.00020	mg/L		02/10/21 14:00	02/11/21 13:52	1
Lithium	0.036		0.0080	0.0017	mg/L		02/10/21 14:00	02/11/21 13:52	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: PNMW-6B
Date Collected: 02/04/21 17:20
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		02/10/21 14:00	02/11/21 13:55	1
Arsenic	0.00075	J	0.0050	0.00075	mg/L		02/10/21 14:00	02/11/21 13:55	1
Barium	0.039		0.0050	0.0022	mg/L		02/10/21 14:00	02/11/21 13:55	1
Beryllium	ND		0.0010	0.00031	mg/L		02/10/21 14:00	02/11/21 13:55	1
Calcium	67		1.0	0.58	mg/L		02/10/21 14:00	02/11/21 13:55	1
Cadmium	ND		0.0010	0.00020	mg/L		02/10/21 14:00	02/11/21 13:55	1
Cobalt	0.00026	J	0.0010	0.00019	mg/L		02/10/21 14:00	02/11/21 13:55	1
Chromium	ND		0.0020	0.00098	mg/L		02/10/21 14:00	02/11/21 13:55	1
Molybdenum	0.0080	J	0.010	0.0011	mg/L		02/10/21 14:00	02/11/21 13:55	1
Lead	ND		0.0010	0.00045	mg/L		02/10/21 14:00	02/11/21 13:55	1
Selenium	ND		0.0050	0.00089	mg/L		02/10/21 14:00	02/11/21 13:55	1
Thallium	ND		0.0010	0.00020	mg/L		02/10/21 14:00	02/11/21 13:55	1
Lithium	0.070		0.0080	0.0017	mg/L		02/10/21 14:00	02/11/21 13:55	1

Client Sample ID: PNMW-16
Date Collected: 02/04/21 13:50
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		02/10/21 14:00	02/11/21 13:57	1
Arsenic	0.0012	J	0.0050	0.00075	mg/L		02/10/21 14:00	02/11/21 13:57	1
Barium	0.022		0.0050	0.0022	mg/L		02/10/21 14:00	02/11/21 13:57	1
Beryllium	ND		0.0010	0.00031	mg/L		02/10/21 14:00	02/11/21 13:57	1
Calcium	190		1.0	0.58	mg/L		02/10/21 14:00	02/11/21 13:57	1
Cadmium	ND		0.0010	0.00020	mg/L		02/10/21 14:00	02/11/21 13:57	1
Cobalt	0.0037		0.0010	0.00019	mg/L		02/10/21 14:00	02/11/21 13:57	1
Chromium	ND	L	0.0020	0.00098	mg/L		02/10/21 14:00	02/11/21 13:57	1
Molybdenum	ND		0.010	0.0011	mg/L		02/10/21 14:00	02/11/21 13:57	1
Lead	ND		0.0010	0.00045	mg/L		02/10/21 14:00	02/11/21 13:57	1
Selenium	ND		0.0050	0.00089	mg/L		02/10/21 14:00	02/11/21 13:57	1
Thallium	ND		0.0010	0.00020	mg/L		02/10/21 14:00	02/11/21 13:57	1
Lithium	0.15		0.0080	0.0017	mg/L		02/10/21 14:00	02/11/21 13:57	1

Client Sample ID: P6EB
Date Collected: 02/05/21 11:20
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		02/10/21 14:00	02/11/21 14:00	1
Arsenic	ND		0.0050	0.00075	mg/L		02/10/21 14:00	02/11/21 14:00	1
Barium	ND		0.0050	0.0022	mg/L		02/10/21 14:00	02/11/21 14:00	1
Beryllium	ND		0.0010	0.00031	mg/L		02/10/21 14:00	02/11/21 14:00	1
Calcium	ND		1.0	0.58	mg/L		02/10/21 14:00	02/11/21 14:00	1
Cadmium	ND		0.0010	0.00020	mg/L		02/10/21 14:00	02/11/21 14:00	1
Cobalt	ND		0.0010	0.00019	mg/L		02/10/21 14:00	02/11/21 14:00	1
Chromium	ND		0.0020	0.00098	mg/L		02/10/21 14:00	02/11/21 14:00	1
Molybdenum	ND		0.010	0.0011	mg/L		02/10/21 14:00	02/11/21 14:00	1
Lead	ND		0.0010	0.00045	mg/L		02/10/21 14:00	02/11/21 14:00	1
Selenium	ND		0.0050	0.00089	mg/L		02/10/21 14:00	02/11/21 14:00	1
Thallium	ND		0.0010	0.00020	mg/L		02/10/21 14:00	02/11/21 14:00	1
Lithium	ND		0.0080	0.0017	mg/L		02/10/21 14:00	02/11/21 14:00	1

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Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: P7DUP
Date Collected: 02/02/21 17:57
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		02/10/21 14:00	02/11/21 14:02	1
Arsenic	0.0014	J	0.0050	0.00075	mg/L		02/10/21 14:00	02/11/21 14:02	1
Barium	0.042		0.0050	0.0022	mg/L		02/10/21 14:00	02/11/21 14:02	1
Beryllium	ND		0.0010	0.00031	mg/L		02/10/21 14:00	02/11/21 14:02	1
Calcium	790		1.0	0.58	mg/L		02/10/21 14:00	02/11/21 14:02	1
Cadmium	ND		0.0010	0.00020	mg/L		02/10/21 14:00	02/11/21 14:02	1
Cobalt	0.0010		0.0010	0.00019	mg/L		02/10/21 14:00	02/11/21 14:02	1
Chromium	0.0027		0.0020	0.00098	mg/L		02/10/21 14:00	02/11/21 14:02	1
Molybdenum	ND		0.010	0.0011	mg/L		02/10/21 14:00	02/11/21 14:02	1
Lead	ND		0.0010	0.00045	mg/L		02/10/21 14:00	02/11/21 14:02	1
Selenium	0.0052		0.0050	0.00089	mg/L		02/10/21 14:00	02/11/21 14:02	1
Thallium	ND		0.0010	0.00020	mg/L		02/10/21 14:00	02/11/21 14:02	1
Lithium	0.051		0.0080	0.0017	mg/L		02/10/21 14:00	02/11/21 14:02	1

Client Sample ID: PNMW-14
Date Collected: 02/01/21 14:25
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		02/10/21 14:00	02/11/21 14:05	1
Arsenic	ND		0.0050	0.00075	mg/L		02/10/21 14:00	02/11/21 14:05	1
Barium	0.093		0.0050	0.0022	mg/L		02/10/21 14:00	02/11/21 14:05	1
Beryllium	ND		0.0010	0.00031	mg/L		02/10/21 14:00	02/11/21 14:05	1
Calcium	39		1.0	0.58	mg/L		02/10/21 14:00	02/11/21 14:05	1
Cadmium	ND		0.0010	0.00020	mg/L		02/10/21 14:00	02/11/21 14:05	1
Cobalt	0.00024	J	0.0010	0.00019	mg/L		02/10/21 14:00	02/11/21 14:05	1
Chromium	0.0024		0.0020	0.00098	mg/L		02/10/21 14:00	02/11/21 14:05	1
Molybdenum	0.0050	J	0.010	0.0011	mg/L		02/10/21 14:00	02/11/21 14:05	1
Lead	ND		0.0010	0.00045	mg/L		02/10/21 14:00	02/11/21 14:05	1
Selenium	0.0022	J	0.0050	0.00089	mg/L		02/10/21 14:00	02/11/21 14:05	1
Thallium	ND		0.0010	0.00020	mg/L		02/10/21 14:00	02/11/21 14:05	1
Lithium	0.034		0.0080	0.0017	mg/L		02/10/21 14:00	02/11/21 14:05	1

Client Sample ID: PNMW-15
Date Collected: 02/02/21 13:35
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		02/10/21 14:00	02/11/21 14:07	1
Arsenic	ND		0.0050	0.00075	mg/L		02/10/21 14:00	02/11/21 14:07	1
Barium	0.026		0.0050	0.0022	mg/L		02/10/21 14:00	02/11/21 14:07	1
Beryllium	ND		0.0010	0.00031	mg/L		02/10/21 14:00	02/11/21 14:07	1
Calcium	100		1.0	0.58	mg/L		02/10/21 14:00	02/11/21 14:07	1
Cadmium	ND		0.0010	0.00020	mg/L		02/10/21 14:00	02/11/21 14:07	1
Cobalt	0.0016		0.0010	0.00019	mg/L		02/10/21 14:00	02/11/21 14:07	1
Chromium	ND		0.0020	0.00098	mg/L		02/10/21 14:00	02/11/21 14:07	1
Molybdenum	0.0013	J	0.010	0.0011	mg/L		02/10/21 14:00	02/11/21 14:07	1
Lead	ND		0.0010	0.00045	mg/L		02/10/21 14:00	02/11/21 14:07	1
Selenium	0.00094	J	0.0050	0.00089	mg/L		02/10/21 14:00	02/11/21 14:07	1
Thallium	ND		0.0010	0.00020	mg/L		02/10/21 14:00	02/11/21 14:07	1
Lithium	0.094		0.0080	0.0017	mg/L		02/10/21 14:00	02/11/21 14:07	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Method: 7470A - Mercury (CVAA)

Client Sample ID: P6
Date Collected: 02/05/21 12:15
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		02/10/21 12:00	02/11/21 13:00	1

Client Sample ID: P7
Date Collected: 02/02/21 17:57
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		02/10/21 12:00	02/11/21 13:04	1

Client Sample ID: P18B
Date Collected: 02/02/21 16:15
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		02/10/21 12:00	02/11/21 13:06	1

Client Sample ID: PNMW-1B
Date Collected: 02/01/21 17:45
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		02/10/21 12:00	02/11/21 13:08	1

Client Sample ID: PNMW-2B
Date Collected: 02/01/21 16:30
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		02/10/21 12:00	02/11/21 13:10	1

Client Sample ID: PNMW-6B
Date Collected: 02/04/21 17:20
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		02/10/21 12:00	02/11/21 13:12	1

Client Sample ID: PNMW-16
Date Collected: 02/04/21 13:50
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		02/10/21 12:00	02/11/21 13:14	1

Client Sample ID: P6EB
Date Collected: 02/05/21 11:20
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		02/10/21 12:00	02/11/21 13:16	1

Client Sample ID: P7DUP
Date Collected: 02/02/21 17:57
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		02/10/21 12:00	02/11/21 13:23	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Method: 7470A - Mercury (CVAA)

Client Sample ID: PNMW-14
Date Collected: 02/01/21 14:25
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		02/10/21 12:00	02/11/21 13:25	1

Client Sample ID: PNMW-15
Date Collected: 02/02/21 13:35
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		02/10/21 12:00	02/11/21 13:27	1

General Chemistry

Client Sample ID: P6
Date Collected: 02/05/21 12:15
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.7	HF	0.1	0.1	SU			02/08/21 13:36	1
Temperature	21.9	HF	1.0	1.0	Degrees C			02/08/21 13:36	1
Chloride	110		3.0	1.0	mg/L			02/20/21 20:00	1
Fluoride	0.60		0.50	0.17	mg/L			02/20/21 20:00	1
Sulfate	360		25	5.2	mg/L			02/20/21 20:17	5
Total Dissolved Solids (TDS)	900		10	4.7	mg/L			02/06/21 12:00	1
Total Suspended Solids	ND		4.0	1.1	mg/L			02/06/21 10:28	1

Client Sample ID: P7
Date Collected: 02/02/21 17:57
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.4	HF	0.1	0.1	SU			02/08/21 13:40	1
Temperature	21.1	HF	1.0	1.0	Degrees C			02/08/21 13:40	1
Chloride	540		30	10	mg/L			02/20/21 20:50	10
Fluoride	ND		0.50	0.17	mg/L			02/20/21 20:33	1
Sulfate	2100		100	21	mg/L			02/21/21 22:55	20
Total Dissolved Solids (TDS)	1400		20	9.4	mg/L			02/06/21 12:00	1
Total Suspended Solids	ND		4.0	1.1	mg/L			02/06/21 10:28	1

Client Sample ID: P18B
Date Collected: 02/02/21 16:15
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.8	HF	0.1	0.1	SU			02/08/21 13:43	1
Temperature	21.1	HF	1.0	1.0	Degrees C			02/08/21 13:43	1
Chloride	48		3.0	1.0	mg/L			02/20/21 21:39	1
Fluoride	0.20	J	0.50	0.17	mg/L			02/20/21 21:39	1
Sulfate	140		5.0	1.0	mg/L			02/20/21 21:39	1
Total Dissolved Solids (TDS)	520		10	4.7	mg/L			02/06/21 12:00	1
Total Suspended Solids	5.6		4.0	1.1	mg/L			02/06/21 10:28	1

Client Sample ID: PNMW-1B
Date Collected: 02/01/21 17:45
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU			02/08/21 14:10	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

General Chemistry (Continued)

Client Sample ID: PNMW-1B
Date Collected: 02/01/21 17:45
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Temperature	22.8	HF	1.0	1.0	Degrees C			02/08/21 14:10	1
Chloride	16		3.0	1.0	mg/L			02/20/21 21:55	1
Fluoride	0.49	J	0.50	0.17	mg/L			02/20/21 21:55	1
Sulfate	500		25	5.2	mg/L			02/20/21 22:12	5
Total Dissolved Solids (TDS)	1100		10	4.7	mg/L			02/06/21 12:00	1
Total Suspended Solids	5.2		4.0	1.1	mg/L			02/06/21 10:28	1

Client Sample ID: PNMW-2B
Date Collected: 02/01/21 16:30
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.9	HF	0.1	0.1	SU			02/08/21 14:21	1
Temperature	21.9	HF	1.0	1.0	Degrees C			02/08/21 14:21	1
Chloride	10		3.0	1.0	mg/L			02/20/21 22:28	1
Fluoride	0.52		0.50	0.17	mg/L			02/20/21 22:28	1
Sulfate	22		5.0	1.0	mg/L			02/20/21 22:28	1
Total Dissolved Solids (TDS)	400		10	4.7	mg/L			02/06/21 12:00	1
Total Suspended Solids	2.8	J	4.0	1.1	mg/L			02/06/21 10:28	1

Client Sample ID: PNMW-6B
Date Collected: 02/04/21 17:20
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.8	HF	0.1	0.1	SU			02/08/21 14:24	1
Temperature	21.8	HF	1.0	1.0	Degrees C			02/08/21 14:24	1
Chloride	99		3.0	1.0	mg/L			02/20/21 22:45	1
Fluoride	0.74		0.50	0.17	mg/L			02/20/21 22:45	1
Sulfate	250		25	5.2	mg/L			02/21/21 23:11	5
Total Dissolved Solids (TDS)	830		10	4.7	mg/L			02/06/21 12:00	1
Total Suspended Solids	8.0		4.0	1.1	mg/L			02/06/21 10:28	1

Client Sample ID: PNMW-16
Date Collected: 02/04/21 13:50
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.4	HF	0.1	0.1	SU			02/08/21 14:28	1
Temperature	22.0	HF	1.0	1.0	Degrees C			02/08/21 14:28	1
Chloride	1.6	J	3.0	1.0	mg/L			02/20/21 23:01	1
Fluoride	0.21	J	0.50	0.17	mg/L			02/20/21 23:01	1
Sulfate	1000		50	10	mg/L			02/20/21 23:18	10
Total Dissolved Solids (TDS)	1900		20	9.4	mg/L			02/06/21 12:00	1
Total Suspended Solids	17		4.0	1.1	mg/L			02/06/21 10:28	1

Client Sample ID: P6EB
Date Collected: 02/05/21 11:20
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.3	HF	0.1	0.1	SU			02/09/21 16:38	1
Temperature	21.8	HF	1.0	1.0	Degrees C			02/09/21 16:38	1
Chloride	ND		3.0	1.0	mg/L			02/20/21 23:34	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

General Chemistry (Continued)

Client Sample ID: P6EB

Date Collected: 02/05/21 11:20

Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-8

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.50	0.17	mg/L			02/20/21 23:34	1
Sulfate	ND		5.0	1.0	mg/L			02/20/21 23:34	1
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			02/06/21 12:00	1
Total Suspended Solids	ND		4.0	1.1	mg/L			02/06/21 10:28	1

Client Sample ID: P7DUP

Date Collected: 02/02/21 17:57

Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-9

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU			02/08/21 14:40	1
Temperature	22.8	HF	1.0	1.0	Degrees C			02/08/21 14:40	1
Chloride	520		30	10	mg/L			02/21/21 00:07	10
Fluoride	ND		0.50	0.17	mg/L			02/20/21 23:50	1
Sulfate	2000		100	21	mg/L			02/21/21 23:28	20
Total Dissolved Solids (TDS)	3700		40	19	mg/L			02/06/21 12:00	1
Total Suspended Solids	1.6	J	4.0	1.1	mg/L			02/06/21 10:28	1

Client Sample ID: PNMW-14

Date Collected: 02/01/21 14:25

Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-10

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	8.0	HF	0.1	0.1	SU			02/08/21 14:44	1
Temperature	22.6	HF	1.0	1.0	Degrees C			02/08/21 14:44	1
Chloride	1.6	J	3.0	1.0	mg/L			02/21/21 00:56	1
Fluoride	0.92		0.50	0.17	mg/L			02/21/21 00:56	1
Sulfate	23		5.0	1.0	mg/L			02/21/21 00:56	1
Total Dissolved Solids (TDS)	240		10	4.7	mg/L			02/06/21 12:00	1
Total Suspended Solids	26		4.0	1.1	mg/L			02/06/21 10:28	1

Client Sample ID: PNMW-15

Date Collected: 02/02/21 13:35

Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-11

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU			02/08/21 14:47	1
Temperature	22.3	HF	1.0	1.0	Degrees C			02/08/21 14:47	1
Chloride	4.5		3.0	1.0	mg/L			02/21/21 01:12	1
Fluoride	0.34	J	0.50	0.17	mg/L			02/21/21 01:12	1
Sulfate	430		25	5.2	mg/L			02/21/21 01:29	5
Total Dissolved Solids (TDS)	940		10	4.7	mg/L			02/06/21 12:00	1
Total Suspended Solids	22		4.0	1.1	mg/L			02/06/21 10:28	1

Method: 9315 - Radium-226 (GFPC)

Client Sample ID: P6

Date Collected: 02/05/21 12:15

Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-1

Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0674	U	0.0647	0.0650	1.00	0.100	pCi/L	02/11/21 11:55	03/05/21 07:20	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Method: 9315 - Radium-226 (GFPC) (Continued)

<u>Carrier</u>	<u>%Yield</u>	<u>Qualifier</u>	<u>Limits</u>								<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>		
Ba Carrier	84.4		40 - 110								02/11/21 11:55	03/05/21 07:20	1		
Client Sample ID: P7													Lab Sample ID: 280-145303-2		
Date Collected: 02/02/21 17:57													Matrix: Water		
Date Received: 02/05/21 15:28															
<u>Analyte</u>	<u>Result</u>	<u>Qualifier</u>	<u>Count Uncert. (2σ+/-)</u>	<u>Total Uncert. (2σ+/-)</u>	<u>RL</u>	<u>MDC</u>	<u>Unit</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>					
Radium-226	0.0737	U	0.0689	0.0692	1.00	0.106	pCi/L	02/11/21 11:55	03/05/21 07:20	1					
<u>Carrier</u>	<u>%Yield</u>	<u>Qualifier</u>	<u>Limits</u>								<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>		
Ba Carrier	79.9		40 - 110								02/11/21 11:55	03/05/21 07:20	1		
Client Sample ID: P18B													Lab Sample ID: 280-145303-3		
Date Collected: 02/02/21 16:15													Matrix: Water		
Date Received: 02/05/21 15:28															
<u>Analyte</u>	<u>Result</u>	<u>Qualifier</u>	<u>Count Uncert. (2σ+/-)</u>	<u>Total Uncert. (2σ+/-)</u>	<u>RL</u>	<u>MDC</u>	<u>Unit</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>					
Radium-226	0.0553	U	0.0659	0.0661	1.00	0.108	pCi/L	02/11/21 11:55	03/05/21 07:21	1					
<u>Carrier</u>	<u>%Yield</u>	<u>Qualifier</u>	<u>Limits</u>								<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>		
Ba Carrier	89.2		40 - 110								02/11/21 11:55	03/05/21 07:21	1		
Client Sample ID: PNMW-1B													Lab Sample ID: 280-145303-4		
Date Collected: 02/01/21 17:45													Matrix: Water		
Date Received: 02/05/21 15:28															
<u>Analyte</u>	<u>Result</u>	<u>Qualifier</u>	<u>Count Uncert. (2σ+/-)</u>	<u>Total Uncert. (2σ+/-)</u>	<u>RL</u>	<u>MDC</u>	<u>Unit</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>					
Radium-226	0.200		0.0876	0.0894	1.00	0.0957	pCi/L	02/11/21 11:55	03/05/21 07:22	1					
<u>Carrier</u>	<u>%Yield</u>	<u>Qualifier</u>	<u>Limits</u>								<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>		
Ba Carrier	82.9		40 - 110								02/11/21 11:55	03/05/21 07:22	1		
Client Sample ID: PNMW-2B													Lab Sample ID: 280-145303-5		
Date Collected: 02/01/21 16:30													Matrix: Water		
Date Received: 02/05/21 15:28															
<u>Analyte</u>	<u>Result</u>	<u>Qualifier</u>	<u>Count Uncert. (2σ+/-)</u>	<u>Total Uncert. (2σ+/-)</u>	<u>RL</u>	<u>MDC</u>	<u>Unit</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>					
Radium-226	0.209		0.0898	0.0917	1.00	0.103	pCi/L	02/11/21 11:55	03/05/21 07:22	1					
<u>Carrier</u>	<u>%Yield</u>	<u>Qualifier</u>	<u>Limits</u>								<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>		
Ba Carrier	92.5		40 - 110								02/11/21 11:55	03/05/21 07:22	1		
Client Sample ID: PNMW-6B													Lab Sample ID: 280-145303-6		
Date Collected: 02/04/21 17:20													Matrix: Water		
Date Received: 02/05/21 15:28															
<u>Analyte</u>	<u>Result</u>	<u>Qualifier</u>	<u>Count Uncert. (2σ+/-)</u>	<u>Total Uncert. (2σ+/-)</u>	<u>RL</u>	<u>MDC</u>	<u>Unit</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>					
Radium-226	0.175		0.101	0.102	1.00	0.131	pCi/L	02/11/21 11:55	03/05/21 07:23	1					

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Method: 9315 - Radium-226 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	91.0		40 - 110	02/11/21 11:55	03/05/21 07:23	1

Client Sample ID: PNMW-16
Date Collected: 02/04/21 13:50
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-7
Matrix: Water

			Count	Total						
Analyte	Result	Qualifier	Uncert.	Uncert.	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			(2σ+/-)	(2σ+/-)						
Radium-226	0.377		0.135	0.139	1.00	0.137	pCi/L	02/11/21 11:55	03/05/21 07:23	1
Carrier	%Yield	Qualifier	Limits							
Ba Carrier	85.9		40 - 110							
								Prepared	Analyzed	Dil Fac
								02/11/21 11:55	03/05/21 07:23	1

Client Sample ID: P6EB
Date Collected: 02/05/21 11:20
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-8
Matrix: Water

			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0409	U	0.0725	0.0726	1.00	0.127	pCi/L	02/10/21 14:07	03/04/21 17:01	1
Carrier	%Yield	Qualifier	Limits				Prepared	Analyzed	Dil Fac	
Ba Carrier	81.1		40 - 110				02/10/21 14:07	03/04/21 17:01	1	

Client Sample ID: P7DUP
Date Collected: 02/02/21 17:57
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-9
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0706	U	0.0739	0.0742	1.00	0.117	pCi/L	02/10/21 14:07	03/04/21 17:01	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.9		40 - 110					02/10/21 14:07	03/04/21 17:01	1

Client Sample ID: PNMW-14
Date Collected: 02/01/21 14:25
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-10
Matrix: Water

			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.115	U	0.110	0.110	1.00	0.170	pCi/L	02/10/21 14:07	03/04/21 17:01	1
Carrier	%Yield	Qualifier	Limits				Prepared	Analyzed	Dil Fac	
Ba Carrier	74.5		40 - 110				02/10/21 14:07	03/04/21 17:01	1	

Client Sample ID: PNMW-15
Date Collected: 02/02/21 13:35
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-11
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.295		0.146	0.148	1.00	0.182	pCi/L	02/10/21 14:07	03/04/21 17:02	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Method: 9315 - Radium-226 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	79.9		40 - 110	02/10/21 14:07	03/04/21 17:02	1

Method: 9320 - Radium-228 (GFPC)

Client Sample ID: P6

Date Collected: 02/05/21 12:15

Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-1

Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.295	U	0.242	0.243	1.00	0.383	pCi/L	02/11/21 12:46	02/18/21 08:02	1
Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac				
Ba Carrier	84.4		40 - 110	02/11/21 12:46	02/18/21 08:02	1				
Y Carrier	83.0		40 - 110	02/11/21 12:46	02/18/21 08:02	1				

Client Sample ID: P7

Date Collected: 02/02/21 17:57

Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-2

Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.720		0.298	0.305	1.00	0.416	pCi/L	02/11/21 12:46	02/18/21 08:03	1
Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac				
Ba Carrier	79.9		40 - 110	02/11/21 12:46	02/18/21 08:03	1				
Y Carrier	81.9		40 - 110	02/11/21 12:46	02/18/21 08:03	1				

Client Sample ID: P18B

Date Collected: 02/02/21 16:15

Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-3

Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.379	U	0.254	0.256	1.00	0.391	pCi/L	02/11/21 12:46	02/18/21 08:03	1
Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac				
Ba Carrier	89.2		40 - 110	02/11/21 12:46	02/18/21 08:03	1				
Y Carrier	81.1		40 - 110	02/11/21 12:46	02/18/21 08:03	1				

Client Sample ID: PNMW-1B

Date Collected: 02/01/21 17:45

Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-4

Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.652		0.313	0.319	1.00	0.460	pCi/L	02/11/21 12:46	02/18/21 08:06	1
Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac				
Ba Carrier	82.9		40 - 110	02/11/21 12:46	02/18/21 08:06	1				
Y Carrier	79.3		40 - 110	02/11/21 12:46	02/18/21 08:06	1				

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Method: 9320 - Radium-228 (GFPC)

Client Sample ID: PNMW-2B
Date Collected: 02/01/21 16:30
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-5
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.439		0.252	0.256	1.00	0.380	pCi/L	02/11/21 12:46	02/18/21 08:04	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.5		40 - 110					02/11/21 12:46	02/18/21 08:04	1
Y Carrier	79.6		40 - 110					02/11/21 12:46	02/18/21 08:04	1

Client Sample ID: PNMW-6B
Date Collected: 02/04/21 17:20
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-6
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.502		0.310	0.313	1.00	0.469	pCi/L	02/11/21 12:46	02/18/21 08:04	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.0		40 - 110					02/11/21 12:46	02/18/21 08:04	1
Y Carrier	81.5		40 - 110					02/11/21 12:46	02/18/21 08:04	1

Client Sample ID: PNMW-16
Date Collected: 02/04/21 13:50
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-7
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.672		0.355	0.361	1.00	0.526	pCi/L	02/11/21 12:46	02/18/21 08:04	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.9		40 - 110					02/11/21 12:46	02/18/21 08:04	1
Y Carrier	82.6		40 - 110					02/11/21 12:46	02/18/21 08:04	1

Client Sample ID: P6EB
Date Collected: 02/05/21 11:20
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-8
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.346	U *	0.279	0.280	1.00	0.442	pCi/L	02/10/21 15:00	02/23/21 08:31	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.1		40 - 110					02/10/21 15:00	02/23/21 08:31	1
Y Carrier	86.0		40 - 110					02/10/21 15:00	02/23/21 08:31	1

Client Sample ID: P7DUP
Date Collected: 02/02/21 17:57
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-9
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.249	U *	0.242	0.243	1.00	0.390	pCi/L	02/10/21 15:00	02/23/21 08:31	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Method: 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	82.9		40 - 110	02/10/21 15:00	02/23/21 08:31	1
Y Carrier	83.7		40 - 110	02/10/21 15:00	02/23/21 08:31	1

Client Sample ID: PNMW-14
Date Collected: 02/01/21 14:25
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-10
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.361	U *	0.387	0.389	1.00	0.633	pCi/L	02/10/21 15:00	02/23/21 08:31	1
Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac				
Ba Carrier	74.5		40 - 110	02/10/21 15:00	02/23/21 08:31	1				
Y Carrier	83.7		40 - 110	02/10/21 15:00	02/23/21 08:31	1				

Client Sample ID: PNMW-15
Date Collected: 02/02/21 13:35
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-11
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.16	*	0.461	0.473	1.00	0.652	pCi/L	02/10/21 15:00	02/23/21 08:31	1
Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac				
Ba Carrier	79.9		40 - 110	02/10/21 15:00	02/23/21 08:31	1				
Y Carrier	83.0		40 - 110	02/10/21 15:00	02/23/21 08:31	1				

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Client Sample ID: P6
Date Collected: 02/05/21 12:15
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.363	U	0.250	0.252	5.00	0.383	pCi/L		03/08/21 21:32	1

Client Sample ID: P7
Date Collected: 02/02/21 17:57
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-2
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.794		0.306	0.313	5.00	0.416	pCi/L		03/08/21 21:32	1

Client Sample ID: P18B
Date Collected: 02/02/21 16:15
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-3
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.435		0.262	0.264	5.00	0.391	pCi/L		03/08/21 21:32	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Client Sample ID: PNMW-1B
Date Collected: 02/01/21 17:45
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-4
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.852		0.325	0.331	5.00	0.460	pCi/L		03/08/21 21:32	1

Client Sample ID: PNMW-2B
Date Collected: 02/01/21 16:30
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-5
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.649		0.268	0.272	5.00	0.380	pCi/L		03/08/21 21:32	1

Client Sample ID: PNMW-6B
Date Collected: 02/04/21 17:20
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-6
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.677		0.326	0.329	5.00	0.469	pCi/L		03/08/21 21:32	1

Client Sample ID: PNMW-16
Date Collected: 02/04/21 13:50
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-7
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.05		0.380	0.387	5.00	0.526	pCi/L		03/08/21 21:32	1

Client Sample ID: P6EB
Date Collected: 02/05/21 11:20
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-8
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.386	U	0.288	0.289	5.00	0.442	pCi/L		03/08/21 21:32	1

Client Sample ID: P7DUP
Date Collected: 02/02/21 17:57
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-9
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.320	U	0.253	0.254	5.00	0.390	pCi/L		03/08/21 21:32	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Client Sample ID: PNMW-14
Date Collected: 02/01/21 14:25
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-10
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.477	U	0.402	0.404	5.00	0.633	pCi/L		03/08/21 21:32	1

Client Sample ID: PNMW-15
Date Collected: 02/02/21 13:35
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-11
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.45		0.484	0.496	5.00	0.652	pCi/L		03/08/21 21:32	1

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 240-472513/1-A
Matrix: Water
Analysis Batch: 473033

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 472513

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.023	mg/L		02/10/21 14:00	02/12/21 10:27	1

Lab Sample ID: LCS 240-472513/2-A
Matrix: Water
Analysis Batch: 473033

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 472513

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.00		mg/L		100	80 - 120

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 240-472513/1-A
Matrix: Water
Analysis Batch: 472776

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 472513

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		02/10/21 14:00	02/11/21 13:23	1
Arsenic	ND		0.0050	0.00075	mg/L		02/10/21 14:00	02/11/21 13:23	1
Barium	ND		0.0050	0.0022	mg/L		02/10/21 14:00	02/11/21 13:23	1
Beryllium	ND		0.0010	0.00031	mg/L		02/10/21 14:00	02/11/21 13:23	1
Calcium	ND		1.0	0.58	mg/L		02/10/21 14:00	02/11/21 13:23	1
Cadmium	ND		0.0010	0.00020	mg/L		02/10/21 14:00	02/11/21 13:23	1
Cobalt	ND		0.0010	0.00019	mg/L		02/10/21 14:00	02/11/21 13:23	1
Chromium	ND		0.0020	0.00098	mg/L		02/10/21 14:00	02/11/21 13:23	1
Molybdenum	ND		0.010	0.0011	mg/L		02/10/21 14:00	02/11/21 13:23	1
Lead	ND		0.0010	0.00045	mg/L		02/10/21 14:00	02/11/21 13:23	1
Selenium	ND		0.0050	0.00089	mg/L		02/10/21 14:00	02/11/21 13:23	1
Thallium	ND		0.0010	0.00020	mg/L		02/10/21 14:00	02/11/21 13:23	1
Lithium	ND		0.0080	0.0017	mg/L		02/10/21 14:00	02/11/21 13:23	1

Lab Sample ID: LCS 240-472513/3-A
Matrix: Water
Analysis Batch: 472776

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 472513

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.100	0.0953		mg/L		95	80 - 120
Arsenic	1.00	1.00		mg/L		100	80 - 120
Barium	1.00	0.959		mg/L		96	80 - 120
Beryllium	0.500	0.494		mg/L		99	80 - 120
Calcium	25.0	24.5		mg/L		98	80 - 120
Cadmium	0.500	0.489		mg/L		98	80 - 120
Cobalt	0.500	0.509		mg/L		102	80 - 120
Chromium	0.500	0.496		mg/L		99	80 - 120
Molybdenum	0.500	0.492		mg/L		98	80 - 120
Lead	0.500	0.493		mg/L		99	80 - 120
Selenium	1.00	0.957		mg/L		96	80 - 120
Thallium	1.00	0.973		mg/L		97	80 - 120
Lithium	0.500	0.512		mg/L		102	80 - 120

Eurofins TestAmerica, Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 280-145303-1 MS

Matrix: Water

Analysis Batch: 472776

Client Sample ID: P6

Prep Type: Total Recoverable

Prep Batch: 472513

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		0.100	0.101		mg/L		101	75 - 125
Arsenic	0.0017	J	1.00	1.06		mg/L		106	75 - 125
Barium	0.035		1.00	1.04		mg/L		101	75 - 125
Beryllium	0.00041	J	0.500	0.505		mg/L		101	75 - 125
Calcium	110		25.0	130	4	mg/L		96	75 - 125
Cadmium	ND		0.500	0.505		mg/L		101	75 - 125
Cobalt	0.0013		0.500	0.525		mg/L		105	75 - 125
Chromium	ND		0.500	0.507		mg/L		101	75 - 125
Molybdenum	0.0045	J	0.500	0.526		mg/L		104	75 - 125
Lead	ND		0.500	0.509		mg/L		102	75 - 125
Selenium	0.0011	J	1.00	0.999		mg/L		100	75 - 125
Thallium	0.00038	J	1.00	0.999		mg/L		100	75 - 125
Lithium	0.036		0.500	0.566		mg/L		106	75 - 125

Lab Sample ID: 280-145303-1 MSD

Matrix: Water

Analysis Batch: 472776

Client Sample ID: P6

Prep Type: Total Recoverable

Prep Batch: 472513

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND		0.100	0.0980		mg/L		98	75 - 125	3	20
Arsenic	0.0017	J	1.00	1.03		mg/L		103	75 - 125	3	20
Barium	0.035		1.00	1.02		mg/L		99	75 - 125	2	20
Beryllium	0.00041	J	0.500	0.495		mg/L		99	75 - 125	2	20
Calcium	110		25.0	130	4	mg/L		95	75 - 125	0	20
Cadmium	ND		0.500	0.491		mg/L		98	75 - 125	3	20
Cobalt	0.0013		0.500	0.512		mg/L		102	75 - 125	3	20
Chromium	ND		0.500	0.495		mg/L		99	75 - 125	3	20
Molybdenum	0.0045	J	0.500	0.517		mg/L		103	75 - 125	2	20
Lead	ND		0.500	0.496		mg/L		99	75 - 125	3	20
Selenium	0.0011	J	1.00	0.973		mg/L		97	75 - 125	3	20
Thallium	0.00038	J	1.00	0.976		mg/L		98	75 - 125	2	20
Lithium	0.036		0.500	0.552		mg/L		103	75 - 125	3	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-472515/1-A

Matrix: Water

Analysis Batch: 472853

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 472515

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		02/10/21 12:00	02/11/21 12:45	1

Lab Sample ID: LCS 240-472515/2-A

Matrix: Water

Analysis Batch: 472853

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 472515

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	5.00	5.21		ug/L		104	80 - 120

Eurofins TestAmerica, Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Method: 9040B - pH

Lab Sample ID: LCS 280-525757/30

Matrix: Water

Analysis Batch: 525757

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH adj. to 25 deg C	7.00	7.0		SU		100	99 - 101

Lab Sample ID: LCS 280-525757/4

Matrix: Water

Analysis Batch: 525757

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH adj. to 25 deg C	7.00	7.0		SU		101	99 - 101

Lab Sample ID: 280-145303-4 DU

Matrix: Water

Analysis Batch: 525757

Client Sample ID: PNMW-1B

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH adj. to 25 deg C	7.6	HF	7.7		SU		0.9	5
Temperature	22.8	HF	22.2		Degrees C		3	10

Lab Sample ID: LCS 280-525939/4

Matrix: Water

Analysis Batch: 525939

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH adj. to 25 deg C	7.00	7.0		SU		101	99 - 101

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 280-526862/6

Matrix: Water

Analysis Batch: 526862

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			02/21/21 13:38	1
Fluoride	ND		0.50	0.17	mg/L			02/21/21 13:38	1
Sulfate	ND		5.0	1.0	mg/L			02/21/21 13:38	1

Lab Sample ID: LCS 280-526862/4

Matrix: Water

Analysis Batch: 526862

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	99.6		mg/L		100	90 - 110
Fluoride	5.00	4.94		mg/L		99	90 - 110
Sulfate	100	100		mg/L		100	90 - 110

Lab Sample ID: LCSD 280-526862/5

Matrix: Water

Analysis Batch: 526862

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	99.2		mg/L		99	90 - 110	0	10

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QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 280-526862/5

Matrix: Water

Analysis Batch: 526862

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	5.00	4.90		mg/L		98	90 - 110	1	10
Sulfate	100	102		mg/L		102	90 - 110	1	10

Lab Sample ID: MRL 280-526862/3

Matrix: Water

Analysis Batch: 526862

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	5.00	5.00		mg/L		100	50 - 150		
Fluoride	0.500	0.453	J	mg/L		91	50 - 150		
Sulfate	5.00	5.00		mg/L		100	50 - 150		

Lab Sample ID: MB 280-526898/6

Matrix: Water

Analysis Batch: 526898

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		5.0	1.0	mg/L			02/21/21 15:48	1

Lab Sample ID: LCS 280-526898/4

Matrix: Water

Analysis Batch: 526898

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate	100	102		mg/L		102	90 - 110		

Lab Sample ID: LCSD 280-526898/5

Matrix: Water

Analysis Batch: 526898

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	100	102		mg/L		102	90 - 110	1	10

Lab Sample ID: MRL 280-526898/3

Matrix: Water

Analysis Batch: 526898

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate	5.00	4.95	J	mg/L		99	50 - 150		

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 280-525633/1

Matrix: Water

Analysis Batch: 525633

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			02/06/21 12:00	1

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QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 280-525633/2
Matrix: Water
Analysis Batch: 525633

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids (TDS)	501	494		mg/L		99	88 - 114

Lab Sample ID: 280-145303-11 DU
Matrix: Water
Analysis Batch: 525633

Client Sample ID: PNMW-15
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids (TDS)	940		935		mg/L		0.7	10

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 280-525628/1
Matrix: Water
Analysis Batch: 525628

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			02/06/21 10:28	1

Lab Sample ID: LCS 280-525628/2
Matrix: Water
Analysis Batch: 525628

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	100	105		mg/L		105	79 - 114

Lab Sample ID: 280-145303-11 DU
Matrix: Water
Analysis Batch: 525628

Client Sample ID: PNMW-15
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	22		20.8		mg/L		4	10

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-498381/16-A
Matrix: Water
Analysis Batch: 500812

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 498381

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.1067	U	0.0815	0.0820	1.00	0.117	pCi/L	02/10/21 14:07	03/04/21 17:02	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.4		40 - 110					02/10/21 14:07	03/04/21 17:02	1

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QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Method: 9315 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCS 160-498381/1-A
Matrix: Water
Analysis Batch: 500812

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 498381

Analyte		Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226		11.3	11.77		1.23	1.00	0.112	pCi/L	104	75 - 125		
	LCS	LCS										
Carrier	%Yield	Qualifier	Limits									
Ba Carrier	76.6		40 - 110									

Lab Sample ID: LCSD 160-498381/2-A
Matrix: Water
Analysis Batch: 500812

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 498381

Analyte		Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226		11.3	11.78		1.25	1.00	0.161	pCi/L	104	75 - 125	0.01	1
	LCSD	LCSD										
Carrier	%Yield	Qualifier	Limits									
Ba Carrier	74.2		40 - 110									

Lab Sample ID: MB 160-498544/18-A
Matrix: Water
Analysis Batch: 500904

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 498544

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.006929	U	0.0416	0.0416	1.00	0.0837	pCi/L	02/11/21 11:55	03/05/21 07:24	1
	MB	MB								
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.1		40 - 110					02/11/21 11:55	03/05/21 07:24	1

Lab Sample ID: LCS 160-498544/1-A
Matrix: Water
Analysis Batch: 500900

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 498544

Analyte		Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226		11.3	11.62		1.17	1.00	0.0893	pCi/L	102	75 - 125		
	LCS	LCS										
Carrier	%Yield	Qualifier	Limits									
Ba Carrier	91.9		40 - 110									

Lab Sample ID: LCSD 160-498544/2-A
Matrix: Water
Analysis Batch: 500900

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 498544

Analyte		Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226		11.3	11.63		1.18	1.00	0.0923	pCi/L	103	75 - 125	0	1

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QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Method: 9315 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCSD 160-498544/2-A
Matrix: Water
Analysis Batch: 500900

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 498544

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	93.4		40 - 110

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-498385/18-B
Matrix: Water
Analysis Batch: 499583

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 498385

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.2252	U	0.235	0.236	1.00	0.382	pCi/L	02/10/21 15:00	02/23/21 08:32	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.4		40 - 110					02/10/21 15:00	02/23/21 08:32	1
Y Carrier	84.5		40 - 110					02/10/21 15:00	02/23/21 08:32	1

Lab Sample ID: LCS 160-498385/1-A
Matrix: Water
Analysis Batch: 499583

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 498385

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	7.41	8.860		1.13	1.00	0.535	pCi/L	120	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	76.6		40 - 110						
Y Carrier	74.4		40 - 110						

Lab Sample ID: LCSD 160-498385/2-A
Matrix: Water
Analysis Batch: 499583

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 498385

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228	7.41	10.09	*	1.24	1.00	0.535	pCi/L	136	75 - 125	0.52	1
Carrier	LCSD %Yield	LCSD Qualifier	Limits								
Ba Carrier	74.2		40 - 110								
Y Carrier	77.0		40 - 110								

Lab Sample ID: MB 160-498553/18-A
Matrix: Water
Analysis Batch: 499145

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 498553

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.2084	U	0.197	0.198	1.00	0.317	pCi/L	02/11/21 12:46	02/18/21 08:06	1

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QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: MB 160-498553/18-A

Matrix: Water

Analysis Batch: 499145

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 498553

		MB	MB			
Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	96.1		40 - 110	02/11/21 12:46	02/18/21 08:06	1
Y Carrier	81.9		40 - 110	02/11/21 12:46	02/18/21 08:06	1

Lab Sample ID: LCS 160-498553/1-A

Matrix: Water

Analysis Batch: 499145

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 498553

		Spike	LCS	LCS	Total				%Rec.		
Analyte		Added	Result	Qual	Uncert.	RL	MDC	Unit	%Rec	Limits	
Radium-228		7.42	8.485		1.04	1.00	0.439	pCi/L	114	75 - 125	

		LCS	LCS		
Carrier	%Yield	Qualifier	Limits		
Ba Carrier	91.9		40 - 110		
Y Carrier	71.8		40 - 110		

Lab Sample ID: LCSD 160-498553/2-A

Matrix: Water

Analysis Batch: 499145

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 498553

		Spike	LCSD	LCSD	Total				%Rec.			RER
Analyte		Added	Result	Qual	Uncert.	RL	MDC	Unit	%Rec	Limits	RER	Limit
Radium-228		7.42	8.569		1.03	1.00	0.402	pCi/L	116	75 - 125	0.04	1

		LCSD	LCSD		
Carrier	%Yield	Qualifier	Limits		
Ba Carrier	93.4		40 - 110		
Y Carrier	77.4		40 - 110		

QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Metals

Prep Batch: 472513

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-145303-1	P6	Total Recoverable	Water	3005A	
280-145303-2	P7	Total Recoverable	Water	3005A	
280-145303-3	P18B	Total Recoverable	Water	3005A	
280-145303-4	PNMW-1B	Total Recoverable	Water	3005A	
280-145303-5	PNMW-2B	Total Recoverable	Water	3005A	
280-145303-6	PNMW-6B	Total Recoverable	Water	3005A	
280-145303-7	PNMW-16	Total Recoverable	Water	3005A	
280-145303-8	P6EB	Total Recoverable	Water	3005A	
280-145303-9	P7DUP	Total Recoverable	Water	3005A	
280-145303-10	PNMW-14	Total Recoverable	Water	3005A	
280-145303-11	PNMW-15	Total Recoverable	Water	3005A	
MB 240-472513/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-472513/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-472513/3-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-145303-1 MS	P6	Total Recoverable	Water	3005A	
280-145303-1 MSD	P6	Total Recoverable	Water	3005A	

Prep Batch: 472515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-145303-1	P6	Total/NA	Water	7470A	
280-145303-2	P7	Total/NA	Water	7470A	
280-145303-3	P18B	Total/NA	Water	7470A	
280-145303-4	PNMW-1B	Total/NA	Water	7470A	
280-145303-5	PNMW-2B	Total/NA	Water	7470A	
280-145303-6	PNMW-6B	Total/NA	Water	7470A	
280-145303-7	PNMW-16	Total/NA	Water	7470A	
280-145303-8	P6EB	Total/NA	Water	7470A	
280-145303-9	P7DUP	Total/NA	Water	7470A	
280-145303-10	PNMW-14	Total/NA	Water	7470A	
280-145303-11	PNMW-15	Total/NA	Water	7470A	
MB 240-472515/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-472515/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 472776

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-145303-1	P6	Total Recoverable	Water	6020A	472513
280-145303-2	P7	Total Recoverable	Water	6020A	472513
280-145303-3	P18B	Total Recoverable	Water	6020A	472513
280-145303-4	PNMW-1B	Total Recoverable	Water	6020A	472513
280-145303-5	PNMW-2B	Total Recoverable	Water	6020A	472513
280-145303-6	PNMW-6B	Total Recoverable	Water	6020A	472513
280-145303-7	PNMW-16	Total Recoverable	Water	6020A	472513
280-145303-8	P6EB	Total Recoverable	Water	6020A	472513
280-145303-9	P7DUP	Total Recoverable	Water	6020A	472513
280-145303-10	PNMW-14	Total Recoverable	Water	6020A	472513
280-145303-11	PNMW-15	Total Recoverable	Water	6020A	472513
MB 240-472513/1-A	Method Blank	Total Recoverable	Water	6020A	472513
LCS 240-472513/3-A	Lab Control Sample	Total Recoverable	Water	6020A	472513
280-145303-1 MS	P6	Total Recoverable	Water	6020A	472513
280-145303-1 MSD	P6	Total Recoverable	Water	6020A	472513

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QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Metals

Analysis Batch: 472853

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-145303-1	P6	Total/NA	Water	7470A	472515
280-145303-2	P7	Total/NA	Water	7470A	472515
280-145303-3	P18B	Total/NA	Water	7470A	472515
280-145303-4	PNMW-1B	Total/NA	Water	7470A	472515
280-145303-5	PNMW-2B	Total/NA	Water	7470A	472515
280-145303-6	PNMW-6B	Total/NA	Water	7470A	472515
280-145303-7	PNMW-16	Total/NA	Water	7470A	472515
280-145303-8	P6EB	Total/NA	Water	7470A	472515
280-145303-9	P7DUP	Total/NA	Water	7470A	472515
280-145303-10	PNMW-14	Total/NA	Water	7470A	472515
280-145303-11	PNMW-15	Total/NA	Water	7470A	472515
MB 240-472515/1-A	Method Blank	Total/NA	Water	7470A	472515
LCS 240-472515/2-A	Lab Control Sample	Total/NA	Water	7470A	472515

Analysis Batch: 473033

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-145303-1	P6	Total Recoverable	Water	6010C	472513
280-145303-2	P7	Total Recoverable	Water	6010C	472513
280-145303-3	P18B	Total Recoverable	Water	6010C	472513
280-145303-4	PNMW-1B	Total Recoverable	Water	6010C	472513
280-145303-5	PNMW-2B	Total Recoverable	Water	6010C	472513
280-145303-6	PNMW-6B	Total Recoverable	Water	6010C	472513
280-145303-7	PNMW-16	Total Recoverable	Water	6010C	472513
280-145303-8	P6EB	Total Recoverable	Water	6010C	472513
280-145303-9	P7DUP	Total Recoverable	Water	6010C	472513
280-145303-10	PNMW-14	Total Recoverable	Water	6010C	472513
280-145303-11	PNMW-15	Total Recoverable	Water	6010C	472513
MB 240-472513/1-A	Method Blank	Total Recoverable	Water	6010C	472513
LCS 240-472513/2-A	Lab Control Sample	Total Recoverable	Water	6010C	472513

General Chemistry

Analysis Batch: 525628

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-145303-1	P6	Total/NA	Water	SM 2540D	
280-145303-2	P7	Total/NA	Water	SM 2540D	
280-145303-3	P18B	Total/NA	Water	SM 2540D	
280-145303-4	PNMW-1B	Total/NA	Water	SM 2540D	
280-145303-5	PNMW-2B	Total/NA	Water	SM 2540D	
280-145303-6	PNMW-6B	Total/NA	Water	SM 2540D	
280-145303-7	PNMW-16	Total/NA	Water	SM 2540D	
280-145303-8	P6EB	Total/NA	Water	SM 2540D	
280-145303-9	P7DUP	Total/NA	Water	SM 2540D	
280-145303-10	PNMW-14	Total/NA	Water	SM 2540D	
280-145303-11	PNMW-15	Total/NA	Water	SM 2540D	
MB 280-525628/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-525628/2	Lab Control Sample	Total/NA	Water	SM 2540D	
280-145303-11 DU	PNMW-15	Total/NA	Water	SM 2540D	

QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

General Chemistry

Analysis Batch: 525633

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-145303-1	P6	Total/NA	Water	SM 2540C	
280-145303-2	P7	Total/NA	Water	SM 2540C	
280-145303-3	P18B	Total/NA	Water	SM 2540C	
280-145303-4	PNMW-1B	Total/NA	Water	SM 2540C	
280-145303-5	PNMW-2B	Total/NA	Water	SM 2540C	
280-145303-6	PNMW-6B	Total/NA	Water	SM 2540C	
280-145303-7	PNMW-16	Total/NA	Water	SM 2540C	
280-145303-8	P6EB	Total/NA	Water	SM 2540C	
280-145303-9	P7DUP	Total/NA	Water	SM 2540C	
280-145303-10	PNMW-14	Total/NA	Water	SM 2540C	
280-145303-11	PNMW-15	Total/NA	Water	SM 2540C	
MB 280-525633/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-525633/2	Lab Control Sample	Total/NA	Water	SM 2540C	
280-145303-11 DU	PNMW-15	Total/NA	Water	SM 2540C	

Analysis Batch: 525757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-145303-1	P6	Total/NA	Water	9040B	
280-145303-2	P7	Total/NA	Water	9040B	
280-145303-3	P18B	Total/NA	Water	9040B	
280-145303-4	PNMW-1B	Total/NA	Water	9040B	
280-145303-5	PNMW-2B	Total/NA	Water	9040B	
280-145303-6	PNMW-6B	Total/NA	Water	9040B	
280-145303-7	PNMW-16	Total/NA	Water	9040B	
280-145303-9	P7DUP	Total/NA	Water	9040B	
280-145303-10	PNMW-14	Total/NA	Water	9040B	
280-145303-11	PNMW-15	Total/NA	Water	9040B	
LCS 280-525757/30	Lab Control Sample	Total/NA	Water	9040B	
LCS 280-525757/4	Lab Control Sample	Total/NA	Water	9040B	
280-145303-4 DU	PNMW-1B	Total/NA	Water	9040B	

Analysis Batch: 525939

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-145303-8	P6EB	Total/NA	Water	9040B	
LCS 280-525939/4	Lab Control Sample	Total/NA	Water	9040B	

Analysis Batch: 526862

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-145303-1	P6	Total/NA	Water	9056A	
280-145303-1	P6	Total/NA	Water	9056A	
280-145303-2	P7	Total/NA	Water	9056A	
280-145303-2	P7	Total/NA	Water	9056A	
280-145303-3	P18B	Total/NA	Water	9056A	
280-145303-4	PNMW-1B	Total/NA	Water	9056A	
280-145303-4	PNMW-1B	Total/NA	Water	9056A	
280-145303-5	PNMW-2B	Total/NA	Water	9056A	
280-145303-6	PNMW-6B	Total/NA	Water	9056A	
280-145303-7	PNMW-16	Total/NA	Water	9056A	
280-145303-7	PNMW-16	Total/NA	Water	9056A	
280-145303-8	P6EB	Total/NA	Water	9056A	
280-145303-9	P7DUP	Total/NA	Water	9056A	

Eurofins TestAmerica, Denver

QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

General Chemistry (Continued)

Analysis Batch: 526862 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-145303-9	P7DUP	Total/NA	Water	9056A	
280-145303-10	PNMW-14	Total/NA	Water	9056A	
280-145303-11	PNMW-15	Total/NA	Water	9056A	
280-145303-11	PNMW-15	Total/NA	Water	9056A	
MB 280-526862/6	Method Blank	Total/NA	Water	9056A	
LCS 280-526862/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-526862/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-526862/3	Lab Control Sample	Total/NA	Water	9056A	

Analysis Batch: 526898

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-145303-2	P7	Total/NA	Water	9056A	
280-145303-6	PNMW-6B	Total/NA	Water	9056A	
280-145303-9	P7DUP	Total/NA	Water	9056A	
MB 280-526898/6	Method Blank	Total/NA	Water	9056A	
LCS 280-526898/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-526898/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-526898/3	Lab Control Sample	Total/NA	Water	9056A	

Rad

Prep Batch: 498381

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-145303-8	P6EB	Total/NA	Water	PrecSep-21	
280-145303-9	P7DUP	Total/NA	Water	PrecSep-21	
280-145303-10	PNMW-14	Total/NA	Water	PrecSep-21	
280-145303-11	PNMW-15	Total/NA	Water	PrecSep-21	
MB 160-498381/16-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-498381/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-498381/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 498385

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-145303-8	P6EB	Total/NA	Water	PrecSep_0	
280-145303-9	P7DUP	Total/NA	Water	PrecSep_0	
280-145303-10	PNMW-14	Total/NA	Water	PrecSep_0	
280-145303-11	PNMW-15	Total/NA	Water	PrecSep_0	
MB 160-498385/18-B	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-498385/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-498385/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 498544

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-145303-1	P6	Total/NA	Water	PrecSep-21	
280-145303-2	P7	Total/NA	Water	PrecSep-21	
280-145303-3	P18B	Total/NA	Water	PrecSep-21	
280-145303-4	PNMW-1B	Total/NA	Water	PrecSep-21	
280-145303-5	PNMW-2B	Total/NA	Water	PrecSep-21	
280-145303-6	PNMW-6B	Total/NA	Water	PrecSep-21	
280-145303-7	PNMW-16	Total/NA	Water	PrecSep-21	
MB 160-498544/18-A	Method Blank	Total/NA	Water	PrecSep-21	

Eurofins TestAmerica, Denver

QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Rad (Continued)

Prep Batch: 498544 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 160-498544/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-498544/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 498553

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-145303-1	P6	Total/NA	Water	PrecSep_0	
280-145303-2	P7	Total/NA	Water	PrecSep_0	
280-145303-3	P18B	Total/NA	Water	PrecSep_0	
280-145303-4	PNMW-1B	Total/NA	Water	PrecSep_0	
280-145303-5	PNMW-2B	Total/NA	Water	PrecSep_0	
280-145303-6	PNMW-6B	Total/NA	Water	PrecSep_0	
280-145303-7	PNMW-16	Total/NA	Water	PrecSep_0	
MB 160-498553/18-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-498553/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-498553/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Client Sample ID: P6

Lab Sample ID: 280-145303-1

Date Collected: 02/05/21 12:15

Matrix: Water

Date Received: 02/05/21 15:28

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	472513	02/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			473033	02/12/21 11:05	WKD	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	472513	02/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			472776	02/11/21 13:28	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	472515	02/10/21 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			472853	02/11/21 13:00	SLD	TAL CAN
Total/NA	Analysis	9040B		1			525757	02/08/21 13:36	QJB	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	526862	02/20/21 20:00	CJ	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	526862	02/20/21 20:17	CJ	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	525633	02/06/21 12:00	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	525628	02/06/21 10:28	JMH	TAL DEN
Total/NA	Prep	PrecSep-21			1000.72 mL	1.0 g	498544	02/11/21 11:55	KMP	TAL SL
Total/NA	Analysis	9315		1			500900	03/05/21 07:20	TMS	TAL SL
Total/NA	Prep	PrecSep_0			1000.72 mL	1.0 g	498553	02/11/21 12:46	KMP	TAL SL
Total/NA	Analysis	9320		1			499145	02/18/21 08:02	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			501173	03/08/21 21:32	CMM	TAL SL

Client Sample ID: P7

Lab Sample ID: 280-145303-2

Date Collected: 02/02/21 17:57

Matrix: Water

Date Received: 02/05/21 15:28

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	472513	02/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			473033	02/12/21 11:09	WKD	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	472513	02/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			472776	02/11/21 13:40	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	472515	02/10/21 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			472853	02/11/21 13:04	SLD	TAL CAN
Total/NA	Analysis	9040B		1			525757	02/08/21 13:40	QJB	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	526862	02/20/21 20:33	CJ	TAL DEN
Total/NA	Analysis	9056A		10	5 mL	5 mL	526862	02/20/21 20:50	CJ	TAL DEN
Total/NA	Analysis	9056A		20	5 mL	5 mL	526898	02/21/21 22:55	CJ	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	525633	02/06/21 12:00	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	525628	02/06/21 10:28	JMH	TAL DEN
Total/NA	Prep	PrecSep-21			999.30 mL	1.0 g	498544	02/11/21 11:55	KMP	TAL SL
Total/NA	Analysis	9315		1			500900	03/05/21 07:20	TMS	TAL SL
Total/NA	Prep	PrecSep_0			999.30 mL	1.0 g	498553	02/11/21 12:46	KMP	TAL SL
Total/NA	Analysis	9320		1			499145	02/18/21 08:03	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			501173	03/08/21 21:32	CMM	TAL SL

Eurofins TestAmerica, Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Client Sample ID: P18B

Date Collected: 02/02/21 16:15

Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	472513	02/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			473033	02/12/21 11:23	WKD	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	472513	02/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			472776	02/11/21 13:42	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	472515	02/10/21 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			472853	02/11/21 13:06	SLD	TAL CAN
Total/NA	Analysis	9040B		1			525757	02/08/21 13:43	QJB	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	526862	02/20/21 21:39	CJ	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	525633	02/06/21 12:00	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	525628	02/06/21 10:28	JMH	TAL DEN
Total/NA	Prep	PrecSep-21			1000.05 mL	1.0 g	498544	02/11/21 11:55	KMP	TAL SL
Total/NA	Analysis	9315		1			500900	03/05/21 07:21	TMS	TAL SL
Total/NA	Prep	PrecSep_0			1000.05 mL	1.0 g	498553	02/11/21 12:46	KMP	TAL SL
Total/NA	Analysis	9320		1			499145	02/18/21 08:03	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			501173	03/08/21 21:32	CMM	TAL SL

Client Sample ID: PNMW-1B

Date Collected: 02/01/21 17:45

Date Received: 02/05/21 15:28

Lab Sample ID: 280-145303-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	472513	02/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			473033	02/12/21 11:27	WKD	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	472513	02/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			472776	02/11/21 13:45	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	472515	02/10/21 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			472853	02/11/21 13:08	SLD	TAL CAN
Total/NA	Analysis	9040B		1			525757	02/08/21 14:10	QJB	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	526862	02/20/21 21:55	CJ	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	526862	02/20/21 22:12	CJ	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	525633	02/06/21 12:00	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	525628	02/06/21 10:28	JMH	TAL DEN
Total/NA	Prep	PrecSep-21			1000.28 mL	1.0 g	498544	02/11/21 11:55	KMP	TAL SL
Total/NA	Analysis	9315		1			500904	03/05/21 07:22	SCB	TAL SL
Total/NA	Prep	PrecSep_0			1000.28 mL	1.0 g	498553	02/11/21 12:46	KMP	TAL SL
Total/NA	Analysis	9320		1			499145	02/18/21 08:06	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			501173	03/08/21 21:32	CMM	TAL SL

Eurofins TestAmerica, Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Client Sample ID: PNMW-2B

Lab Sample ID: 280-145303-5

Date Collected: 02/01/21 16:30

Matrix: Water

Date Received: 02/05/21 15:28

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	472513	02/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			473033	02/12/21 11:32	WKD	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	472513	02/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			472776	02/11/21 13:52	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	472515	02/10/21 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			472853	02/11/21 13:10	SLD	TAL CAN
Total/NA	Analysis	9040B		1			525757	02/08/21 14:21	QJB	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	526862	02/20/21 22:28	CJ	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	525633	02/06/21 12:00	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	525628	02/06/21 10:28	JMH	TAL DEN
Total/NA	Prep	PrecSep-21			999.81 mL	1.0 g	498544	02/11/21 11:55	KMP	TAL SL
Total/NA	Analysis	9315		1			500904	03/05/21 07:22	SCB	TAL SL
Total/NA	Prep	PrecSep_0			999.81 mL	1.0 g	498553	02/11/21 12:46	KMP	TAL SL
Total/NA	Analysis	9320		1			499145	02/18/21 08:04	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			501173	03/08/21 21:32	CMM	TAL SL

Client Sample ID: PNMW-6B

Lab Sample ID: 280-145303-6

Date Collected: 02/04/21 17:20

Matrix: Water

Date Received: 02/05/21 15:28

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	472513	02/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			473033	02/12/21 11:36	WKD	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	472513	02/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			472776	02/11/21 13:55	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	472515	02/10/21 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			472853	02/11/21 13:12	SLD	TAL CAN
Total/NA	Analysis	9040B		1			525757	02/08/21 14:24	QJB	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	526862	02/20/21 22:45	CJ	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	526898	02/21/21 23:11	CJ	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	525633	02/06/21 12:00	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	525628	02/06/21 10:28	JMH	TAL DEN
Total/NA	Prep	PrecSep-21			750.52 mL	1.0 g	498544	02/11/21 11:55	KMP	TAL SL
Total/NA	Analysis	9315		1			500904	03/05/21 07:23	SCB	TAL SL
Total/NA	Prep	PrecSep_0			750.52 mL	1.0 g	498553	02/11/21 12:46	KMP	TAL SL
Total/NA	Analysis	9320		1			499145	02/18/21 08:04	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			501173	03/08/21 21:32	CMM	TAL SL

Eurofins TestAmerica, Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Client Sample ID: PNMW-16

Lab Sample ID: 280-145303-7

Date Collected: 02/04/21 13:50

Matrix: Water

Date Received: 02/05/21 15:28

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	472513	02/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			473033	02/12/21 11:40	WKD	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	472513	02/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			472776	02/11/21 13:57	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	472515	02/10/21 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			472853	02/11/21 13:14	SLD	TAL CAN
Total/NA	Analysis	9040B		1			525757	02/08/21 14:28	QJB	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	526862	02/20/21 23:01	CJ	TAL DEN
Total/NA	Analysis	9056A		10	5 mL	5 mL	526862	02/20/21 23:18	CJ	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	525633	02/06/21 12:00	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	525628	02/06/21 10:28	JMH	TAL DEN
Total/NA	Prep	PrecSep-21			750.02 mL	1.0 g	498544	02/11/21 11:55	KMP	TAL SL
Total/NA	Analysis	9315		1			500904	03/05/21 07:23	SCB	TAL SL
Total/NA	Prep	PrecSep_0			750.02 mL	1.0 g	498553	02/11/21 12:46	KMP	TAL SL
Total/NA	Analysis	9320		1			499145	02/18/21 08:04	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			501173	03/08/21 21:32	CMM	TAL SL

Client Sample ID: P6EB

Lab Sample ID: 280-145303-8

Date Collected: 02/05/21 11:20

Matrix: Water

Date Received: 02/05/21 15:28

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	472513	02/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			473033	02/12/21 11:45	WKD	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	472513	02/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			472776	02/11/21 14:00	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	472515	02/10/21 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			472853	02/11/21 13:16	SLD	TAL CAN
Total/NA	Analysis	9040B		1			525939	02/09/21 16:38	QJB	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	526862	02/20/21 23:34	CJ	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	525633	02/06/21 12:00	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	525628	02/06/21 10:28	JMH	TAL DEN
Total/NA	Prep	PrecSep-21			999.35 mL	1.0 g	498381	02/10/21 14:07	KMP	TAL SL
Total/NA	Analysis	9315		1			500812	03/04/21 17:01	CMM	TAL SL
Total/NA	Prep	PrecSep_0			999.35 mL	1.0 g	498385	02/10/21 15:00	KMP	TAL SL
Total/NA	Analysis	9320		1			499583	02/23/21 08:31	AK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			501173	03/08/21 21:32	CMM	TAL SL

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Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Client Sample ID: P7DUP

Lab Sample ID: 280-145303-9

Date Collected: 02/02/21 17:57

Matrix: Water

Date Received: 02/05/21 15:28

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	472513	02/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			473033	02/12/21 11:57	WKD	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	472513	02/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			472776	02/11/21 14:02	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	472515	02/10/21 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			472853	02/11/21 13:23	SLD	TAL CAN
Total/NA	Analysis	9040B		1			525757	02/08/21 14:40	QJB	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	526862	02/20/21 23:50	CJ	TAL DEN
Total/NA	Analysis	9056A		10	5 mL	5 mL	526862	02/21/21 00:07	CJ	TAL DEN
Total/NA	Analysis	9056A		20	5 mL	5 mL	526898	02/21/21 23:28	CJ	TAL DEN
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	525633	02/06/21 12:00	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	525628	02/06/21 10:28	JMH	TAL DEN
Total/NA	Prep	PrecSep-21			999.20 mL	1.0 g	498381	02/10/21 14:07	KMP	TAL SL
Total/NA	Analysis	9315		1			500812	03/04/21 17:01	CMM	TAL SL
Total/NA	Prep	PrecSep_0			999.20 mL	1.0 g	498385	02/10/21 15:00	KMP	TAL SL
Total/NA	Analysis	9320		1			499583	02/23/21 08:31	AK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			501173	03/08/21 21:32	CMM	TAL SL

Client Sample ID: PNMW-14

Lab Sample ID: 280-145303-10

Date Collected: 02/01/21 14:25

Matrix: Water

Date Received: 02/05/21 15:28

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	472513	02/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			473033	02/12/21 12:02	WKD	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	472513	02/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			472776	02/11/21 14:05	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	472515	02/10/21 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			472853	02/11/21 13:25	SLD	TAL CAN
Total/NA	Analysis	9040B		1			525757	02/08/21 14:44	QJB	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	526862	02/21/21 00:56	CJ	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	525633	02/06/21 12:00	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	525628	02/06/21 10:28	JMH	TAL DEN
Total/NA	Prep	PrecSep-21			750.10 mL	1.0 g	498381	02/10/21 14:07	KMP	TAL SL
Total/NA	Analysis	9315		1			500812	03/04/21 17:01	CMM	TAL SL
Total/NA	Prep	PrecSep_0			750.10 mL	1.0 g	498385	02/10/21 15:00	KMP	TAL SL
Total/NA	Analysis	9320		1			499583	02/23/21 08:31	AK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			501173	03/08/21 21:32	CMM	TAL SL

Eurofins TestAmerica, Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Client Sample ID: PNMW-15

Lab Sample ID: 280-145303-11

Date Collected: 02/02/21 13:35

Matrix: Water

Date Received: 02/05/21 15:28

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	472513	02/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			473033	02/12/21 12:06	WKD	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	472513	02/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			472776	02/11/21 14:07	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	472515	02/10/21 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			472853	02/11/21 13:27	SLD	TAL CAN
Total/NA	Analysis	9040B		1			525757	02/08/21 14:47	QJB	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	526862	02/21/21 01:12	CJ	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	526862	02/21/21 01:29	CJ	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	525633	02/06/21 12:00	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	525628	02/06/21 10:28	JMH	TAL DEN
Total/NA	Prep	PrecSep-21			749.45 mL	1.0 g	498381	02/10/21 14:07	KMP	TAL SL
Total/NA	Analysis	9315		1			500812	03/04/21 17:02	CMM	TAL SL
Total/NA	Prep	PrecSep_0			749.45 mL	1.0 g	498385	02/10/21 15:00	KMP	TAL SL
Total/NA	Analysis	9320		1			499583	02/23/21 08:31	AK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			501173	03/08/21 21:32	CMM	TAL SL

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Laboratory: Eurofins TestAmerica, Denver

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-21
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
9040B		Water	Temperature

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-21
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-21
Georgia	State	4062	02-23-21
Illinois	NELAP	004498	07-31-21
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-21
Kentucky (UST)	State	112225	02-23-21
Kentucky (WW)	State	KY98016	12-31-21
Minnesota	NELAP	OH00048	12-31-21
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-21
New York	NELAP	10975	03-31-21
Ohio VAP	State	CL0024	12-21-23
Oregon	NELAP	4062	02-24-21
Pennsylvania	NELAP	68-00340	08-31-21
Texas	NELAP	T104704517-18-10	08-31-21
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-21
Washington	State	C971	01-12-22
West Virginia DEP	State	210	12-31-21

Accreditation/Certification Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Laboratory: Eurofins TestAmerica, St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-21
California	Los Angeles County Sanitation Districts	10259	06-30-21
California	State	2886	06-30-21
Connecticut	State	PH-0241	03-31-21
Florida	NELAP	E87689	06-30-21
HI - RadChem Recognition	State	n/a	06-30-21
Illinois	NELAP	004553	11-30-21
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-21
Kentucky (DW)	State	KY90125	01-01-22
Louisiana	NELAP	04080	06-30-21
Louisiana (DW)	State	LA011	12-31-21
Maryland	State	310	09-30-21
MI - RadChem Recognition	State	9005	06-30-21
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-21
New Jersey	NELAP	MO002	06-30-21
New York	NELAP	11616	04-01-21
North Dakota	State	R-207	06-30-21
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-21
Oregon	NELAP	4157	09-01-21
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-21
Texas	NELAP	T104704193-19-13	07-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542019-11	07-31-21
Virginia	NELAP	10310	06-14-21
Washington	State	C592	08-30-21
West Virginia DEP	State	381	10-31-21

Client Information		Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:									
Client Contact: Molly Reeves		Phone:	Harrington, Danielle M		280-103358-30221.1									
Company: HDR Inc		E-Mail:	Danielle.Harrington@Eurofinset.com		Page 1 of 1									
Address: 9781 S. Meridian Blvd Suite 400 City: Englewood State, Zip: CO, 80112 Phone: 734-263-7138(Tel) Email: Molly.Reeves@hdrinc.com Project Name: Xcel Energy GW CCR Monitoring - Pawnee Site: AWRP / BASP														
Due Date Requested:														
TAT Requested (days):														
PO #: DEN-019														
WO #:														
Project #: 28014378														
SSOW#:														
Sample Identification		Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Water, Solid, Overhead, BT-Tissue, Ashes)	Field Filtered Sample (Yes or No)	Analysis Requested				Total Number of Containers	Special Instructions/Note:		
P6		2-5-21	1215	G	W	X	D	N	D					
P7		2-2-21	1757	G	W	X	D	N	D					
P18B		2-2-21	1615	G	W	X	D	N	D					
PNNW1B		2-1-21	1745	G	W	X	D	N	D					
PNNW2B		2-1-21	1630	G	W	X	D	N	D					
PNNW6B		2-4-21	1720	G	W	X	D	N	D					
PNNW1b		2-4-21	1350	G	W	X	D	N	D					
PNNW B P6EB		2-5-21	1120	G	W	X	D	N	D					
PNNW B P7DUP		2-2-21	1757	G	W	X	D	N	D					
PNNW14		2-1-21	1425	G	W	X	D	N	D					
PNNW15		2-2-21	1335	G	W	X	D	N	D					
Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological														
Deliverable Requested: I, II, III, IV, Other (specify)														
Empty Kit Relinquished by:														
Relinquished by: Painsburger Date/Time: 2/5/21 1528 Company: HDR														
Relinquished by: Date/Time: Company:														
Relinquished by: Date/Time: Company:														
Custody Seals Intact: Δ Yes Δ No														
Custody Seal No.: 1000/05/2001														

Phone: 303-736-0100 Fax: 303-431-7171

Chain of Custody Record

 eurofins

Environment Testing
America

Client Information (Sub Contract Lab)				Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:							
Client Contact:				Phone:	Harrington, Danielle M		280-556578.1							
Shipping/Receiving					E-Mail:	State of Origin:	Page:							
Company:					Danielle.Harrington@Eurofinset.com	Colorado	Page 1 of 2							
Address:				Accreditations Required (See note):										
13715 Rider Trail North,				DoD - A2LA										
City:				Due Date Requested:										
Earth City				3/8/2021										
State, Zip:				TAT Requested (days):										
MO, 63045														
Phone:				PO #:										
314-298-8566(Tel) 314-298-8757(Fax)														
Email:				WO #:										
Project Name:				Project #:										
Xcel Energy GW CCR Monitoring - Pawnee				28014378										
Site:				SSOW#:										
Xcel Energy - Pawnee														
Sample Identification - Client ID (Lab ID)				Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=ore tail, BT=Tissue, A=air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226/PrecSep_21 Radium-226 (1/3)	9320_Ra228/PrecSep_0 Radium-228 (2/3)	Ra226Ra228_GFP/ Ra-226/Ra-228 (3/3)	Total Number of containers	Special Instructions/Note:
P6 (280-145303-1)	2/5/21	12:15	Mountain	Water						X	X	X	2	
P7 (280-145303-2)	2/2/21	17:57	Mountain	Water						X	X	X	2	
P18B (280-145303-3)	2/2/21	16:15	Mountain	Water						X	X	X	2	
PNMW1B (280-145303-4)	2/1/21	17:45	Mountain	Water						X	X	X	2	
PNMW2B (280-145303-5)	2/1/21	16:30	Mountain	Water						X	X	X	2	
PNMW6B (280-145303-6)	2/4/21	17:20	Mountain	Water						X	X	X	2	
PNMW16 (280-145303-7)	2/4/21	13:50	Mountain	Water						X	X	X	2	
P6EB (280-145303-8)	2/5/21	11:20	Mountain	Water						X	X	X	2	
P7DUP (280-145303-9)	2/2/21	17:57	Mountain	Water						X	X	X	2	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica

Possible Hazard Identification

Unconfirmed

Deliverable Requested: I, II, III, IV, Other (specify) _____ Primary Deliverable Rank: 4

Empty Kit Relinquished by: _____ Date: _____

Relinquished by: _____ Date/Time: 2/8/21 1245

Relinquished by: **FED EX** Date/Time: _____

Relinquished by: _____ Date/Time: _____

Custody Seal No.: _____

Δ Yes Δ No

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements:

Method of Shipment: _____ Date: _____

Received by: _____ Date/Time: _____

Received by: **FED EX** Date/Time: 2/10/21 0945

Received by: _____ Date/Time: _____

Cooler Temperature(s) °C and Other Remarks: _____

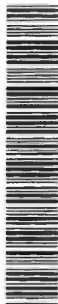
Chain of Custody Record



Client Information (Sub Contract Lab)		Sampler: Lab PM: Harrington, Danielle M		Carrier Tracking No(s):		COC No: 280-556578.2	
Shipping/Receiving		Phone:		State of Origin: Colorado		Page: Page 2 of 2	
Company: TestAmerica Laboratories, Inc.		E-Mail: Danielle.Harrington@Eurofinset.com		Accreditations Required (See note): DoD - A2LA		Job #: 280-145303-1	
Address: 13715 Rider Trail North, Earth City, MO, 63045		Due Date Requested: 3/8/2021		Analysis Requested		Preservation Codes:	
TAT Requested (days):		PO #:		9315_Ra226/PreSep_21 Radium-226 (1/3)		A - HCL	
WO #:		Project #:		9320_Ra226/PreSep_0 Radium-226 (2/3)		B - NaOH	
SSOW#:		Site: Xcel Energy - Pawnee		9315_Ra226/PreSep_21 Radium-226 (1/3)		C - Zn Acetate	
		Sample Date		Field Filtered Sample (Yes or No)		D - Nitric Acid	
		Sample Time		Perform MS/MSD (Yes or No)		E - NaHSO4	
		Sample Type (C=comp, G=grab)		Field Filtered Sample (Yes or No)		F - MeOH	
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)		Total Number of Containers		G - Amchlor	
		Preservation Code:				H - Ascorbic Acid	
		Sample Date				I - Ice	
		Sample Time				J - DI Water	
		Sample Type (C=comp, G=grab)				K - EDTA	
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)				L - EDA	
		Preservation Code:				M - Hexane	
		Sample Date				N - None	
		Sample Time				O - AsNaO2	
		Sample Type (C=comp, G=grab)				P - Na2O4S	
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)				Q - Na2SO3	
		Preservation Code:				R - Na2S2O3	
		Sample Date				S - H2SO4	
		Sample Time				T - TSP Dodecahydrate	
		Sample Type (C=comp, G=grab)				U - Acetone	
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)				V - MCAA	
		Preservation Code:				W - PH 4-5	
		Sample Date				Z - other (specify)	
		Sample Time				Other:	
		Sample Type (C=comp, G=grab)					
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)					
		Preservation Code:					
		Sample Date					
		Sample Time					
		Sample Type (C=comp, G=grab)					
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)					
		Preservation Code:					
		Sample Date					
		Sample Time					
		Sample Type (C=comp, G=grab)					
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)					
		Preservation Code:					
		Sample Date					
		Sample Time					
		Sample Type (C=comp, G=grab)					
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)					
		Preservation Code:					
		Sample Date					
		Sample Time					
		Sample Type (C=comp, G=grab)					
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)					
		Preservation Code:					
		Sample Date					
		Sample Time					
		Sample Type (C=comp, G=grab)					
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)					
		Preservation Code:					
		Sample Date					
		Sample Time					
		Sample Type (C=comp, G=grab)					
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)					
		Preservation Code:					
		Sample Date					
		Sample Time					
		Sample Type (C=comp, G=grab)					
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)					
		Preservation Code:					
		Sample Date					
		Sample Time					
		Sample Type (C=comp, G=grab)					
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)					
		Preservation Code:					
		Sample Date					
		Sample Time					
		Sample Type (C=comp, G=grab)					
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)					
		Preservation Code:					
		Sample Date					
		Sample Time					
		Sample Type (C=comp, G=grab)					
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)					
		Preservation Code:					
		Sample Date					
		Sample Time					
		Sample Type (C=comp, G=grab)					
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)					
		Preservation Code:					
		Sample Date					
		Sample Time					
		Sample Type (C=comp, G=grab)					
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)					
		Preservation Code:					
		Sample Date					
		Sample Time					
		Sample Type (C=comp, G=grab)					
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)					
		Preservation Code:					
		Sample Date					
		Sample Time					
		Sample Type (C=comp, G=grab)					
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)					
		Preservation Code:					
		Sample Date					
		Sample Time					
		Sample Type (C=comp, G=grab)					
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)					
		Preservation Code:					
		Sample Date					
		Sample Time					
		Sample Type (C=comp, G=grab)					
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)					
		Preservation Code:					
		Sample Date					
		Sample Time					
		Sample Type (C=comp, G=grab)					
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)					
		Preservation Code:					
		Sample Date					
		Sample Time					
		Sample Type (C=comp, G=grab)					
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)					
		Preservation Code:					
		Sample Date					
		Sample Time					
		Sample Type (C=comp, G=grab)					
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)					
		Preservation Code:					
		Sample Date					
		Sample Time					
		Sample Type (C=comp, G=grab)					
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)					
		Preservation Code:					
		Sample Date					
		Sample Time					
		Sample Type (C=comp, G=grab)					
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)					
		Preservation Code:					
		Sample Date					
		Sample Time					
		Sample Type (C=comp, G=grab)					
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)					
		Preservation Code:					
		Sample Date					
		Sample Time					
		Sample Type (C=comp, G=grab)					
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)					
		Preservation Code:					
		Sample Date					
		Sample Time					
		Sample Type (C=comp, G=grab)					
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)					
		Preservation Code:					
		Sample Date					
		Sample Time					
		Sample Type (C=comp, G=grab)					
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)					
		Preservation Code:					
		Sample Date					
		Sample Time					
		Sample Type (C=comp, G=grab)					
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)					
		Preservation Code:					
		Sample Date					
		Sample Time					
		Sample Type (C=comp, G=grab)					
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)					
		Preservation Code:					
		Sample Date					
		Sample Time					
		Sample Type (C=comp, G=grab)					
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)					
		Preservation Code:					
		Sample Date					
		Sample Time					
		Sample Type (C=comp, G=grab)					
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		Preservation Code:					
		Sample Date					
		Sample Time					
		Sample Type (C=comp, G=grab)					
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		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)					
		Preservation Code:					
		Sample Date					
		Sample Time					
		Sample Type (C=comp, G=grab)					
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)					
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		Sample Type (C=comp, G=grab)					
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)					
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		Preservation Code:					
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		Sample Time					
		Sample Type (C=comp, G=grab)					
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)					
		Preservation Code:					
		Sample Date					
		Sample Time					
		Sample Type (C=comp, G=grab)					
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)					
		Preservation Code:					
		Sample Date					
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		Sample Type (C=comp, G=grab)					
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)					
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		Sample Time					
		Sample Type (C=comp, G=grab)					
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		Preservation Code:					
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		Sample Type (C=comp, G=grab)					
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		Sample Date					
		Sample Time					
		Sample Type (C=comp, G=grab)					
		Matrix (W=water, S=solid, O=oil, BT=biological, AA=air)					
		Preservation Code:					
		Sample Date					
		Sample Time					
		Sample Type (C=comp					

5.5/5.0

Chain of Custody Record



Client Information (Sub Contract Lab)		Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:																																																				
Client Contact:		Harrington, Danielle M			280-556577.1																																																				
Shipping/Receiving		Phone:	E-Mail:	State of Origin:	Page:																																																				
Company:			Danielle.Harrington@Eurofinset.com	Colorado	Page 1 of 2																																																				
Address:		Accreditations Required (See note):																																																							
TesAmerica Laboratories, Inc.		DoD - A2LA																																																							
City:		Analysis Requested:																																																							
North Canton		<table border="1"> <tr> <th>Analysis Requested</th> <th>6020A/3005A (MOD) 13 Total Metals (w/collision cell)</th> <th>6010C/3005A Boron</th> <th>7470A/7470A Prep Mercury - 212</th> <th>Total Number of Containers</th> <th>Special Instructions/Note:</th> </tr> <tr> <td>P6 (280-145303-1)</td> <td>X</td> <td>X</td> <td>X</td> <td>1</td> <td rowspan="8">573</td> </tr> <tr> <td>P7 (280-145303-2)</td> <td>X</td> <td>X</td> <td>X</td> <td>1</td> </tr> <tr> <td>P18B (280-145303-3)</td> <td>X</td> <td>X</td> <td>X</td> <td>1</td> </tr> <tr> <td>PNMW1B (280-145303-4)</td> <td>X</td> <td>X</td> <td>X</td> <td>1</td> </tr> <tr> <td>PNMW2B (280-145303-5)</td> <td>X</td> <td>X</td> <td>X</td> <td>1</td> </tr> <tr> <td>PNMW6B (280-145303-6)</td> <td>X</td> <td>X</td> <td>X</td> <td>1</td> </tr> <tr> <td>PNMW16 (280-145303-7)</td> <td>X</td> <td>X</td> <td>X</td> <td>1</td> </tr> <tr> <td>P6EB (280-145303-8)</td> <td>X</td> <td>X</td> <td>X</td> <td>1</td> </tr> <tr> <td>P7DUP (280-145303-9)</td> <td>X</td> <td>X</td> <td>X</td> <td>1</td> </tr> </table>				Analysis Requested	6020A/3005A (MOD) 13 Total Metals (w/collision cell)	6010C/3005A Boron	7470A/7470A Prep Mercury - 212	Total Number of Containers	Special Instructions/Note:	P6 (280-145303-1)	X	X	X	1	573	P7 (280-145303-2)	X	X	X	1	P18B (280-145303-3)	X	X	X	1	PNMW1B (280-145303-4)	X	X	X	1	PNMW2B (280-145303-5)	X	X	X	1	PNMW6B (280-145303-6)	X	X	X	1	PNMW16 (280-145303-7)	X	X	X	1	P6EB (280-145303-8)	X	X	X	1	P7DUP (280-145303-9)	X	X	X	1
Analysis Requested	6020A/3005A (MOD) 13 Total Metals (w/collision cell)	6010C/3005A Boron	7470A/7470A Prep Mercury - 212	Total Number of Containers	Special Instructions/Note:																																																				
P6 (280-145303-1)	X	X	X	1	573																																																				
P7 (280-145303-2)	X	X	X	1																																																					
P18B (280-145303-3)	X	X	X	1																																																					
PNMW1B (280-145303-4)	X	X	X	1																																																					
PNMW2B (280-145303-5)	X	X	X	1																																																					
PNMW6B (280-145303-6)	X	X	X	1																																																					
PNMW16 (280-145303-7)	X	X	X	1																																																					
P6EB (280-145303-8)	X	X	X	1																																																					
P7DUP (280-145303-9)	X	X	X	1																																																					
State, Zip:		Preservation Codes:																																																							
OH, 44720		A - HCL M - Hexane B - NaOH N - None O - AsNaO2 P - Na2O4S D - Nitric Acid E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Z - other (specify) Other:																																																							
Project Name:		Field Filtered Sample (Yes or No)																																																							
Xcel Energy GW CCR Monitoring - Pawnee		X																																																							
Site:		Field Filtered Sample (Yes or No)																																																							
Xcel Energy - Pawnee		X																																																							
Due Date Requested:		Field Filtered Sample (Yes or No)																																																							
3/8/2021		X																																																							
TAT Requested (days):		Field Filtered Sample (Yes or No)																																																							
		X																																																							
PO #:		Field Filtered Sample (Yes or No)																																																							
		X																																																							
WO #:		Field Filtered Sample (Yes or No)																																																							
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Project #:		Field Filtered Sample (Yes or No)																																																							
28014378		X																																																							
SSOW#:		Field Filtered Sample (Yes or No)																																																							
		X																																																							
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Water, Soil, Sediment, Other)																																																				
P6 (280-145303-1)	2/5/21	12:15	Mountain	Water	Water																																																				
P7 (280-145303-2)	2/2/21	17:57	Mountain	Water	Water																																																				
P18B (280-145303-3)	2/2/21	16:15	Mountain	Water	Water																																																				
PNMW1B (280-145303-4)	2/1/21	17:45	Mountain	Water	Water																																																				
PNMW2B (280-145303-5)	2/1/21	16:30	Mountain	Water	Water																																																				
PNMW6B (280-145303-6)	2/4/21	17:20	Mountain	Water	Water																																																				
PNMW16 (280-145303-7)	2/4/21	13:50	Mountain	Water	Water																																																				
P6EB (280-145303-8)	2/5/21	11:20	Mountain	Water	Water																																																				
P7DUP (280-145303-9)	2/2/21	17:57	Mountain	Water	Water																																																				

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica.

Possible Hazard Identification

Unconfirmed

Deliverable Requested: I, II, III, IV, Other (specify)

Primary Deliverable Rank: 4

Empty Kit Relinquished by: _____ Date: _____

Relinquished by: _____ Date: _____

Relinquished by: _____ Date: _____

Relinquished by: _____ Date: _____

Custody Seals Intact: _____ Custody Seal No.: _____

Delta Yes Delta No

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements:

Method of Shipment: _____

Received by: _____ Date: _____

Received by: _____ Date: _____

Received by: _____ Date: _____

Cooler Temperature(s) °C and Other Remarks:

Eurofins TestAmerica Canton Sample Receipt Form/Narrative Login # : _____
Canton Facility

Client ETA Denver Site Name _____ Cooler unpacked by: MJS ETA CANTON

Cooler Received on FEB 09 2021 Opened on FEB 09 2021

FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # 111 Foam Box Client Cooler Box Other _____
Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
COOLANT: Wet Ice Blue Ice Dry Ice Water None _____

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form
IR GUN# IR-11 (CF +0.1 °C) Observed Cooler Temp. 5.5 °C Corrected Cooler Temp. 5.6 °C
IR GUN# IR-12 (CF +0.2 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 2 Yes No
- Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
- Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No NA
- Were tamper/custody seals intact and uncompromised? Yes No NA

3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? Yes No
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)? Yes No
10. Were correct bottle(s) used for the test(s) indicated? Yes No
11. Sufficient quantity received to perform indicated analyses? Yes No
12. Are these work share samples and all listed on the COC? Yes No 3
If yes, Questions 13-17 have been checked at the originating laboratory.

13. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC99761
14. Were VOAs on the COC? Yes No
15. Were air bubbles >6 mm in any VOA vials? Yes Larger than this. Yes No NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes No
17. Was a LL Hg or Me Hg trip blank present? _____ Yes No

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____
Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page Samples processed by: _____

19. SAMPLE CONDITION
Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION
Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____
VOA Sample Preservation - Date/Time VOAs Frozen: _____

WI-NC-099

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-145303-1

Login Number: 145303

List Source: Eurofins TestAmerica, Denver

List Number: 1

Creator: Soerensen, Jesper

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Refer to Job Narrative for details.
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-145303-1

Login Number: 145303

List Number: 3

Creator: Worthington, Sierra M

List Source: Eurofins TestAmerica, St. Louis

List Creation: 02/09/21 02:20 PM

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-145303-1

Login Number: 145303

List Number: 4

Creator: Worthington, Sierra M

List Source: Eurofins TestAmerica, St. Louis

List Creation: 02/10/21 10:56 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Tracer/Carrier Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145303-1

Method: 9315 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)							
		Ba							
Lab Sample ID	Client Sample ID	(40-110)							
280-145303-1	P6	84.4							
280-145303-2	P7	79.9							
280-145303-3	P18B	89.2							
280-145303-4	PNMW-1B	82.9							
280-145303-5	PNMW-2B	92.5							
280-145303-6	PNMW-6B	91.0							
280-145303-7	PNMW-16	85.9							
280-145303-8	P6EB	81.1							
280-145303-9	P7DUP	82.9							
280-145303-10	PNMW-14	74.5							
280-145303-11	PNMW-15	79.9							
LCS 160-498381/1-A	Lab Control Sample	76.6							
LCS 160-498544/1-A	Lab Control Sample	91.9							
LCSD 160-498381/2-A	Lab Control Sample Dup	74.2							
LCSD 160-498544/2-A	Lab Control Sample Dup	93.4							
MB 160-498381/16-A	Method Blank	81.4							
MB 160-498544/18-A	Method Blank	96.1							
Tracer/Carrier Legend									
Ba = Ba Carrier									

Method: 9320 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)					
		Ba	Y				
Lab Sample ID	Client Sample ID	(40-110)	(40-110)				
280-145303-1	P6	84.4	83.0				
280-145303-2	P7	79.9	81.9				
280-145303-3	P18B	89.2	81.1				
280-145303-4	PNMW-1B	82.9	79.3				
280-145303-5	PNMW-2B	92.5	79.6				
280-145303-6	PNMW-6B	91.0	81.5				
280-145303-7	PNMW-16	85.9	82.6				
280-145303-8	P6EB	81.1	86.0				
280-145303-9	P7DUP	82.9	83.7				
280-145303-10	PNMW-14	74.5	83.7				
280-145303-11	PNMW-15	79.9	83.0				
LCS 160-498385/1-A	Lab Control Sample	76.6	74.4				
LCS 160-498553/1-A	Lab Control Sample	91.9	71.8				
LCSD 160-498385/2-A	Lab Control Sample Dup	74.2	77.0				
LCSD 160-498553/2-A	Lab Control Sample Dup	93.4	77.4				
MB 160-498385/18-B	Method Blank	81.4	84.5				
MB 160-498553/18-A	Method Blank	96.1	81.9				
Tracer/Carrier Legend							
Ba = Ba Carrier							
Y = Y Carrier							

Field Analytical Services Billing/Field Sheet

Eurofins TestAmerica Canton 2021

Environment Testing
TestAmerica

Client: REPUBLIC LORAIN

Date 3 MAR 21

Address: 1807 E. 28TH ST
LORAIN, OH. 44055

Technician/s JO

Contact: RUSSEL DUDEK

Time(start/end) _____

Consumables

_____ ft. 1/4 vinyl tubing @ \$.40/Ft
_____ ft. 3/8 vinyl tubing @ \$.68/Ft
_____ ft. 1/4 teflon lined poly tubing @ \$2.50/Ft
_____ ft. pump tubing @ \$10.00/Ft(3710/2910)
_____ pump tubing @ \$30/section/ ft(6700/6712)
_____ ft Bonded low flow poly tubing @ \$0.95/Ft
_____ ft. 3/8 poly tubing @ \$.25/Ft
_____ Disposable .45 Micron filters @ \$30/each
_____ Polypropylene Rope @ \$.12/Foot
_____ LLHG Tubing Kits (15) ft @ \$107/Each
_____ LLHG Tubing Kits (25) ft @ \$120/Each

Labor (Travel included)

_____ Hrs @ \$50/Hr
_____ Hrs @ \$60/Hr
_____ Hrs @ \$65/Hr
_____ Hrs @ \$100/Hr Rush
_____ Hrs @ \$130/Hr Weekend work
_____ Hrs @ \$195/Hr Holiday work
5 Hrs @ \$45/Hr (Republic Steel) only

Mileage 280 Miles @ \$.56/Mile

Vehicle

_____ Hrs @ \$10/Hr _____ Flat rate @ \$35
PU Truck(Max \$50/Day)

Equipment Rental: Isco @ \$75/Day/\$200/Week

Equipment Rental: Isco Flow Meter \$40/day/\$100 week

Bailers

_____ Disposable polypropylene @ \$15 each
_____ Disposable Teflon @ \$35 each

Coliwasa

_____ Disposable Glass @ \$20/each

Cubecontainers

_____ 5 gallon cube @ \$5.50/each
_____ 2.5 gallon cube @ \$4.50/each

PPE

_____ Gloves @ \$12/Box
_____ Tyvex Suit @ \$17/each

Additional Consumables:

Equipment Rental: Other



240-145303 Field Sheet

Comments

MONTHLY'S 002,003,005

ANALYTICAL REPORT

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

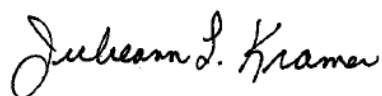
Laboratory Job ID: 280-145305-1

Client Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

For:

HDR Inc
1670 Broadway, Suite 3400
Denver, Colorado 80202

Attn: Molly Reeves



Authorized for release by:
2/22/2021 8:26:21 AM

Julieann Kramer, Project Management Assistant II
(303)736-0100

Julieann.Kramer@Eurofinset.com

Designee for

Danielle Harrington, Project Manager II
(303)736-0176

Danielle.Harrington@Eurofinset.com

LINKS

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results through

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page	1
Table of Contents	2
Definitions	3
Case Narrative	4
Detection Summary	5
Method Summary	7
Sample Summary	8
Client Sample Results	9
QC Sample Results	12
QC Association	15
Chronicle	17
Certification Summary	19
Chain of Custody	20
Receipt Checklists	23



Definitions/Glossary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145305-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145305-1

Job ID: 280-145305-1

Laboratory: Eurofins TestAmerica, Denver

Narrative

CASE NARRATIVE

Client: HDR Inc

Project: Xcel Energy GW CCR Monitoring - Pawnee

Report Number: 280-144305-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 2/5/2021; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 5 coolers at receipt time were 0.6° C, 0.6° C, 0.7° C, 1.1° C and 1.2° C.

TOTAL RECOVERABLE METALS- Method 6010C/6020A

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL MERCURY- METHOD 7470A

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GENERAL CHEMISTRY- VARIOUS

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145305-1

Client Sample ID: PNMW14

Lab Sample ID: 280-145305-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.063	J	0.10	0.023	mg/L	1		6010C	Dissolved
Barium	0.093		0.0050	0.0022	mg/L	1		6020A	Dissolved
Calcium	40		1.0	0.58	mg/L	1		6020A	Dissolved
Chromium	0.0018	J	0.0020	0.00098	mg/L	1		6020A	Dissolved
Molybdenum	0.0051	J	0.010	0.0011	mg/L	1		6020A	Dissolved
Selenium	0.0022	J	0.0050	0.00089	mg/L	1		6020A	Dissolved
Lithium	0.036		0.0080	0.0017	mg/L	1		6020A	Dissolved

Client Sample ID: PNMW15

Lab Sample ID: 280-145305-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.31		0.10	0.023	mg/L	1		6010C	Dissolved
Barium	0.021		0.0050	0.0022	mg/L	1		6020A	Dissolved
Calcium	110		1.0	0.58	mg/L	1		6020A	Dissolved
Cobalt	0.0015		0.0010	0.00019	mg/L	1		6020A	Dissolved
Molybdenum	0.0014	J	0.010	0.0011	mg/L	1		6020A	Dissolved
Lithium	0.098		0.0080	0.0017	mg/L	1		6020A	Dissolved

Client Sample ID: PNMW13

Lab Sample ID: 280-145305-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.22		0.10	0.023	mg/L	1		6010C	Total
Arsenic	0.0018	J	0.0050	0.00075	mg/L	1		6020A	Recoverable Total
Barium	0.098		0.0050	0.0022	mg/L	1		6020A	Recoverable Total
Calcium	46		1.0	0.58	mg/L	1		6020A	Recoverable Total
Cobalt	0.0017		0.0010	0.00019	mg/L	1		6020A	Recoverable Total
Chromium	0.0081		0.0020	0.00098	mg/L	1		6020A	Recoverable Total
Molybdenum	0.0047	J	0.010	0.0011	mg/L	1		6020A	Recoverable Total
Lead	0.0028		0.0010	0.00045	mg/L	1		6020A	Recoverable Total
Selenium	0.0018	J	0.0050	0.00089	mg/L	1		6020A	Recoverable Total
Lithium	0.062		0.0080	0.0017	mg/L	1		6020A	Recoverable Total
pH adj. to 25 deg C	8.0	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	22.4	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	4.7		3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.96		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	43		5.0	1.0	mg/L	1		9056A	Total/NA
Total Dissolved Solids (TDS)	410		10	4.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	480		6.7	1.8	mg/L	1		SM 2540D	Total/NA

Client Sample ID: PNMW13

Lab Sample ID: 280-145305-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.22		0.10	0.023	mg/L	1		6010C	Dissolved
Barium	0.074		0.0050	0.0022	mg/L	1		6020A	Dissolved
Calcium	43		1.0	0.58	mg/L	1		6020A	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Detection Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145305-1

Client Sample ID: PNMW13 (Continued)

Lab Sample ID: 280-145305-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	0.00071	J	0.0010	0.00019	mg/L	1		6020A	Dissolved
Chromium	0.0035		0.0020	0.00098	mg/L	1		6020A	Dissolved
Molybdenum	0.0045	J	0.010	0.0011	mg/L	1		6020A	Dissolved
Lead	0.0013		0.0010	0.00045	mg/L	1		6020A	Dissolved
Selenium	0.0015	J	0.0050	0.00089	mg/L	1		6020A	Dissolved
Lithium	0.060		0.0080	0.0017	mg/L	1		6020A	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Method Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145305-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CAN
6020A	Metals (ICP/MS)	SW846	TAL CAN
7470A	Mercury (CVAA)	SW846	TAL CAN
9040B	pH	SW846	TAL DEN
9056A	Anions, Ion Chromatography	SW846	TAL DEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL DEN
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL DEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN
7470A	Preparation, Mercury	SW846	TAL CAN

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Sample Summary

Client: HDR Inc

Job ID: 280-145305-1

Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
280-145305-1	PNMW14	Water	02/01/21 14:25	02/05/21 15:28	
280-145305-2	PNMW15	Water	02/02/21 13:35	02/05/21 15:28	
280-145305-3	PNMW13	Water	02/04/21 10:35	02/05/21 15:28	
280-145305-4	PNMW13	Water	02/05/21 13:40	02/05/21 15:28	

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145305-1

Method: 6010C - Metals (ICP) - Total Recoverable

Client Sample ID: PNMW13
Date Collected: 02/04/21 10:35
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145305-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.22		0.10	0.023	mg/L		02/10/21 14:00	02/12/21 12:19	1

Method: 6010C - Metals (ICP) - Dissolved

Client Sample ID: PNMW14
Date Collected: 02/01/21 14:25
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145305-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.063	J	0.10	0.023	mg/L		02/10/21 14:00	02/12/21 12:11	1

Client Sample ID: PNMW15
Date Collected: 02/02/21 13:35
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145305-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.31		0.10	0.023	mg/L		02/10/21 14:00	02/12/21 12:15	1

Client Sample ID: PNMW13
Date Collected: 02/05/21 13:40
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145305-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.22		0.10	0.023	mg/L		02/10/21 14:00	02/12/21 12:24	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: PNMW13
Date Collected: 02/04/21 10:35
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145305-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		02/10/21 14:00	02/11/21 14:14	1
Arsenic	0.0018	J	0.0050	0.00075	mg/L		02/10/21 14:00	02/11/21 14:14	1
Barium	0.098		0.0050	0.0022	mg/L		02/10/21 14:00	02/11/21 14:14	1
Beryllium	ND		0.0010	0.00031	mg/L		02/10/21 14:00	02/11/21 14:14	1
Calcium	46		1.0	0.58	mg/L		02/10/21 14:00	02/11/21 14:14	1
Cadmium	ND		0.0010	0.00020	mg/L		02/10/21 14:00	02/11/21 14:14	1
Cobalt	0.0017		0.0010	0.00019	mg/L		02/10/21 14:00	02/11/21 14:14	1
Chromium	0.0081		0.0020	0.00098	mg/L		02/10/21 14:00	02/11/21 14:14	1
Molybdenum	0.0047	J	0.010	0.0011	mg/L		02/10/21 14:00	02/11/21 14:14	1
Lead	0.0028		0.0010	0.00045	mg/L		02/10/21 14:00	02/11/21 14:14	1
Selenium	0.0018	J	0.0050	0.00089	mg/L		02/10/21 14:00	02/11/21 14:14	1
Thallium	ND		0.0010	0.00020	mg/L		02/10/21 14:00	02/11/21 14:14	1
Lithium	0.062		0.0080	0.0017	mg/L		02/10/21 14:00	02/11/21 14:14	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Client Sample ID: PNMW14
Date Collected: 02/01/21 14:25
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145305-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.00075	mg/L		02/10/21 14:00	02/11/21 14:09	1
Barium	0.093		0.0050	0.0022	mg/L		02/10/21 14:00	02/11/21 14:09	1
Beryllium	ND		0.0010	0.00031	mg/L		02/10/21 14:00	02/11/21 14:09	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145305-1

Method: 6020A - Metals (ICP/MS) - Dissolved (Continued)

Client Sample ID: PNMW14
Date Collected: 02/01/21 14:25
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145305-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	40		1.0	0.58	mg/L		02/10/21 14:00	02/11/21 14:09	1
Cadmium	ND		0.0010	0.00020	mg/L		02/10/21 14:00	02/11/21 14:09	1
Cobalt	ND		0.0010	0.00019	mg/L		02/10/21 14:00	02/11/21 14:09	1
Chromium	0.0018	J	0.0020	0.00098	mg/L		02/10/21 14:00	02/11/21 14:09	1
Molybdenum	0.0051	J	0.010	0.0011	mg/L		02/10/21 14:00	02/11/21 14:09	1
Lead	ND		0.0010	0.00045	mg/L		02/10/21 14:00	02/11/21 14:09	1
Antimony	ND		0.0020	0.00057	mg/L		02/10/21 14:00	02/11/21 14:09	1
Selenium	0.0022	J	0.0050	0.00089	mg/L		02/10/21 14:00	02/11/21 14:09	1
Lithium	0.036		0.0080	0.0017	mg/L		02/10/21 14:00	02/11/21 14:09	1
Thallium	ND		0.0010	0.00020	mg/L		02/10/21 14:00	02/11/21 14:09	1

Client Sample ID: PNMW15
Date Collected: 02/02/21 13:35
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145305-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.00075	mg/L		02/10/21 14:00	02/11/21 14:12	1
Barium	0.021		0.0050	0.0022	mg/L		02/10/21 14:00	02/11/21 14:12	1
Beryllium	ND		0.0010	0.00031	mg/L		02/10/21 14:00	02/11/21 14:12	1
Calcium	110		1.0	0.58	mg/L		02/10/21 14:00	02/11/21 14:12	1
Cadmium	ND		0.0010	0.00020	mg/L		02/10/21 14:00	02/11/21 14:12	1
Cobalt	0.0015		0.0010	0.00019	mg/L		02/10/21 14:00	02/11/21 14:12	1
Chromium	ND		0.0020	0.00098	mg/L		02/10/21 14:00	02/11/21 14:12	1
Molybdenum	0.0014	J	0.010	0.0011	mg/L		02/10/21 14:00	02/11/21 14:12	1
Lead	ND		0.0010	0.00045	mg/L		02/10/21 14:00	02/11/21 14:12	1
Antimony	ND		0.0020	0.00057	mg/L		02/10/21 14:00	02/11/21 14:12	1
Selenium	ND		0.0050	0.00089	mg/L		02/10/21 14:00	02/11/21 14:12	1
Lithium	0.098		0.0080	0.0017	mg/L		02/10/21 14:00	02/11/21 14:12	1
Thallium	ND		0.0010	0.00020	mg/L		02/10/21 14:00	02/11/21 14:12	1

Client Sample ID: PNMW13
Date Collected: 02/05/21 13:40
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145305-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.00075	mg/L		02/10/21 14:00	02/11/21 14:22	1
Barium	0.074		0.0050	0.0022	mg/L		02/10/21 14:00	02/11/21 14:22	1
Beryllium	ND		0.0010	0.00031	mg/L		02/10/21 14:00	02/11/21 14:22	1
Calcium	43		1.0	0.58	mg/L		02/10/21 14:00	02/11/21 14:22	1
Cadmium	ND		0.0010	0.00020	mg/L		02/10/21 14:00	02/11/21 14:22	1
Cobalt	0.00071	J	0.0010	0.00019	mg/L		02/10/21 14:00	02/11/21 14:22	1
Chromium	0.0035		0.0020	0.00098	mg/L		02/10/21 14:00	02/11/21 14:22	1
Molybdenum	0.0045	J	0.010	0.0011	mg/L		02/10/21 14:00	02/11/21 14:22	1
Lead	0.0013		0.0010	0.00045	mg/L		02/10/21 14:00	02/11/21 14:22	1
Antimony	ND		0.0020	0.00057	mg/L		02/10/21 14:00	02/11/21 14:22	1
Selenium	0.0015	J	0.0050	0.00089	mg/L		02/10/21 14:00	02/11/21 14:22	1
Lithium	0.060		0.0080	0.0017	mg/L		02/10/21 14:00	02/11/21 14:22	1
Thallium	ND		0.0010	0.00020	mg/L		02/10/21 14:00	02/11/21 14:22	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145305-1

Method: 7470A - Mercury (CVAA)

Client Sample ID: PNMW13
Date Collected: 02/04/21 10:35
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145305-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		02/10/21 12:00	02/11/21 13:33	1

Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: PNMW14
Date Collected: 02/01/21 14:25
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145305-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		02/10/21 12:00	02/11/21 13:29	1

Client Sample ID: PNMW15
Date Collected: 02/02/21 13:35
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145305-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		02/10/21 12:00	02/11/21 13:31	1

Client Sample ID: PNMW13
Date Collected: 02/05/21 13:40
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145305-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		02/10/21 12:00	02/11/21 13:35	1

General Chemistry

Client Sample ID: PNMW13
Date Collected: 02/04/21 10:35
Date Received: 02/05/21 15:28

Lab Sample ID: 280-145305-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	8.0	HF	0.1	0.1	SU			02/08/21 14:51	1
Temperature	22.4	HF	1.0	1.0	Degrees C			02/08/21 14:51	1
Chloride	4.7		3.0	1.0	mg/L			02/20/21 01:22	1
Fluoride	0.96		0.50	0.17	mg/L			02/20/21 01:22	1
Sulfate	43		5.0	1.0	mg/L			02/20/21 01:22	1
Total Dissolved Solids (TDS)	410		10	4.7	mg/L			02/10/21 18:10	1
Total Suspended Solids	480		6.7	1.8	mg/L			02/10/21 18:03	1

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145305-1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 240-472513/1-A
Matrix: Water
Analysis Batch: 473033

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 472513

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.023	mg/L		02/10/21 14:00	02/12/21 10:27	1

Lab Sample ID: LCS 240-472513/2-A
Matrix: Water
Analysis Batch: 473033

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 472513

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.00		mg/L		100	80 - 120

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 240-472513/1-A
Matrix: Water
Analysis Batch: 472776

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 472513

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.00075	mg/L		02/10/21 14:00	02/11/21 13:23	1
Barium	ND		0.0050	0.0022	mg/L		02/10/21 14:00	02/11/21 13:23	1
Beryllium	ND		0.0010	0.00031	mg/L		02/10/21 14:00	02/11/21 13:23	1
Calcium	ND		1.0	0.58	mg/L		02/10/21 14:00	02/11/21 13:23	1
Cadmium	ND		0.0010	0.00020	mg/L		02/10/21 14:00	02/11/21 13:23	1
Cobalt	ND		0.0010	0.00019	mg/L		02/10/21 14:00	02/11/21 13:23	1
Chromium	ND		0.0020	0.00098	mg/L		02/10/21 14:00	02/11/21 13:23	1
Molybdenum	ND		0.010	0.0011	mg/L		02/10/21 14:00	02/11/21 13:23	1
Antimony	ND		0.0020	0.00057	mg/L		02/10/21 14:00	02/11/21 13:23	1
Lead	ND		0.0010	0.00045	mg/L		02/10/21 14:00	02/11/21 13:23	1
Selenium	ND		0.0050	0.00089	mg/L		02/10/21 14:00	02/11/21 13:23	1
Lithium	ND		0.0080	0.0017	mg/L		02/10/21 14:00	02/11/21 13:23	1
Thallium	ND		0.0010	0.00020	mg/L		02/10/21 14:00	02/11/21 13:23	1

Lab Sample ID: LCS 240-472513/3-A
Matrix: Water
Analysis Batch: 472776

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 472513

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	1.00		mg/L		100	80 - 120
Barium	1.00	0.959		mg/L		96	80 - 120
Beryllium	0.500	0.494		mg/L		99	80 - 120
Calcium	25.0	24.5		mg/L		98	80 - 120
Cadmium	0.500	0.489		mg/L		98	80 - 120
Cobalt	0.500	0.509		mg/L		102	80 - 120
Chromium	0.500	0.496		mg/L		99	80 - 120
Molybdenum	0.500	0.492		mg/L		98	80 - 120
Antimony	0.100	0.0953		mg/L		95	80 - 120
Lead	0.500	0.493		mg/L		99	80 - 120
Selenium	1.00	0.957		mg/L		96	80 - 120
Lithium	0.500	0.512		mg/L		102	80 - 120
Thallium	1.00	0.973		mg/L		97	80 - 120

Eurofins TestAmerica, Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145305-1

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-472515/1-A
Matrix: Water
Analysis Batch: 472853

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 472515

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		02/10/21 12:00	02/11/21 12:45	1

Lab Sample ID: LCS 240-472515/2-A
Matrix: Water
Analysis Batch: 472853

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 472515

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00521		mg/L		104	80 - 120

Method: 9040B - pH

Lab Sample ID: LCS 280-525757/30
Matrix: Water
Analysis Batch: 525757

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH adj. to 25 deg C	7.00	7.0		SU		100	99 - 101

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 280-526783/6
Matrix: Water
Analysis Batch: 526783

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			02/19/21 14:34	1
Fluoride	ND		0.50	0.17	mg/L			02/19/21 14:34	1
Sulfate	ND		5.0	1.0	mg/L			02/19/21 14:34	1

Lab Sample ID: LCS 280-526783/4
Matrix: Water
Analysis Batch: 526783

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	98.7		mg/L		99	90 - 110
Fluoride	5.00	4.91		mg/L		98	90 - 110
Sulfate	100	100		mg/L		100	90 - 110

Lab Sample ID: LCSD 280-526783/5
Matrix: Water
Analysis Batch: 526783

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	99.0		mg/L		99	90 - 110	0	10
Fluoride	5.00	4.91		mg/L		98	90 - 110	0	10
Sulfate	100	100		mg/L		100	90 - 110	0	10

Eurofins TestAmerica, Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145305-1

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: MRL 280-526783/3

Matrix: Water

Analysis Batch: 526783

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	4.99		mg/L		100	50 - 150
Fluoride	0.500	0.455	J	mg/L		91	50 - 150
Sulfate	5.00	5.01		mg/L		100	50 - 150

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 280-526035/3

Matrix: Water

Analysis Batch: 526035

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			02/10/21 18:10	1

Lab Sample ID: LCS 280-526035/1

Matrix: Water

Analysis Batch: 526035

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids (TDS)	501	505		mg/L		101	88 - 114

Lab Sample ID: LCSD 280-526035/2

Matrix: Water

Analysis Batch: 526035

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids (TDS)	501	517		mg/L		103	88 - 114	2	20

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 280-526033/2

Matrix: Water

Analysis Batch: 526033

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			02/10/21 18:03	1

Lab Sample ID: LCS 280-526033/1

Matrix: Water

Analysis Batch: 526033

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	100	105		mg/L		105	79 - 114

QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145305-1

Metals

Prep Batch: 472513

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-145305-1	PNMW14	Dissolved	Water	3005A	
280-145305-2	PNMW15	Dissolved	Water	3005A	
280-145305-3	PNMW13	Total Recoverable	Water	3005A	
280-145305-4	PNMW13	Dissolved	Water	3005A	
MB 240-472513/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-472513/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-472513/3-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 472515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-145305-1	PNMW14	Dissolved	Water	7470A	
280-145305-2	PNMW15	Dissolved	Water	7470A	
280-145305-3	PNMW13	Total/NA	Water	7470A	
280-145305-4	PNMW13	Dissolved	Water	7470A	
MB 240-472515/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-472515/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 472776

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-145305-1	PNMW14	Dissolved	Water	6020A	472513
280-145305-2	PNMW15	Dissolved	Water	6020A	472513
280-145305-3	PNMW13	Total Recoverable	Water	6020A	472513
280-145305-4	PNMW13	Dissolved	Water	6020A	472513
MB 240-472513/1-A	Method Blank	Total Recoverable	Water	6020A	472513
LCS 240-472513/3-A	Lab Control Sample	Total Recoverable	Water	6020A	472513

Analysis Batch: 472853

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-145305-1	PNMW14	Dissolved	Water	7470A	472515
280-145305-2	PNMW15	Dissolved	Water	7470A	472515
280-145305-3	PNMW13	Total/NA	Water	7470A	472515
280-145305-4	PNMW13	Dissolved	Water	7470A	472515
MB 240-472515/1-A	Method Blank	Total/NA	Water	7470A	472515
LCS 240-472515/2-A	Lab Control Sample	Total/NA	Water	7470A	472515

Analysis Batch: 473033

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-145305-1	PNMW14	Dissolved	Water	6010C	472513
280-145305-2	PNMW15	Dissolved	Water	6010C	472513
280-145305-3	PNMW13	Total Recoverable	Water	6010C	472513
280-145305-4	PNMW13	Dissolved	Water	6010C	472513
MB 240-472513/1-A	Method Blank	Total Recoverable	Water	6010C	472513
LCS 240-472513/2-A	Lab Control Sample	Total Recoverable	Water	6010C	472513

General Chemistry

Analysis Batch: 525757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-145305-3	PNMW13	Total/NA	Water	9040B	
LCS 280-525757/30	Lab Control Sample	Total/NA	Water	9040B	

Eurofins TestAmerica, Denver

QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145305-1

General Chemistry

Analysis Batch: 526033

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-145305-3	PNMW13	Total/NA	Water	SM 2540D	
MB 280-526033/2	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-526033/1	Lab Control Sample	Total/NA	Water	SM 2540D	

Analysis Batch: 526035

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-145305-3	PNMW13	Total/NA	Water	SM 2540C	
MB 280-526035/3	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-526035/1	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 280-526035/2	Lab Control Sample Dup	Total/NA	Water	SM 2540C	

Analysis Batch: 526783

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-145305-3	PNMW13	Total/NA	Water	9056A	
MB 280-526783/6	Method Blank	Total/NA	Water	9056A	
LCS 280-526783/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-526783/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-526783/3	Lab Control Sample	Total/NA	Water	9056A	

Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145305-1

Client Sample ID: PNMW14

Lab Sample ID: 280-145305-1

Date Collected: 02/01/21 14:25

Matrix: Water

Date Received: 02/05/21 15:28

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	472513	02/10/21 14:00	MRL	TAL CAN
Dissolved	Analysis	6010C		1			473033	02/12/21 12:11	WKD	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	472513	02/10/21 14:00	MRL	TAL CAN
Dissolved	Analysis	6020A		1			472776	02/11/21 14:09	DSH	TAL CAN
Dissolved	Prep	7470A			50 mL	50 mL	472515	02/10/21 12:00	MRL	TAL CAN
Dissolved	Analysis	7470A		1			472853	02/11/21 13:29	SLD	TAL CAN

Client Sample ID: PNMW15

Lab Sample ID: 280-145305-2

Date Collected: 02/02/21 13:35

Matrix: Water

Date Received: 02/05/21 15:28

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	472513	02/10/21 14:00	MRL	TAL CAN
Dissolved	Analysis	6010C		1			473033	02/12/21 12:15	WKD	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	472513	02/10/21 14:00	MRL	TAL CAN
Dissolved	Analysis	6020A		1			472776	02/11/21 14:12	DSH	TAL CAN
Dissolved	Prep	7470A			50 mL	50 mL	472515	02/10/21 12:00	MRL	TAL CAN
Dissolved	Analysis	7470A		1			472853	02/11/21 13:31	SLD	TAL CAN

Client Sample ID: PNMW13

Lab Sample ID: 280-145305-3

Date Collected: 02/04/21 10:35

Matrix: Water

Date Received: 02/05/21 15:28

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	472513	02/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			473033	02/12/21 12:19	WKD	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	472513	02/10/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			472776	02/11/21 14:14	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	472515	02/10/21 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			472853	02/11/21 13:33	SLD	TAL CAN
Total/NA	Analysis	9040B		1			525757	02/08/21 14:51	QJB	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	526783	02/20/21 01:22	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	526035	02/10/21 18:10	SVC	TAL DEN
Total/NA	Analysis	SM 2540D		1	150 mL	250 mL	526033	02/10/21 18:03	SVC	TAL DEN

Client Sample ID: PNMW13

Lab Sample ID: 280-145305-4

Date Collected: 02/05/21 13:40

Matrix: Water

Date Received: 02/05/21 15:28

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	472513	02/10/21 14:00	MRL	TAL CAN
Dissolved	Analysis	6010C		1			473033	02/12/21 12:24	WKD	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	472513	02/10/21 14:00	MRL	TAL CAN
Dissolved	Analysis	6020A		1			472776	02/11/21 14:22	DSH	TAL CAN

Eurofins TestAmerica, Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145305-1

Client Sample ID: PNMW13

Lab Sample ID: 280-145305-4

Date Collected: 02/05/21 13:40

Matrix: Water

Date Received: 02/05/21 15:28

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	7470A			50 mL	50 mL	472515	02/10/21 12:00	MRL	TAL CAN
Dissolved	Analysis	7470A		1			472853	02/11/21 13:35	SLD	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Accreditation/Certification Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-145305-1

Laboratory: Eurofins TestAmerica, Denver

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-21
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
9040B		Water	Temperature

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-21
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-21
Georgia	State	4062	02-23-21
Illinois	NELAP	004498	07-31-21
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-21
Kentucky (UST)	State	112225	02-23-21
Kentucky (WW)	State	KY98016	12-31-21
Minnesota	NELAP	OH00048	12-31-21
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-21
New York	NELAP	10975	03-31-21
Ohio VAP	State	CL0024	12-21-23
Oregon	NELAP	4062	02-24-21
Pennsylvania	NELAP	68-00340	08-31-21
Texas	NELAP	T104704517-18-10	08-31-21
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-21
Washington	State	C971	01-12-22
West Virginia DEP	State	210	12-31-21

Denver #280

Chain of Custody Record

Client Information		Sampler: Lab PM: Harrington, Danielle M		Camer Tracking Note(s)		COC No: 280-103358-30221.1	
Client Contact: Molly Reeves		Phone: E-Mail: Danielle.Harrington@Eurofinset.com		Page: 1 of 1		Job #: 1	
Company: HDR Inc		Address: 9781 S. Meridian Blvd Suite 400		Due Date Requested:		Analysis Requested	
City: Englewood		State, Zip: CO, 80112		TAT Requested (days):		Preservation Codes:	
Phone: 734-263-7138(Tel)		PO #: DEN-019		WO #:		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Anchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Email: Molly.Reeves@hdrinc.com		Project #:		SSOW#:		Total Number of Containers	
Project Name: Xcel Energy GW CCR Monitoring - Pawnee		28014378				Special Instructions/Note:	
Site: AWRP / BASP						field filtered field filtered unfiltered unfiltered, TSS TSS / Animals in same container	
Sample Identification		Sample Date		Sample Time		Sample Type (C=comp, G=grab)	
PNMW14		2-1-21		1425		G W	
PNMW15		2-2-21		1335		G W	
PNMW13		2-4-21		1035		G W	
PNMW13		2-5-21		1340		G W	
Possible Hazard Identification		☐ Non-Hazard ☐ Flammable ☐ Skin Irritant		☐ Poison B ☐ Unknown ☐ Radiological		Sample Dis:	
Deliverable Requested: I, II, III, IV, Other (specify)						☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months	
Empty Kit Relinquished by:		Date:		Time:		Special Instructions/QC Requirements:	
Relinquished by: <i>Mansberger</i>		Date/Time: 2-5-21 1528		Company:		Method of Shipment:	
Relinquished by:		Date/Time:		Company:		Date/Time: 2-10-2021 1528 Company: E.T.A.-HQ	
Relinquished by:		Date/Time:		Company:		Date/Time:	
Custody Seals Intact: ☐ Yes ☐ No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 0.5, 1.0, 2.0, 0.4, 0.4, 0.4, 0.2, 12.9			

Ver: 11/01/2020

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Eurofins TestAmerica Canton Sample Receipt Form/Narrative Login # : _____
Canton Facility

Client ETA Denver Site Name _____ Cooler unpacked by: MJS ETA CANTON
Cooler Received on FEB 09 2021 Opened on FEB 09 2021
FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # 111 Foam Box Client Cooler Box Other _____
Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form
IR GUN# IR-11 (CF +0.1 °C) Observed Cooler Temp. 5.5 °C Corrected Cooler Temp. 5.6 °C
IR GUN# IR-12 (CF +0.2 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 2 Yes No
- Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
- Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
- Were tamper/custody seals intact and uncompromised? Yes No NA

3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? Yes No
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)? Yes No
10. Were correct bottle(s) used for the test(s) indicated? Yes No
11. Sufficient quantity received to perform indicated analyses? Yes No
12. Are these work share samples and all listed on the COC? Yes No
If yes, Questions 13-17 have been checked at the originating laboratory.

13. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC207861
14. Were VOAs on the COC? Yes No
15. Were air bubbles >6 mm in any VOA vials? Yes No NA Larger than this.
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes No
17. Was a LL Hg or Me Hg trip blank present? Yes No

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____
Concerning _____

Tests that are not checked for pH by Receiving:

VOAs
Oil and Grease
TOC

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page Samples processed by: _____

19. SAMPLE CONDITION
Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION
Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____
VOA Sample Preservation - Date/Time VOAs Frozen: _____

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-145305-1

Login Number: 145305

List Source: Eurofins TestAmerica, Denver

List Number: 1

Creator: Dubicki, Adam L

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	N/A	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

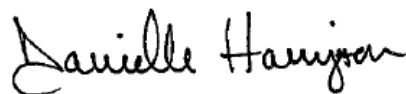
Laboratory Job ID: 280-148410-1

Client Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

For:

HDR Inc
1670 Broadway
Suite 3400
Denver, Colorado 80202

Attn: Molly Reeves



Authorized for release by:
6/10/2021 10:21:42 AM

Danielle Harrington, Project Manager II
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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page	1
Table of Contents	2
Definitions	3
Case Narrative	4
Detection Summary	6
Method Summary	10
Sample Summary	11
Client Sample Results	12
QC Sample Results	25
QC Association	34
Chronicle	39
Certification Summary	44
Chain of Custody	47
Receipt Checklists	51
Tracer Carrier Summary	53



Definitions/Glossary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
F5	Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL, and the absolute difference between results is < the upper reporting limits for both.
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Job ID: 280-148410-1

Laboratory: Eurofins TestAmerica, Denver

Narrative

CASE NARRATIVE

Client: HDR Inc

Project: Xcel Energy GW CCR Monitoring - Pawnee

Report Number: 280-148410-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 05/07/2021; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt were 1.1° C, 2.5° C, 3.0° C and 4.8° C.

Please note, sample PNMW20EB did not have a date or time listed on the chain of custody. The sample date and time were taken from the bottle labels.

TOTAL RECOVERABLE METALS- Method 6010C/6020A/7470A

The accuracy and precision of the Calcium MS/MSD performed on a sample PNMW17 could not be reliably evaluated, as the concentrations present in the parent sample were 4 times greater than the matrix spike concentration. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GENERAL CHEMISTRY- VARIOUS

Several samples required a prep or analytical dilution prior to analysis for various analyses. The reporting limits have been adjusted accordingly.

Sulfate was detected in method blank MB 280-537783/6 at a level that was above the method detection limit but below the reporting limit. Because the concentration in the method blank is not present at a level greater than the reporting limit, corrective action is deemed unnecessary.

The Fluoride sample duplicate analysis data performed in analysis batch 280-537391 exhibited RPD data outside the QC limits. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

The Total Suspended Solids sample duplicate analysis data performed on sample PNMW18 exhibited RPD data outside the QC limits. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Case Narrative

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Job ID: 280-148410-1 (Continued)

Laboratory: Eurofins TestAmerica, Denver (Continued)

RADIUM-226 (GFPC)- Method 9315

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

RADIUM-228- Method 9320

Radium-228 was detected in method blank MB 160-512597/23-A at a level that was above the method detection limit but below the reporting limit. Because the concentration in the method blank is not present at a level greater than the reporting limit, corrective action is deemed unnecessary.

During the in-growth process, the following samples needed to be filtered due to sediment present in the sample: PNMW17, PNMW18, PNMW21, PNMW20, PNMW22, PNMW23, and PNMW18DUP. This is an indicator of matrix interference.

The method 9320 MS/MSD could not be performed, due to insufficient sample volume. Method precision and accuracy have been verified by the acceptable LCS/LCSD analysis data.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

RADIUM-226/RADIUM-228 (GFPC)

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Client Sample ID: PNMW17

Lab Sample ID: 280-148410-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.18		0.10	0.023	mg/L	1		6010C	Total Recoverable
Barium	0.079		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	200		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cobalt	0.00038	J	0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Chromium	0.0040		0.0020	0.00098	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0012	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	0.014		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Thallium	0.00042	J	0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Lithium	0.038		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.1	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	250		15	5.1	mg/L	5		9056A	Total/NA
Sulfate	390		25	5.2	mg/L	5		9056A	Total/NA
Total Dissolved Solids (TDS)	1300		20	9.4	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	13		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: PNMW18

Lab Sample ID: 280-148410-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.13		0.10	0.023	mg/L	1		6010C	Total Recoverable
Barium	0.079		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	280		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cobalt	0.00035	J	0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Chromium	0.0015	J	0.0020	0.00098	mg/L	1		6020A	Total Recoverable
Selenium	0.0027	J	0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Lithium	0.037		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	19.5	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	390		15	5.1	mg/L	5		9056A	Total/NA
Fluoride	0.98		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	720		25	5.2	mg/L	5		9056A	Total/NA
Total Dissolved Solids (TDS)	1800		20	9.4	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	9.6		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: PNMW19

Lab Sample ID: 280-148410-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.068	J	0.10	0.023	mg/L	1		6010C	Total Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Detection Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Client Sample ID: PNMW19 (Continued)

Lab Sample ID: 280-148410-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.25		0.0050	0.0022	mg/L	1		6020A	Total
Calcium	56		1.0	0.58	mg/L	1		6020A	Recoverable
Chromium	0.0014	J	0.0020	0.00098	mg/L	1		6020A	Total
Molybdenum	0.0014	J	0.010	0.0011	mg/L	1		6020A	Recoverable
Selenium	0.0016	J	0.0050	0.00089	mg/L	1		6020A	Total
Lithium	0.021		0.0080	0.0017	mg/L	1		6020A	Recoverable
pH adj. to 25 deg C	7.4	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.6	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	11		3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.31	J	0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	22		5.0	1.0	mg/L	1		9056A	Total/NA
Total Dissolved Solids (TDS)	330		10	4.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	3.6	J	4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: PNMW21

Lab Sample ID: 280-148410-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.18		0.10	0.023	mg/L	1		6010C	Total
Barium	0.053		0.0050	0.0022	mg/L	1		6020A	Recoverable
Calcium	190		1.0	0.58	mg/L	1		6020A	Total
Cobalt	0.00023	J	0.0010	0.00019	mg/L	1		6020A	Recoverable
Chromium	0.0015	J	0.0020	0.00098	mg/L	1		6020A	Total
Molybdenum	0.0039	J	0.010	0.0011	mg/L	1		6020A	Recoverable
Selenium	0.0029	J	0.0050	0.00089	mg/L	1		6020A	Total
Lithium	0.052		0.0080	0.0017	mg/L	1		6020A	Recoverable
pH adj. to 25 deg C	7.7	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.3	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	250		15	5.1	mg/L	5		9056A	Total/NA
Fluoride	0.94		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	620		25	5.2	mg/L	5		9056A	Total/NA
Total Dissolved Solids (TDS)	1500		20	9.4	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	6.0		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: PNMW20

Lab Sample ID: 280-148410-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.8		0.10	0.023	mg/L	1		6010C	Total
Arsenic	0.00098	J	0.0050	0.00075	mg/L	1		6020A	Recoverable
Barium	0.017		0.0050	0.0022	mg/L	1		6020A	Total

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Detection Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Client Sample ID: PNMW20 (Continued)

Lab Sample ID: 280-148410-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	420		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cadmium	0.00083	J	0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Cobalt	0.00055	J	0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Chromium	0.0012	J	0.0020	0.00098	mg/L	1		6020A	Total Recoverable
Lead	0.0024		0.0010	0.00045	mg/L	1		6020A	Total Recoverable
Selenium	0.0082		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Lithium	0.074		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	19.9	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	1300		30	10	mg/L	10		9056A	Total/NA
Fluoride	1.0	J	2.5	0.83	mg/L	5		9056A	Total/NA
Sulfate	4100	B	250	52	mg/L	50		9056A	Total/NA
Total Dissolved Solids (TDS)	6800		100	47	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	2.4	J	4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: PNMW22

Lab Sample ID: 280-148410-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.18		0.10	0.023	mg/L	1		6010C	Total Recoverable
Barium	0.060		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	280		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cobalt	0.00029	J	0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Chromium	0.0020		0.0020	0.00098	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0029	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	0.0046	J	0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Lithium	0.052		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.7	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.3	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	240		15	5.1	mg/L	5		9056A	Total/NA
Fluoride	1.2		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	1000		50	10	mg/L	10		9056A	Total/NA
Total Dissolved Solids (TDS)	2100		20	9.4	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	5.6		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: PNMW23

Lab Sample ID: 280-148410-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.17		0.10	0.023	mg/L	1		6010C	Total Recoverable
Barium	0.024		0.0050	0.0022	mg/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Detection Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Client Sample ID: PNMW23 (Continued)

Lab Sample ID: 280-148410-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	280		1.0	0.58	mg/L	1		6020A	Total
									Recoverable
Cobalt	0.00026	J	0.0010	0.00019	mg/L	1		6020A	Total
									Recoverable
Chromium	0.0014	J	0.0020	0.00098	mg/L	1		6020A	Total
									Recoverable
Selenium	0.0023	J	0.0050	0.00089	mg/L	1		6020A	Total
									Recoverable
Lithium	0.036		0.0080	0.0017	mg/L	1		6020A	Total
									Recoverable
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.6	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	120		3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.43	J	0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	1400		50	10	mg/L	10		9056A	Total/NA
Total Dissolved Solids (TDS)	2400		20	9.4	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	5.6		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: PNMW18DUP

Lab Sample ID: 280-148410-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.10		0.10	0.023	mg/L	1		6010C	Total
									Recoverable
Barium	0.072		0.0050	0.0022	mg/L	1		6020A	Total
									Recoverable
Calcium	260		1.0	0.58	mg/L	1		6020A	Total
									Recoverable
Cobalt	0.00027	J	0.0010	0.00019	mg/L	1		6020A	Total
									Recoverable
Molybdenum	0.0011	J	0.010	0.0011	mg/L	1		6020A	Total
									Recoverable
Selenium	0.0022	J	0.0050	0.00089	mg/L	1		6020A	Total
									Recoverable
Lithium	0.033		0.0080	0.0017	mg/L	1		6020A	Total
									Recoverable
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.1	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	380		15	5.1	mg/L	5		9056A	Total/NA
Fluoride	0.99		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	670		25	5.2	mg/L	5		9056A	Total/NA
Total Dissolved Solids (TDS)	1700		20	9.4	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	6.8		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: PNMW20EB

Lab Sample ID: 280-148410-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH adj. to 25 deg C	8.3	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.7	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Total Dissolved Solids (TDS)	36		20	9.4	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Method Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CAN
6020A	Metals (ICP/MS)	SW846	TAL CAN
7470A	Mercury (CVAA)	SW846	TAL CAN
9040B	pH	SW846	TAL DEN
9056A	Anions, Ion Chromatography	SW846	TAL DEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL DEN
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL DEN
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN
7470A	Preparation, Mercury	SW846	TAL CAN
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: HDR Inc

Job ID: 280-148410-1

Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
280-148410-1	PNMW17	Water	05/05/21 13:57	05/07/21 15:05	
280-148410-2	PNMW18	Water	05/05/21 17:20	05/07/21 15:05	
280-148410-3	PNMW19	Water	05/06/21 11:40	05/07/21 15:05	
280-148410-4	PNMW21	Water	05/06/21 19:55	05/07/21 15:05	
280-148410-5	PNMW20	Water	05/07/21 11:55	05/07/21 15:05	
280-148410-6	PNMW22	Water	05/06/21 16:45	05/07/21 15:05	
280-148410-7	PNMW23	Water	05/06/21 13:15	05/07/21 15:05	
280-148410-8	PNMW18DUP	Water	05/05/21 17:20	05/07/21 15:05	
280-148410-9	PNMW20EB	Water	05/07/21 10:00	05/07/21 15:05	

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Method: 6010C - Metals (ICP) - Total Recoverable

Client Sample ID: PNMW17
Date Collected: 05/05/21 13:57
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.18		0.10	0.023	mg/L		05/12/21 14:00	05/14/21 10:34	1

Client Sample ID: PNMW18
Date Collected: 05/05/21 17:20
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.13		0.10	0.023	mg/L		05/12/21 14:00	05/13/21 19:45	1

Client Sample ID: PNMW19
Date Collected: 05/06/21 11:40
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.068	J	0.10	0.023	mg/L		05/12/21 14:00	05/13/21 19:50	1

Client Sample ID: PNMW21
Date Collected: 05/06/21 19:55
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.18		0.10	0.023	mg/L		05/12/21 14:00	05/13/21 20:02	1

Client Sample ID: PNMW20
Date Collected: 05/07/21 11:55
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.8		0.10	0.023	mg/L		05/12/21 14:00	05/13/21 20:07	1

Client Sample ID: PNMW22
Date Collected: 05/06/21 16:45
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.18		0.10	0.023	mg/L		05/12/21 14:00	05/13/21 20:11	1

Client Sample ID: PNMW23
Date Collected: 05/06/21 13:15
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.17		0.10	0.023	mg/L		05/12/21 14:00	05/13/21 20:15	1

Client Sample ID: PNMW18DUP
Date Collected: 05/05/21 17:20
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.10		0.10	0.023	mg/L		05/12/21 14:00	05/13/21 20:20	1

Client Sample ID: PNMW20EB
Date Collected: 05/07/21 10:00
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.023	mg/L		05/12/21 14:00	05/13/21 20:24	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: PNMW17
Date Collected: 05/05/21 13:57
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		05/12/21 14:00	05/13/21 18:36	1
Arsenic	ND		0.0050	0.00075	mg/L		05/12/21 14:00	05/13/21 18:36	1
Barium	0.079		0.0050	0.0022	mg/L		05/12/21 14:00	05/13/21 18:36	1
Beryllium	ND		0.0010	0.00031	mg/L		05/12/21 14:00	05/13/21 18:36	1
Calcium	200		1.0	0.58	mg/L		05/12/21 14:00	05/13/21 18:36	1
Cadmium	ND		0.0010	0.00020	mg/L		05/12/21 14:00	05/13/21 18:36	1
Cobalt	0.00038	J	0.0010	0.00019	mg/L		05/12/21 14:00	05/13/21 18:36	1
Chromium	0.0040		0.0020	0.00098	mg/L		05/12/21 14:00	05/13/21 18:36	1
Molybdenum	0.0012	J	0.010	0.0011	mg/L		05/12/21 14:00	05/13/21 18:36	1
Lead	ND		0.0010	0.00045	mg/L		05/12/21 14:00	05/14/21 14:20	1
Selenium	0.014		0.0050	0.00089	mg/L		05/12/21 14:00	05/13/21 18:36	1
Thallium	0.00042	J	0.0010	0.00020	mg/L		05/12/21 14:00	05/13/21 18:36	1
Lithium	0.038		0.0080	0.0017	mg/L		05/12/21 14:00	05/13/21 18:36	1

Client Sample ID: PNMW18
Date Collected: 05/05/21 17:20
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		05/12/21 14:00	05/13/21 18:55	1
Arsenic	ND		0.0050	0.00075	mg/L		05/12/21 14:00	05/13/21 18:55	1
Barium	0.079		0.0050	0.0022	mg/L		05/12/21 14:00	05/13/21 18:55	1
Beryllium	ND		0.0010	0.00031	mg/L		05/12/21 14:00	05/13/21 18:55	1
Calcium	280		1.0	0.58	mg/L		05/12/21 14:00	05/13/21 18:55	1
Cadmium	ND		0.0010	0.00020	mg/L		05/12/21 14:00	05/13/21 18:55	1
Cobalt	0.00035	J	0.0010	0.00019	mg/L		05/12/21 14:00	05/13/21 18:55	1
Chromium	0.0015	J	0.0020	0.00098	mg/L		05/12/21 14:00	05/13/21 18:55	1
Molybdenum	ND		0.010	0.0011	mg/L		05/12/21 14:00	05/13/21 18:55	1
Lead	ND		0.0010	0.00045	mg/L		05/12/21 14:00	05/14/21 14:41	1
Selenium	0.0027	J	0.0050	0.00089	mg/L		05/12/21 14:00	05/13/21 18:55	1
Thallium	ND		0.0010	0.00020	mg/L		05/12/21 14:00	05/13/21 18:55	1
Lithium	0.037		0.0080	0.0017	mg/L		05/12/21 14:00	05/13/21 18:55	1

Client Sample ID: PNMW19
Date Collected: 05/06/21 11:40
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		05/12/21 14:00	05/13/21 18:57	1
Arsenic	ND		0.0050	0.00075	mg/L		05/12/21 14:00	05/13/21 18:57	1
Barium	0.25		0.0050	0.0022	mg/L		05/12/21 14:00	05/13/21 18:57	1
Beryllium	ND		0.0010	0.00031	mg/L		05/12/21 14:00	05/13/21 18:57	1
Calcium	56		1.0	0.58	mg/L		05/12/21 14:00	05/13/21 18:57	1
Cadmium	ND		0.0010	0.00020	mg/L		05/12/21 14:00	05/13/21 18:57	1
Cobalt	ND		0.0010	0.00019	mg/L		05/12/21 14:00	05/13/21 18:57	1
Chromium	0.0014	J	0.0020	0.00098	mg/L		05/12/21 14:00	05/13/21 18:57	1
Molybdenum	0.0014	J	0.010	0.0011	mg/L		05/12/21 14:00	05/13/21 18:57	1
Lead	ND		0.0010	0.00045	mg/L		05/12/21 14:00	05/14/21 14:44	1
Selenium	0.0016	J	0.0050	0.00089	mg/L		05/12/21 14:00	05/13/21 18:57	1
Thallium	ND		0.0010	0.00020	mg/L		05/12/21 14:00	05/13/21 18:57	1
Lithium	0.021		0.0080	0.0017	mg/L		05/12/21 14:00	05/13/21 18:57	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: PNMW21
Date Collected: 05/06/21 19:55
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		05/12/21 14:00	05/13/21 19:00	1
Arsenic	ND		0.0050	0.00075	mg/L		05/12/21 14:00	05/13/21 19:00	1
Barium	0.053		0.0050	0.0022	mg/L		05/12/21 14:00	05/13/21 19:00	1
Beryllium	ND		0.0010	0.00031	mg/L		05/12/21 14:00	05/13/21 19:00	1
Calcium	190		1.0	0.58	mg/L		05/12/21 14:00	05/13/21 19:00	1
Cadmium	ND		0.0010	0.00020	mg/L		05/12/21 14:00	05/13/21 19:00	1
Cobalt	0.00023	J	0.0010	0.00019	mg/L		05/12/21 14:00	05/13/21 19:00	1
Chromium	0.0015	J	0.0020	0.00098	mg/L		05/12/21 14:00	05/13/21 19:00	1
Molybdenum	0.0039	J	0.010	0.0011	mg/L		05/12/21 14:00	05/13/21 19:00	1
Lead	ND		0.0010	0.00045	mg/L		05/12/21 14:00	05/14/21 14:46	1
Selenium	0.0029	J	0.0050	0.00089	mg/L		05/12/21 14:00	05/13/21 19:00	1
Thallium	ND		0.0010	0.00020	mg/L		05/12/21 14:00	05/13/21 19:00	1
Lithium	0.052		0.0080	0.0017	mg/L		05/12/21 14:00	05/13/21 19:00	1

Client Sample ID: PNMW20
Date Collected: 05/07/21 11:55
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		05/12/21 14:00	05/13/21 19:02	1
Arsenic	0.00098	J	0.0050	0.00075	mg/L		05/12/21 14:00	05/13/21 19:02	1
Barium	0.017		0.0050	0.0022	mg/L		05/12/21 14:00	05/13/21 19:02	1
Beryllium	ND		0.0010	0.00031	mg/L		05/12/21 14:00	05/13/21 19:02	1
Calcium	420		1.0	0.58	mg/L		05/12/21 14:00	05/13/21 19:02	1
Cadmium	0.00083	J	0.0010	0.00020	mg/L		05/12/21 14:00	05/13/21 19:02	1
Cobalt	0.00055	J	0.0010	0.00019	mg/L		05/12/21 14:00	05/13/21 19:02	1
Chromium	0.0012	J	0.0020	0.00098	mg/L		05/12/21 14:00	05/13/21 19:02	1
Molybdenum	ND		0.010	0.0011	mg/L		05/12/21 14:00	05/13/21 19:02	1
Lead	0.0024		0.0010	0.00045	mg/L		05/12/21 14:00	05/14/21 14:49	1
Selenium	0.0082		0.0050	0.00089	mg/L		05/12/21 14:00	05/13/21 19:02	1
Thallium	ND		0.0010	0.00020	mg/L		05/12/21 14:00	05/13/21 19:02	1
Lithium	0.074		0.0080	0.0017	mg/L		05/12/21 14:00	05/13/21 19:02	1

Client Sample ID: PNMW22
Date Collected: 05/06/21 16:45
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		05/12/21 14:00	05/13/21 19:05	1
Arsenic	ND		0.0050	0.00075	mg/L		05/12/21 14:00	05/13/21 19:05	1
Barium	0.060		0.0050	0.0022	mg/L		05/12/21 14:00	05/13/21 19:05	1
Beryllium	ND		0.0010	0.00031	mg/L		05/12/21 14:00	05/13/21 19:05	1
Calcium	280		1.0	0.58	mg/L		05/12/21 14:00	05/13/21 19:05	1
Cadmium	ND		0.0010	0.00020	mg/L		05/12/21 14:00	05/13/21 19:05	1
Cobalt	0.00029	J	0.0010	0.00019	mg/L		05/12/21 14:00	05/13/21 19:05	1
Chromium	0.0020		0.0020	0.00098	mg/L		05/12/21 14:00	05/13/21 19:05	1
Molybdenum	0.0029	J	0.010	0.0011	mg/L		05/12/21 14:00	05/13/21 19:05	1
Lead	ND		0.0010	0.00045	mg/L		05/12/21 14:00	05/14/21 14:51	1
Selenium	0.0046	J	0.0050	0.00089	mg/L		05/12/21 14:00	05/13/21 19:05	1
Thallium	ND		0.0010	0.00020	mg/L		05/12/21 14:00	05/13/21 19:05	1
Lithium	0.052		0.0080	0.0017	mg/L		05/12/21 14:00	05/13/21 19:05	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: PNMW23
Date Collected: 05/06/21 13:15
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		05/12/21 14:00	05/13/21 19:08	1
Arsenic	ND		0.0050	0.00075	mg/L		05/12/21 14:00	05/13/21 19:08	1
Barium	0.024		0.0050	0.0022	mg/L		05/12/21 14:00	05/13/21 19:08	1
Beryllium	ND		0.0010	0.00031	mg/L		05/12/21 14:00	05/13/21 19:08	1
Calcium	280		1.0	0.58	mg/L		05/12/21 14:00	05/13/21 19:08	1
Cadmium	ND		0.0010	0.00020	mg/L		05/12/21 14:00	05/13/21 19:08	1
Cobalt	0.00026	J	0.0010	0.00019	mg/L		05/12/21 14:00	05/13/21 19:08	1
Chromium	0.0014	J	0.0020	0.00098	mg/L		05/12/21 14:00	05/13/21 19:08	1
Molybdenum	ND		0.010	0.0011	mg/L		05/12/21 14:00	05/13/21 19:08	1
Lead	ND		0.0010	0.00045	mg/L		05/12/21 14:00	05/14/21 14:54	1
Selenium	0.0023	J	0.0050	0.00089	mg/L		05/12/21 14:00	05/13/21 19:08	1
Thallium	ND		0.0010	0.00020	mg/L		05/12/21 14:00	05/13/21 19:08	1
Lithium	0.036		0.0080	0.0017	mg/L		05/12/21 14:00	05/13/21 19:08	1

Client Sample ID: PNMW18DUP
Date Collected: 05/05/21 17:20
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		05/12/21 14:00	05/13/21 19:10	1
Arsenic	ND		0.0050	0.00075	mg/L		05/12/21 14:00	05/13/21 19:10	1
Barium	0.072		0.0050	0.0022	mg/L		05/12/21 14:00	05/13/21 19:10	1
Beryllium	ND		0.0010	0.00031	mg/L		05/12/21 14:00	05/13/21 19:10	1
Calcium	260		1.0	0.58	mg/L		05/12/21 14:00	05/13/21 19:10	1
Cadmium	ND		0.0010	0.00020	mg/L		05/12/21 14:00	05/13/21 19:10	1
Cobalt	0.00027	J	0.0010	0.00019	mg/L		05/12/21 14:00	05/13/21 19:10	1
Chromium	ND		0.0020	0.00098	mg/L		05/12/21 14:00	05/13/21 19:10	1
Molybdenum	0.0011	J	0.010	0.0011	mg/L		05/12/21 14:00	05/13/21 19:10	1
Lead	ND		0.0010	0.00045	mg/L		05/12/21 14:00	05/14/21 14:56	1
Selenium	0.0022	J	0.0050	0.00089	mg/L		05/12/21 14:00	05/13/21 19:10	1
Thallium	ND		0.0010	0.00020	mg/L		05/12/21 14:00	05/13/21 19:10	1
Lithium	0.033		0.0080	0.0017	mg/L		05/12/21 14:00	05/13/21 19:10	1

Client Sample ID: PNMW20EB
Date Collected: 05/07/21 10:00
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		05/12/21 14:00	05/13/21 19:13	1
Arsenic	ND		0.0050	0.00075	mg/L		05/12/21 14:00	05/13/21 19:13	1
Barium	ND		0.0050	0.0022	mg/L		05/12/21 14:00	05/13/21 19:13	1
Beryllium	ND		0.0010	0.00031	mg/L		05/12/21 14:00	05/13/21 19:13	1
Calcium	ND		1.0	0.58	mg/L		05/12/21 14:00	05/13/21 19:13	1
Cadmium	ND		0.0010	0.00020	mg/L		05/12/21 14:00	05/13/21 19:13	1
Cobalt	ND		0.0010	0.00019	mg/L		05/12/21 14:00	05/13/21 19:13	1
Chromium	ND		0.0020	0.00098	mg/L		05/12/21 14:00	05/13/21 19:13	1
Molybdenum	ND		0.010	0.0011	mg/L		05/12/21 14:00	05/13/21 19:13	1
Lead	ND		0.0010	0.00045	mg/L		05/12/21 14:00	05/14/21 14:59	1
Selenium	ND		0.0050	0.00089	mg/L		05/12/21 14:00	05/13/21 19:13	1
Thallium	ND		0.0010	0.00020	mg/L		05/12/21 14:00	05/13/21 19:13	1
Lithium	ND		0.0080	0.0017	mg/L		05/12/21 14:00	05/13/21 19:13	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Method: 7470A - Mercury (CVAA)

Client Sample ID: PNMW17
Date Collected: 05/05/21 13:57
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		05/12/21 14:00	05/13/21 11:51	1

Client Sample ID: PNMW18
Date Collected: 05/05/21 17:20
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		05/12/21 14:00	05/13/21 12:18	1

Client Sample ID: PNMW19
Date Collected: 05/06/21 11:40
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		05/12/21 14:00	05/13/21 12:20	1

Client Sample ID: PNMW21
Date Collected: 05/06/21 19:55
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		05/12/21 14:00	05/13/21 12:22	1

Client Sample ID: PNMW20
Date Collected: 05/07/21 11:55
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		05/12/21 14:00	05/13/21 12:24	1

Client Sample ID: PNMW22
Date Collected: 05/06/21 16:45
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		05/12/21 14:00	05/13/21 12:30	1

Client Sample ID: PNMW23
Date Collected: 05/06/21 13:15
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		05/12/21 14:00	05/13/21 12:32	1

Client Sample ID: PNMW18DUP
Date Collected: 05/05/21 17:20
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		05/12/21 14:00	05/13/21 12:34	1

Client Sample ID: PNMW20EB
Date Collected: 05/07/21 10:00
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		05/12/21 14:00	05/13/21 12:36	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

General Chemistry

Client Sample ID: PNMW17
Date Collected: 05/05/21 13:57
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU			05/10/21 13:35	1
Temperature	20.1	HF	1.0	1.0	Degrees C			05/10/21 13:35	1
Chloride	250		15	5.1	mg/L			05/25/21 16:20	5
Fluoride	ND		2.5	0.83	mg/L			05/25/21 16:20	5
Sulfate	390		25	5.2	mg/L			05/25/21 16:20	5
Total Dissolved Solids (TDS)	1300		20	9.4	mg/L			05/08/21 11:43	1
Total Suspended Solids	13		4.0	1.1	mg/L			05/10/21 13:38	1

Client Sample ID: PNMW18
Date Collected: 05/05/21 17:20
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU			05/10/21 13:39	1
Temperature	19.5	HF	1.0	1.0	Degrees C			05/10/21 13:39	1
Chloride	390		15	5.1	mg/L			05/25/21 16:50	5
Fluoride	0.98		0.50	0.17	mg/L			05/25/21 16:35	1
Sulfate	720		25	5.2	mg/L			05/25/21 16:50	5
Total Dissolved Solids (TDS)	1800		20	9.4	mg/L			05/08/21 11:43	1
Total Suspended Solids	9.6		4.0	1.1	mg/L			05/10/21 16:14	1

Client Sample ID: PNMW19
Date Collected: 05/06/21 11:40
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.4	HF	0.1	0.1	SU			05/10/21 14:08	1
Temperature	21.6	HF	1.0	1.0	Degrees C			05/10/21 14:08	1
Chloride	11		3.0	1.0	mg/L			05/25/21 17:05	1
Fluoride	0.31	J	0.50	0.17	mg/L			05/25/21 17:05	1
Sulfate	22		5.0	1.0	mg/L			05/25/21 17:05	1
Total Dissolved Solids (TDS)	330		10	4.7	mg/L			05/08/21 11:42	1
Total Suspended Solids	3.6	J	4.0	1.1	mg/L			05/11/21 11:34	1

Client Sample ID: PNMW21
Date Collected: 05/06/21 19:55
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.7	HF	0.1	0.1	SU			05/10/21 14:16	1
Temperature	20.3	HF	1.0	1.0	Degrees C			05/10/21 14:16	1
Chloride	250		15	5.1	mg/L			05/25/21 20:21	5
Fluoride	0.94		0.50	0.17	mg/L			05/25/21 20:07	1
Sulfate	620		25	5.2	mg/L			05/25/21 20:21	5
Total Dissolved Solids (TDS)	1500		20	9.4	mg/L			05/08/21 11:42	1
Total Suspended Solids	6.0		4.0	1.1	mg/L			05/11/21 11:34	1

Client Sample ID: PNMW20
Date Collected: 05/07/21 11:55
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU			05/10/21 14:20	1
Temperature	19.9	HF	1.0	1.0	Degrees C			05/10/21 14:20	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

General Chemistry (Continued)

Client Sample ID: PNMW20
Date Collected: 05/07/21 11:55
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1300		30	10	mg/L			05/27/21 13:24	10
Fluoride	1.0	J	2.5	0.83	mg/L			05/25/21 20:51	5
Sulfate	4100	B	250	52	mg/L			05/29/21 15:05	50
Total Dissolved Solids (TDS)	6800		100	47	mg/L			05/08/21 11:42	1
Total Suspended Solids	2.4	J	4.0	1.1	mg/L			05/12/21 12:16	1

Client Sample ID: PNMW22
Date Collected: 05/06/21 16:45
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.7	HF	0.1	0.1	SU			05/10/21 14:24	1
Temperature	20.3	HF	1.0	1.0	Degrees C			05/10/21 14:24	1
Chloride	240		15	5.1	mg/L			05/25/21 21:21	5
Fluoride	1.2		0.50	0.17	mg/L			05/25/21 21:06	1
Sulfate	1000		50	10	mg/L			05/27/21 13:38	10
Total Dissolved Solids (TDS)	2100		20	9.4	mg/L			05/08/21 11:42	1
Total Suspended Solids	5.6		4.0	1.1	mg/L			05/11/21 11:34	1

Client Sample ID: PNMW23
Date Collected: 05/06/21 13:15
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU			05/10/21 14:27	1
Temperature	20.6	HF	1.0	1.0	Degrees C			05/10/21 14:27	1
Chloride	120		3.0	1.0	mg/L			05/25/21 23:05	1
Fluoride	0.43	J	0.50	0.17	mg/L			05/25/21 23:05	1
Sulfate	1400		50	10	mg/L			05/27/21 13:52	10
Total Dissolved Solids (TDS)	2400		20	9.4	mg/L			05/08/21 11:42	1
Total Suspended Solids	5.6		4.0	1.1	mg/L			05/11/21 11:34	1

Client Sample ID: PNMW18DUP
Date Collected: 05/05/21 17:20
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU			05/10/21 14:31	1
Temperature	21.1	HF	1.0	1.0	Degrees C			05/10/21 14:31	1
Chloride	380		15	5.1	mg/L			05/25/21 23:50	5
Fluoride	0.99		0.50	0.17	mg/L			05/25/21 23:35	1
Sulfate	670		25	5.2	mg/L			05/25/21 23:50	5
Total Dissolved Solids (TDS)	1700		20	9.4	mg/L			05/08/21 11:42	1
Total Suspended Solids	6.8		4.0	1.1	mg/L			05/10/21 13:38	1

Client Sample ID: PNMW20EB
Date Collected: 05/07/21 10:00
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	8.3	HF	0.1	0.1	SU			05/11/21 13:50	1
Temperature	20.7	HF	1.0	1.0	Degrees C			05/11/21 13:50	1
Chloride	ND		3.0	1.0	mg/L			05/26/21 00:05	1
Fluoride	ND		0.50	0.17	mg/L			05/26/21 00:05	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

General Chemistry (Continued)

Client Sample ID: PNMW20EB
Date Collected: 05/07/21 10:00
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		5.0	1.0	mg/L			05/26/21 00:05	1
Total Dissolved Solids (TDS)	36		20	9.4	mg/L			05/08/21 11:42	1
Total Suspended Solids	ND		4.0	1.1	mg/L			05/12/21 12:16	1

Method: 9315 - Radium-226 (GFPC)

Client Sample ID: PNMW17
Date Collected: 05/05/21 13:57
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.201		0.106	0.107	1.00	0.133	pCi/L	05/13/21 15:59	06/07/21 13:51	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	68.8		40 - 110					05/13/21 15:59	06/07/21 13:51	1

Client Sample ID: PNMW18
Date Collected: 05/05/21 17:20
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-2
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.102	U	0.0978	0.0983	1.00	0.153	pCi/L	05/13/21 15:59	06/07/21 13:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	64.0		40 - 110					05/13/21 15:59	06/07/21 13:52	1

Client Sample ID: PNMW19
Date Collected: 05/06/21 11:40
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-3
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.212		0.111	0.113	1.00	0.143	pCi/L	05/13/21 15:59	06/07/21 15:33	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	67.6		40 - 110					05/13/21 15:59	06/07/21 15:33	1

Client Sample ID: PNMW21
Date Collected: 05/06/21 19:55
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-4
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.147		0.101	0.102	1.00	0.144	pCi/L	05/13/21 15:59	06/07/21 15:33	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	68.8		40 - 110					05/13/21 15:59	06/07/21 15:33	1

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Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Method: 9315 - Radium-226 (GFPC)

Client Sample ID: PNMW20
Date Collected: 05/07/21 11:55
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-5
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.156		0.0890	0.0901	1.00	0.112	pCi/L	05/13/21 15:59	06/07/21 15:34	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	74.8		40 - 110					05/13/21 15:59	06/07/21 15:34	1

Client Sample ID: PNMW22
Date Collected: 05/06/21 16:45
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-6
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.150		0.0939	0.0949	1.00	0.127	pCi/L	05/13/21 15:59	06/07/21 15:34	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	72.7		40 - 110					05/13/21 15:59	06/07/21 15:34	1

Client Sample ID: PNMW23
Date Collected: 05/06/21 13:15
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-7
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.146		0.102	0.103	1.00	0.146	pCi/L	05/13/21 15:59	06/07/21 17:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	65.8		40 - 110					05/13/21 15:59	06/07/21 17:15	1

Client Sample ID: PNMW18DUP
Date Collected: 05/05/21 17:20
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-8
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.188		0.111	0.112	1.00	0.149	pCi/L	05/13/21 15:59	06/07/21 17:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	65.8		40 - 110					05/13/21 15:59	06/07/21 17:15	1

Client Sample ID: PNMW20EB
Date Collected: 05/07/21 10:00
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-9
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0105	U	0.0607	0.0608	1.00	0.121	pCi/L	05/13/21 15:59	06/07/21 17:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	68.2		40 - 110					05/13/21 15:59	06/07/21 17:15	1

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Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Method: 9320 - Radium-228 (GFPC)

Client Sample ID: PNMW17
Date Collected: 05/05/21 13:57
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.504		0.325	0.328	1.00	0.501	pCi/L	06/03/21 09:11	06/08/21 11:38	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.9		40 - 110					06/03/21 09:11	06/08/21 11:38	1
Y Carrier	88.2		40 - 110					06/03/21 09:11	06/08/21 11:38	1

Client Sample ID: PNMW18
Date Collected: 05/05/21 17:20
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-2
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.146	U	0.237	0.238	1.00	0.402	pCi/L	06/03/21 09:11	06/08/21 11:38	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.4		40 - 110					06/03/21 09:11	06/08/21 11:38	1
Y Carrier	87.9		40 - 110					06/03/21 09:11	06/08/21 11:38	1

Client Sample ID: PNMW19
Date Collected: 05/06/21 11:40
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-3
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0701	U	0.295	0.295	1.00	0.516	pCi/L	06/03/21 09:11	06/08/21 11:38	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.2		40 - 110					06/03/21 09:11	06/08/21 11:38	1
Y Carrier	85.6		40 - 110					06/03/21 09:11	06/08/21 11:38	1

Client Sample ID: PNMW21
Date Collected: 05/06/21 19:55
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-4
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.366	U	0.280	0.282	1.00	0.439	pCi/L	06/03/21 09:11	06/08/21 11:38	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.9		40 - 110					06/03/21 09:11	06/08/21 11:38	1
Y Carrier	86.0		40 - 110					06/03/21 09:11	06/08/21 11:38	1

Client Sample ID: PNMW20
Date Collected: 05/07/21 11:55
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-5
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.601		0.294	0.299	1.00	0.429	pCi/L	06/03/21 09:11	06/08/21 11:38	1

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Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Method: 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	91.9		40 - 110	06/03/21 09:11	06/08/21 11:38	1
Y Carrier	86.7		40 - 110	06/03/21 09:11	06/08/21 11:38	1

Client Sample ID: PNMW22
Date Collected: 05/06/21 16:45
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-6
Matrix: Water

			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.132	U	0.259	0.260	1.00	0.443	pCi/L	06/03/21 09:11	06/08/21 11:38	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.1		40 - 110					06/03/21 09:11	06/08/21 11:38	1
Y Carrier	86.7		40 - 110					06/03/21 09:11	06/08/21 11:38	1

Client Sample ID: PNMW23
Date Collected: 05/06/21 13:15
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-7
Matrix: Water

			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.577		0.301	0.306	1.00	0.449	pCi/L	06/03/21 09:11	06/08/21 11:31	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.1		40 - 110					06/03/21 09:11	06/08/21 11:31	1
Y Carrier	84.9		40 - 110					06/03/21 09:11	06/08/21 11:31	1

Client Sample ID: PNMW18DUP
Date Collected: 05/05/21 17:20
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-8
Matrix: Water

			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0200	U	0.295	0.295	1.00	0.531	pCi/L	06/03/21 09:11	06/08/21 12:43	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.2		40 - 110					06/03/21 09:11	06/08/21 12:43	1
Y Carrier	88.6		40 - 110					06/03/21 09:11	06/08/21 12:43	1

Client Sample ID: PNMW20EB
Date Collected: 05/07/21 10:00
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-9
Matrix: Water

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-228	0.205	U	0.222	0.223	1.00	0.363	pCi/L	06/03/21 09:11	06/08/21 11:31	1
Carrier	%Yield	Qualifier	Limits				Prepared	Analyzed	Dil Fac	
Ba Carrier	89.4		40 - 110				06/03/21 09:11	06/08/21 11:31	1	
Y Carrier	92.3		40 - 110				06/03/21 09:11	06/08/21 11:31	1	

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Client Sample ID: PNMW17
Date Collected: 05/05/21 13:57
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.705		0.342	0.345	5.00	0.501	pCi/L		06/09/21 22:01	1

Client Sample ID: PNMW18
Date Collected: 05/05/21 17:20
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-2
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.248	U	0.256	0.258	5.00	0.402	pCi/L		06/09/21 22:01	1

Client Sample ID: PNMW19
Date Collected: 05/06/21 11:40
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-3
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.282	U	0.315	0.316	5.00	0.516	pCi/L		06/09/21 22:01	1

Client Sample ID: PNMW21
Date Collected: 05/06/21 19:55
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-4
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.513		0.298	0.300	5.00	0.439	pCi/L		06/09/21 22:01	1

Client Sample ID: PNMW20
Date Collected: 05/07/21 11:55
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-5
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.757		0.307	0.312	5.00	0.429	pCi/L		06/09/21 22:01	1

Client Sample ID: PNMW22
Date Collected: 05/06/21 16:45
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-6
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.282	U	0.275	0.277	5.00	0.443	pCi/L		06/09/21 22:01	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Client Sample ID: PNMW23
Date Collected: 05/06/21 13:15
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-7
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.723		0.318	0.323	5.00	0.449	pCi/L		06/09/21 22:01	1

Client Sample ID: PNMW18DUP
Date Collected: 05/05/21 17:20
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-8
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.168	U	0.315	0.316	5.00	0.531	pCi/L		06/09/21 22:01	1

Client Sample ID: PNMW20EB
Date Collected: 05/07/21 10:00
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-9
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.215	U	0.230	0.231	5.00	0.363	pCi/L		06/09/21 22:01	1

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 240-485385/1-A
Matrix: Water
Analysis Batch: 486046

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 485385

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.023	mg/L		05/12/21 14:00	05/14/21 10:26	1

Lab Sample ID: LCS 240-485385/2-A
Matrix: Water
Analysis Batch: 486046

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 485385

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.08		mg/L		108	80 - 120

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 240-485385/1-A
Matrix: Water
Analysis Batch: 485764

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 485385

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		05/12/21 14:00	05/13/21 18:31	1
Arsenic	ND		0.0050	0.00075	mg/L		05/12/21 14:00	05/13/21 18:31	1
Barium	ND		0.0050	0.0022	mg/L		05/12/21 14:00	05/13/21 18:31	1
Beryllium	ND		0.0010	0.00031	mg/L		05/12/21 14:00	05/13/21 18:31	1
Calcium	ND		1.0	0.58	mg/L		05/12/21 14:00	05/13/21 18:31	1
Cadmium	ND		0.0010	0.00020	mg/L		05/12/21 14:00	05/13/21 18:31	1
Cobalt	ND		0.0010	0.00019	mg/L		05/12/21 14:00	05/13/21 18:31	1
Chromium	ND		0.0020	0.00098	mg/L		05/12/21 14:00	05/13/21 18:31	1
Molybdenum	ND		0.010	0.0011	mg/L		05/12/21 14:00	05/13/21 18:31	1
Selenium	ND		0.0050	0.00089	mg/L		05/12/21 14:00	05/13/21 18:31	1
Thallium	ND		0.0010	0.00020	mg/L		05/12/21 14:00	05/13/21 18:31	1
Lithium	ND		0.0080	0.0017	mg/L		05/12/21 14:00	05/13/21 18:31	1

Lab Sample ID: MB 240-485385/1-A
Matrix: Water
Analysis Batch: 486047

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 485385

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0010	0.00045	mg/L		05/12/21 14:00	05/14/21 14:15	1

Lab Sample ID: LCS 240-485385/3-A
Matrix: Water
Analysis Batch: 485764

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 485385

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.100	0.0982		mg/L		98	80 - 120
Arsenic	1.00	0.910		mg/L		91	80 - 120
Barium	1.00	0.934		mg/L		93	80 - 120
Beryllium	0.500	0.472		mg/L		94	80 - 120
Calcium	25.0	23.2		mg/L		93	80 - 120
Cadmium	0.500	0.458		mg/L		92	80 - 120
Cobalt	0.500	0.479		mg/L		96	80 - 120
Chromium	0.500	0.477		mg/L		95	80 - 120
Molybdenum	0.500	0.471		mg/L		94	80 - 120

Eurofins TestAmerica, Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 240-485385/3-A

Matrix: Water

Analysis Batch: 485764

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 485385

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Selenium	1.00	0.888		mg/L		89	80 - 120
Thallium	1.00	0.961		mg/L		96	80 - 120
Lithium	0.500	0.506		mg/L		101	80 - 120

Lab Sample ID: LCS 240-485385/3-A

Matrix: Water

Analysis Batch: 486047

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 485385

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	0.500	0.520		mg/L		104	80 - 120

Lab Sample ID: 280-148410-1 MS

Matrix: Water

Analysis Batch: 485764

Client Sample ID: PNMW17

Prep Type: Total Recoverable

Prep Batch: 485385

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		0.100	0.104		mg/L		104	75 - 125
Arsenic	ND		1.00	0.983		mg/L		98	75 - 125
Barium	0.079		1.00	1.06		mg/L		98	75 - 125
Beryllium	ND		0.500	0.472		mg/L		94	75 - 125
Calcium	200		25.0	217	4	mg/L		77	75 - 125
Cadmium	ND		0.500	0.484		mg/L		97	75 - 125
Cobalt	0.00038	J	0.500	0.488		mg/L		98	75 - 125
Chromium	0.0040		0.500	0.491		mg/L		97	75 - 125
Molybdenum	0.0012	J	0.500	0.496		mg/L		99	75 - 125
Selenium	0.014		1.00	0.974		mg/L		96	75 - 125
Thallium	0.00042	J	1.00	0.997		mg/L		100	75 - 125
Lithium	0.038		0.500	0.527		mg/L		98	75 - 125

Lab Sample ID: 280-148410-1 MS

Matrix: Water

Analysis Batch: 486047

Client Sample ID: PNMW17

Prep Type: Total Recoverable

Prep Batch: 485385

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	ND		0.500	0.530		mg/L		106	75 - 125

Lab Sample ID: 280-148410-1 MSD

Matrix: Water

Analysis Batch: 485764

Client Sample ID: PNMW17

Prep Type: Total Recoverable

Prep Batch: 485385

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND		0.100	0.103		mg/L		103	75 - 125	1	20
Arsenic	ND		1.00	0.964		mg/L		96	75 - 125	2	20
Barium	0.079		1.00	1.04		mg/L		96	75 - 125	1	20
Beryllium	ND		0.500	0.483		mg/L		97	75 - 125	2	20
Calcium	200		25.0	214	4	mg/L		64	75 - 125	1	20
Cadmium	ND		0.500	0.478		mg/L		96	75 - 125	1	20
Cobalt	0.00038	J	0.500	0.480		mg/L		96	75 - 125	2	20
Chromium	0.0040		0.500	0.484		mg/L		96	75 - 125	2	20
Molybdenum	0.0012	J	0.500	0.494		mg/L		98	75 - 125	0	20

Eurofins TestAmerica, Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 280-148410-1 MSD

Matrix: Water

Analysis Batch: 485764

Client Sample ID: PNMW17

Prep Type: Total Recoverable

Prep Batch: 485385

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Selenium	0.014		1.00	0.942		mg/L		93	75 - 125	3	20
Thallium	0.00042	J	1.00	0.987		mg/L		99	75 - 125	1	20
Lithium	0.038		0.500	0.540		mg/L		101	75 - 125	2	20

Lab Sample ID: 280-148410-1 MSD

Matrix: Water

Analysis Batch: 486047

Client Sample ID: PNMW17

Prep Type: Total Recoverable

Prep Batch: 485385

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	ND		0.500	0.519		mg/L		104	75 - 125	2	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-485390/1-A

Matrix: Water

Analysis Batch: 485757

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 485390

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		05/12/21 14:00	05/13/21 11:40	1

Lab Sample ID: LCS 240-485390/2-A

Matrix: Water

Analysis Batch: 485757

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 485390

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	5.00	5.18		ug/L		104	80 - 120

Method: 9040B - pH

Lab Sample ID: LCS 280-535676/30

Matrix: Water

Analysis Batch: 535676

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH adj. to 25 deg C	7.00	7.1		SU		101	99 - 101

Lab Sample ID: LCS 280-535676/4

Matrix: Water

Analysis Batch: 535676

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH adj. to 25 deg C	7.00	7.1		SU		101	99 - 101

Lab Sample ID: 280-148410-3 DU

Matrix: Water

Analysis Batch: 535676

Client Sample ID: PNMW19

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH adj. to 25 deg C	7.4	HF	7.7		SU		3	5
Temperature	21.6	HF	20.5		Degrees C		6	10

Eurofins TestAmerica, Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Method: 9040B - pH (Continued)

Lab Sample ID: LCS 280-535764/4

Matrix: Water

Analysis Batch: 535764

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH adj. to 25 deg C	7.00	7.1		SU		101	99 - 101

Lab Sample ID: 280-148410-F-6 DU

Matrix: Water

Analysis Batch: 535764

Client Sample ID: 280-148410-F-6 DU

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH adj. to 25 deg C	7.5		7.7		SU		3	5
Temperature	20.9		21.0		Degrees C		0.3	10

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 280-537391/6

Matrix: Water

Analysis Batch: 537391

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			05/25/21 14:47	1
Fluoride	ND		0.50	0.17	mg/L			05/25/21 14:47	1
Sulfate	ND		5.0	1.0	mg/L			05/25/21 14:47	1

Lab Sample ID: LCS 280-537391/4

Matrix: Water

Analysis Batch: 537391

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	98.4		mg/L		98	90 - 110
Fluoride	5.00	4.79		mg/L		96	90 - 110
Sulfate	100	97.3		mg/L		97	90 - 110

Lab Sample ID: LCSD 280-537391/5

Matrix: Water

Analysis Batch: 537391

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	98.4		mg/L		98	90 - 110	0	10
Fluoride	5.00	4.88		mg/L		98	90 - 110	2	10
Sulfate	100	97.5		mg/L		98	90 - 110	0	10

Lab Sample ID: MRL 280-537391/3

Matrix: Water

Analysis Batch: 537391

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	4.06		mg/L		81	50 - 150
Fluoride	0.500	0.487	J	mg/L		97	50 - 150
Sulfate	5.00	4.24	J	mg/L		85	50 - 150

Eurofins TestAmerica, Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 280-537568/13

Matrix: Water

Analysis Batch: 537568

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			05/26/21 20:22	1
Fluoride	ND		0.50	0.17	mg/L			05/26/21 20:22	1
Sulfate	ND		5.0	1.0	mg/L			05/26/21 20:22	1

Lab Sample ID: LCS 280-537568/11

Matrix: Water

Analysis Batch: 537568

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	99.5		mg/L		99	90 - 110
Fluoride	5.00	5.10		mg/L		102	90 - 110
Sulfate	100	99.5		mg/L		99	90 - 110

Lab Sample ID: LCSD 280-537568/12

Matrix: Water

Analysis Batch: 537568

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	99.4		mg/L		99	90 - 110	0	10
Fluoride	5.00	5.09		mg/L		102	90 - 110	0	10
Sulfate	100	99.3		mg/L		99	90 - 110	0	10

Lab Sample ID: MRL 280-537568/10

Matrix: Water

Analysis Batch: 537568

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	4.79		mg/L		96	50 - 150
Fluoride	0.500	0.468	J	mg/L		94	50 - 150
Sulfate	5.00	4.55	J	mg/L		91	50 - 150

Lab Sample ID: MB 280-537783/6

Matrix: Water

Analysis Batch: 537783

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1.90	J	5.0	1.0	mg/L			05/28/21 14:50	1

Lab Sample ID: LCS 280-537783/4

Matrix: Water

Analysis Batch: 537783

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	100	93.1		mg/L		93	90 - 110

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 280-537783/5
Matrix: Water
Analysis Batch: 537783

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	100	93.5		mg/L		94	90 - 110	0	10

Lab Sample ID: MRL 280-537783/3
Matrix: Water
Analysis Batch: 537783

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate	5.00	4.32	J	mg/L		86	50 - 150		

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 280-535479/1
Matrix: Water
Analysis Batch: 535479

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			05/08/21 11:42	1

Lab Sample ID: LCS 280-535479/2
Matrix: Water
Analysis Batch: 535479

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids (TDS)	501	522		mg/L		104	88 - 114		

Lab Sample ID: MB 280-535480/1
Matrix: Water
Analysis Batch: 535480

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			05/08/21 11:43	1

Lab Sample ID: LCS 280-535480/2
Matrix: Water
Analysis Batch: 535480

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids (TDS)	501	491		mg/L		98	88 - 114		

Lab Sample ID: 280-148410-1 DU
Matrix: Water
Analysis Batch: 535480

Client Sample ID: PNMW17
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D		RPD	RPD Limit
Total Dissolved Solids (TDS)	1300		1280		mg/L			0.6	10

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QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 280-535602/1
Matrix: Water
Analysis Batch: 535602

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			05/10/21 13:38	1

Lab Sample ID: LCS 280-535602/2
Matrix: Water
Analysis Batch: 535602

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	100	96.4		mg/L		96	79 - 114

Lab Sample ID: LCSD 280-535602/3
Matrix: Water
Analysis Batch: 535602

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Suspended Solids	100	93.6		mg/L		94	79 - 114	3	20

Lab Sample ID: MB 280-535631/1
Matrix: Water
Analysis Batch: 535631

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			05/10/21 16:14	1

Lab Sample ID: LCS 280-535631/2
Matrix: Water
Analysis Batch: 535631

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	100	99.6		mg/L		100	79 - 114

Lab Sample ID: LCSD 280-535631/3
Matrix: Water
Analysis Batch: 535631

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Suspended Solids	100	113		mg/L		113	79 - 114	12	20

Lab Sample ID: 280-148410-2 DU
Matrix: Water
Analysis Batch: 535631

Client Sample ID: PNMW18
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	9.6		7.60	F5	mg/L		23	10

Lab Sample ID: MB 280-535715/1
Matrix: Water
Analysis Batch: 535715

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			05/11/21 11:34	1

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QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: LCS 280-535715/2
Matrix: Water
Analysis Batch: 535715

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	100	79.2		mg/L		79	79 - 114

Lab Sample ID: MB 280-535880/1
Matrix: Water
Analysis Batch: 535880

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			05/12/21 12:16	1

Lab Sample ID: LCS 280-535880/2
Matrix: Water
Analysis Batch: 535880

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	100	86.0		mg/L		86	79 - 114

Lab Sample ID: LCSD 280-535880/3
Matrix: Water
Analysis Batch: 535880

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Suspended Solids	100	83.2		mg/L		83	79 - 114	3	20

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-509510/23-A
Matrix: Water
Analysis Batch: 220906

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 509510

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.006933	U	0.0562	0.0562	1.00	0.119	pCi/L	05/13/21 15:59	06/08/21 19:35	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	72.4		40 - 110	05/13/21 15:59	06/08/21 19:35	1

Lab Sample ID: LCS 160-509510/1-A
Matrix: Water
Analysis Batch: 513127

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 509510

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	11.3	11.03		1.17	1.00	0.142	pCi/L	97	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	70.0		40 - 110

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QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-512597/23-A

Matrix: Water

Analysis Batch: 220906

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 512597

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.4834		0.274	0.278	1.00	0.402	pCi/L	06/03/21 09:11	06/08/21 11:32	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	78.8		40 - 110					06/03/21 09:11	06/08/21 11:32	1
Y Carrier	87.1		40 - 110					06/03/21 09:11	06/08/21 11:32	1

Lab Sample ID: LCS 160-512597/1-A

Matrix: Water

Analysis Batch: 513354

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 512597

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	9.65	8.627		1.04	1.00	0.411	pCi/L	89	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	93.1		40 - 110						
Y Carrier	88.6		40 - 110						

Lab Sample ID: LCSD 160-512597/2-A

Matrix: Water

Analysis Batch: 513354

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 512597

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228	9.65	9.228		1.16	1.00	0.498	pCi/L	96	75 - 125	0.27	1
Carrier	LCSD %Yield	LCSD Qualifier	Limits								
Ba Carrier	85.4		40 - 110								
Y Carrier	76.6		40 - 110								

QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Metals

Prep Batch: 485385

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148410-1	PNMW17	Total Recoverable	Water	3005A	
280-148410-2	PNMW18	Total Recoverable	Water	3005A	
280-148410-3	PNMW19	Total Recoverable	Water	3005A	
280-148410-4	PNMW21	Total Recoverable	Water	3005A	
280-148410-5	PNMW20	Total Recoverable	Water	3005A	
280-148410-6	PNMW22	Total Recoverable	Water	3005A	
280-148410-7	PNMW23	Total Recoverable	Water	3005A	
280-148410-8	PNMW18DUP	Total Recoverable	Water	3005A	
280-148410-9	PNMW20EB	Total Recoverable	Water	3005A	
MB 240-485385/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-485385/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-485385/3-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-148410-1 MS	PNMW17	Total Recoverable	Water	3005A	
280-148410-1 MSD	PNMW17	Total Recoverable	Water	3005A	

Prep Batch: 485390

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148410-1	PNMW17	Total/NA	Water	7470A	
280-148410-2	PNMW18	Total/NA	Water	7470A	
280-148410-3	PNMW19	Total/NA	Water	7470A	
280-148410-4	PNMW21	Total/NA	Water	7470A	
280-148410-5	PNMW20	Total/NA	Water	7470A	
280-148410-6	PNMW22	Total/NA	Water	7470A	
280-148410-7	PNMW23	Total/NA	Water	7470A	
280-148410-8	PNMW18DUP	Total/NA	Water	7470A	
280-148410-9	PNMW20EB	Total/NA	Water	7470A	
MB 240-485390/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-485390/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 485625

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148410-2	PNMW18	Total Recoverable	Water	6010C	485385
280-148410-3	PNMW19	Total Recoverable	Water	6010C	485385
280-148410-4	PNMW21	Total Recoverable	Water	6010C	485385
280-148410-5	PNMW20	Total Recoverable	Water	6010C	485385
280-148410-6	PNMW22	Total Recoverable	Water	6010C	485385
280-148410-7	PNMW23	Total Recoverable	Water	6010C	485385
280-148410-8	PNMW18DUP	Total Recoverable	Water	6010C	485385
280-148410-9	PNMW20EB	Total Recoverable	Water	6010C	485385

Analysis Batch: 485757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148410-1	PNMW17	Total/NA	Water	7470A	485390
280-148410-2	PNMW18	Total/NA	Water	7470A	485390
280-148410-3	PNMW19	Total/NA	Water	7470A	485390
280-148410-4	PNMW21	Total/NA	Water	7470A	485390
280-148410-5	PNMW20	Total/NA	Water	7470A	485390
280-148410-6	PNMW22	Total/NA	Water	7470A	485390
280-148410-7	PNMW23	Total/NA	Water	7470A	485390
280-148410-8	PNMW18DUP	Total/NA	Water	7470A	485390
280-148410-9	PNMW20EB	Total/NA	Water	7470A	485390

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QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Metals (Continued)

Analysis Batch: 485757 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-485390/1-A	Method Blank	Total/NA	Water	7470A	485390
LCS 240-485390/2-A	Lab Control Sample	Total/NA	Water	7470A	485390

Analysis Batch: 485764

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148410-1	PNMW17	Total Recoverable	Water	6020A	485385
280-148410-2	PNMW18	Total Recoverable	Water	6020A	485385
280-148410-3	PNMW19	Total Recoverable	Water	6020A	485385
280-148410-4	PNMW21	Total Recoverable	Water	6020A	485385
280-148410-5	PNMW20	Total Recoverable	Water	6020A	485385
280-148410-6	PNMW22	Total Recoverable	Water	6020A	485385
280-148410-7	PNMW23	Total Recoverable	Water	6020A	485385
280-148410-8	PNMW18DUP	Total Recoverable	Water	6020A	485385
280-148410-9	PNMW20EB	Total Recoverable	Water	6020A	485385
MB 240-485385/1-A	Method Blank	Total Recoverable	Water	6020A	485385
LCS 240-485385/3-A	Lab Control Sample	Total Recoverable	Water	6020A	485385
280-148410-1 MS	PNMW17	Total Recoverable	Water	6020A	485385
280-148410-1 MSD	PNMW17	Total Recoverable	Water	6020A	485385

Analysis Batch: 486046

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148410-1	PNMW17	Total Recoverable	Water	6010C	485385
MB 240-485385/1-A	Method Blank	Total Recoverable	Water	6010C	485385
LCS 240-485385/2-A	Lab Control Sample	Total Recoverable	Water	6010C	485385

Analysis Batch: 486047

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148410-1	PNMW17	Total Recoverable	Water	6020A	485385
280-148410-2	PNMW18	Total Recoverable	Water	6020A	485385
280-148410-3	PNMW19	Total Recoverable	Water	6020A	485385
280-148410-4	PNMW21	Total Recoverable	Water	6020A	485385
280-148410-5	PNMW20	Total Recoverable	Water	6020A	485385
280-148410-6	PNMW22	Total Recoverable	Water	6020A	485385
280-148410-7	PNMW23	Total Recoverable	Water	6020A	485385
280-148410-8	PNMW18DUP	Total Recoverable	Water	6020A	485385
280-148410-9	PNMW20EB	Total Recoverable	Water	6020A	485385
MB 240-485385/1-A	Method Blank	Total Recoverable	Water	6020A	485385
LCS 240-485385/3-A	Lab Control Sample	Total Recoverable	Water	6020A	485385
280-148410-1 MS	PNMW17	Total Recoverable	Water	6020A	485385
280-148410-1 MSD	PNMW17	Total Recoverable	Water	6020A	485385

General Chemistry

Analysis Batch: 535479

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148410-3	PNMW19	Total/NA	Water	SM 2540C	
280-148410-4	PNMW21	Total/NA	Water	SM 2540C	
280-148410-5	PNMW20	Total/NA	Water	SM 2540C	
280-148410-6	PNMW22	Total/NA	Water	SM 2540C	
280-148410-7	PNMW23	Total/NA	Water	SM 2540C	
280-148410-8	PNMW18DUP	Total/NA	Water	SM 2540C	

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QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

General Chemistry (Continued)

Analysis Batch: 535479 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148410-9	PNMW20EB	Total/NA	Water	SM 2540C	
MB 280-535479/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-535479/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 535480

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148410-1	PNMW17	Total/NA	Water	SM 2540C	
280-148410-2	PNMW18	Total/NA	Water	SM 2540C	
MB 280-535480/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-535480/2	Lab Control Sample	Total/NA	Water	SM 2540C	
280-148410-1 DU	PNMW17	Total/NA	Water	SM 2540C	

Analysis Batch: 535602

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148410-1	PNMW17	Total/NA	Water	SM 2540D	
280-148410-8	PNMW18DUP	Total/NA	Water	SM 2540D	
MB 280-535602/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-535602/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 280-535602/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	

Analysis Batch: 535631

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148410-2	PNMW18	Total/NA	Water	SM 2540D	
MB 280-535631/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-535631/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 280-535631/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	
280-148410-2 DU	PNMW18	Total/NA	Water	SM 2540D	

Analysis Batch: 535676

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148410-1	PNMW17	Total/NA	Water	9040B	
280-148410-2	PNMW18	Total/NA	Water	9040B	
280-148410-3	PNMW19	Total/NA	Water	9040B	
280-148410-4	PNMW21	Total/NA	Water	9040B	
280-148410-5	PNMW20	Total/NA	Water	9040B	
280-148410-6	PNMW22	Total/NA	Water	9040B	
280-148410-7	PNMW23	Total/NA	Water	9040B	
280-148410-8	PNMW18DUP	Total/NA	Water	9040B	
LCS 280-535676/30	Lab Control Sample	Total/NA	Water	9040B	
LCS 280-535676/4	Lab Control Sample	Total/NA	Water	9040B	
280-148410-3 DU	PNMW19	Total/NA	Water	9040B	

Analysis Batch: 535715

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148410-3	PNMW19	Total/NA	Water	SM 2540D	
280-148410-4	PNMW21	Total/NA	Water	SM 2540D	
280-148410-6	PNMW22	Total/NA	Water	SM 2540D	
280-148410-7	PNMW23	Total/NA	Water	SM 2540D	
MB 280-535715/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-535715/2	Lab Control Sample	Total/NA	Water	SM 2540D	

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QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

General Chemistry

Analysis Batch: 535764

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148410-9	PNMW20EB	Total/NA	Water	9040B	
LCS 280-535764/4	Lab Control Sample	Total/NA	Water	9040B	
280-148410-F-6 DU	280-148410-F-6 DU	Total/NA	Water	9040B	

Analysis Batch: 535880

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148410-5	PNMW20	Total/NA	Water	SM 2540D	
280-148410-9	PNMW20EB	Total/NA	Water	SM 2540D	
MB 280-535880/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-535880/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 280-535880/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	

Analysis Batch: 537391

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148410-1	PNMW17	Total/NA	Water	9056A	
280-148410-2	PNMW18	Total/NA	Water	9056A	
280-148410-2	PNMW18	Total/NA	Water	9056A	
280-148410-3	PNMW19	Total/NA	Water	9056A	
280-148410-4	PNMW21	Total/NA	Water	9056A	
280-148410-4	PNMW21	Total/NA	Water	9056A	
280-148410-5	PNMW20	Total/NA	Water	9056A	
280-148410-6	PNMW22	Total/NA	Water	9056A	
280-148410-6	PNMW22	Total/NA	Water	9056A	
280-148410-7	PNMW23	Total/NA	Water	9056A	
280-148410-8	PNMW18DUP	Total/NA	Water	9056A	
280-148410-8	PNMW18DUP	Total/NA	Water	9056A	
280-148410-9	PNMW20EB	Total/NA	Water	9056A	
MB 280-537391/6	Method Blank	Total/NA	Water	9056A	
LCS 280-537391/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-537391/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-537391/3	Lab Control Sample	Total/NA	Water	9056A	

Analysis Batch: 537568

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148410-5	PNMW20	Total/NA	Water	9056A	
280-148410-6	PNMW22	Total/NA	Water	9056A	
280-148410-7	PNMW23	Total/NA	Water	9056A	
MB 280-537568/13	Method Blank	Total/NA	Water	9056A	
LCS 280-537568/11	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-537568/12	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-537568/10	Lab Control Sample	Total/NA	Water	9056A	

Analysis Batch: 537783

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148410-5	PNMW20	Total/NA	Water	9056A	
MB 280-537783/6	Method Blank	Total/NA	Water	9056A	
LCS 280-537783/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-537783/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-537783/3	Lab Control Sample	Total/NA	Water	9056A	

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QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Rad

Prep Batch: 509510

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148410-1	PNMW17	Total/NA	Water	PrecSep-21	
280-148410-2	PNMW18	Total/NA	Water	PrecSep-21	
280-148410-3	PNMW19	Total/NA	Water	PrecSep-21	
280-148410-4	PNMW21	Total/NA	Water	PrecSep-21	
280-148410-5	PNMW20	Total/NA	Water	PrecSep-21	
280-148410-6	PNMW22	Total/NA	Water	PrecSep-21	
280-148410-7	PNMW23	Total/NA	Water	PrecSep-21	
280-148410-8	PNMW18DUP	Total/NA	Water	PrecSep-21	
280-148410-9	PNMW20EB	Total/NA	Water	PrecSep-21	
MB 160-509510/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-509510/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 512597

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148410-1	PNMW17	Total/NA	Water	PrecSep_0	
280-148410-2	PNMW18	Total/NA	Water	PrecSep_0	
280-148410-3	PNMW19	Total/NA	Water	PrecSep_0	
280-148410-4	PNMW21	Total/NA	Water	PrecSep_0	
280-148410-5	PNMW20	Total/NA	Water	PrecSep_0	
280-148410-6	PNMW22	Total/NA	Water	PrecSep_0	
280-148410-7	PNMW23	Total/NA	Water	PrecSep_0	
280-148410-8	PNMW18DUP	Total/NA	Water	PrecSep_0	
280-148410-9	PNMW20EB	Total/NA	Water	PrecSep_0	
MB 160-512597/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-512597/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-512597/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Client Sample ID: PNMW17

Lab Sample ID: 280-148410-1

Date Collected: 05/05/21 13:57

Matrix: Water

Date Received: 05/07/21 15:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	485385	05/12/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			486046	05/14/21 10:34	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	485385	05/12/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			485764	05/13/21 18:36	DTN	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	485385	05/12/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			486047	05/14/21 14:20	RKT	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	485390	05/12/21 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			485757	05/13/21 11:51	MRL	TAL CAN
Total/NA	Analysis	9040B		1			535676	05/10/21 13:35	QJB	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	537391	05/25/21 16:20	CJ	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	535480	05/08/21 11:43	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	535602	05/10/21 13:38	JMH	TAL DEN
Total/NA	Prep	PrecSep-21			1000.84 mL	1.0 g	509510	05/13/21 15:59	LAR	TAL SL
Total/NA	Analysis	9315		1			513127	06/07/21 13:51	AK	TAL SL
Total/NA	Prep	PrecSep_0			999.98 mL	1.0 g	512597	06/03/21 09:11	HRT	TAL SL
Total/NA	Analysis	9320		1			513352	06/08/21 11:38	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			513493	06/09/21 22:01	SCB	TAL SL

Client Sample ID: PNMW18

Lab Sample ID: 280-148410-2

Date Collected: 05/05/21 17:20

Matrix: Water

Date Received: 05/07/21 15:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	485385	05/12/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			485625	05/13/21 19:45	RKT	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	485385	05/12/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			485764	05/13/21 18:55	DTN	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	485385	05/12/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			486047	05/14/21 14:41	RKT	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	485390	05/12/21 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			485757	05/13/21 12:18	MRL	TAL CAN
Total/NA	Analysis	9040B		1			535676	05/10/21 13:39	QJB	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	537391	05/25/21 16:35	CJ	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	537391	05/25/21 16:50	CJ	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	535480	05/08/21 11:43	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	535631	05/10/21 16:14	JMH	TAL DEN
Total/NA	Prep	PrecSep-21			1000.44 mL	1.0 g	509510	05/13/21 15:59	LAR	TAL SL
Total/NA	Analysis	9315		1			513127	06/07/21 13:52	AK	TAL SL
Total/NA	Prep	PrecSep_0			1000.71 mL	1.0 g	512597	06/03/21 09:11	HRT	TAL SL
Total/NA	Analysis	9320		1			513352	06/08/21 11:38	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			513493	06/09/21 22:01	SCB	TAL SL

Eurofins TestAmerica, Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Client Sample ID: PNMW19

Lab Sample ID: 280-148410-3

Date Collected: 05/06/21 11:40

Matrix: Water

Date Received: 05/07/21 15:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	485385	05/12/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			485625	05/13/21 19:50	RKT	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	485385	05/12/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			485764	05/13/21 18:57	DTN	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	485385	05/12/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			486047	05/14/21 14:44	RKT	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	485390	05/12/21 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			485757	05/13/21 12:20	MRL	TAL CAN
Total/NA	Analysis	9040B		1			535676	05/10/21 14:08	QJB	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	537391	05/25/21 17:05	CJ	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	535479	05/08/21 11:42	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	535715	05/11/21 11:34	LEB	TAL DEN
Total/NA	Prep	PrecSep-21			999.04 mL	1.0 g	509510	05/13/21 15:59	LAR	TAL SL
Total/NA	Analysis	9315		1			513127	06/07/21 15:33	AK	TAL SL
Total/NA	Prep	PrecSep_0			1000.19 mL	1.0 g	512597	06/03/21 09:11	HRT	TAL SL
Total/NA	Analysis	9320		1			513352	06/08/21 11:38	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			513493	06/09/21 22:01	SCB	TAL SL

Client Sample ID: PNMW21

Lab Sample ID: 280-148410-4

Date Collected: 05/06/21 19:55

Matrix: Water

Date Received: 05/07/21 15:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	485385	05/12/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			485625	05/13/21 20:02	RKT	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	485385	05/12/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			485764	05/13/21 19:00	DTN	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	485385	05/12/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			486047	05/14/21 14:46	RKT	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	485390	05/12/21 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			485757	05/13/21 12:22	MRL	TAL CAN
Total/NA	Analysis	9040B		1			535676	05/10/21 14:16	QJB	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	537391	05/25/21 20:07	CJ	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	537391	05/25/21 20:21	CJ	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	535479	05/08/21 11:42	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	535715	05/11/21 11:34	LEB	TAL DEN
Total/NA	Prep	PrecSep-21			1000.01 mL	1.0 g	509510	05/13/21 15:59	LAR	TAL SL
Total/NA	Analysis	9315		1			513127	06/07/21 15:33	AK	TAL SL
Total/NA	Prep	PrecSep_0			999.85 mL	1.0 g	512597	06/03/21 09:11	HRT	TAL SL
Total/NA	Analysis	9320		1			513352	06/08/21 11:38	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			513493	06/09/21 22:01	SCB	TAL SL

Eurofins TestAmerica, Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Client Sample ID: PNMW20

Lab Sample ID: 280-148410-5

Date Collected: 05/07/21 11:55

Matrix: Water

Date Received: 05/07/21 15:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	485385	05/12/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			485625	05/13/21 20:07	RKT	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	485385	05/12/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			485764	05/13/21 19:02	DTN	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	485385	05/12/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			486047	05/14/21 14:49	RKT	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	485390	05/12/21 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			485757	05/13/21 12:24	MRL	TAL CAN
Total/NA	Analysis	9040B		1			535676	05/10/21 14:20	QJB	TAL DEN
Total/NA	Analysis	9056A		10	10 mL	10 mL	537568	05/27/21 13:24	JMB	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	537391	05/25/21 20:51	CJ	TAL DEN
Total/NA	Analysis	9056A		50	5 mL	5 mL	537783	05/29/21 15:05	CJ	TAL DEN
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	535479	05/08/21 11:42	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	535880	05/12/21 12:16	LRB	TAL DEN
Total/NA	Prep	PrecSep-21			1000.06 mL	1.0 g	509510	05/13/21 15:59	LAR	TAL SL
Total/NA	Analysis	9315		1			513127	06/07/21 15:34	AK	TAL SL
Total/NA	Prep	PrecSep_0			1000.06 mL	1.0 g	512597	06/03/21 09:11	HRT	TAL SL
Total/NA	Analysis	9320		1			513352	06/08/21 11:38	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			513493	06/09/21 22:01	SCB	TAL SL

Client Sample ID: PNMW22

Lab Sample ID: 280-148410-6

Date Collected: 05/06/21 16:45

Matrix: Water

Date Received: 05/07/21 15:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	485385	05/12/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			485625	05/13/21 20:11	RKT	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	485385	05/12/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			485764	05/13/21 19:05	DTN	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	485385	05/12/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			486047	05/14/21 14:51	RKT	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	485390	05/12/21 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			485757	05/13/21 12:30	MRL	TAL CAN
Total/NA	Analysis	9040B		1			535676	05/10/21 14:24	QJB	TAL DEN
Total/NA	Analysis	9056A		10	10 mL	10 mL	537568	05/27/21 13:38	JMB	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	537391	05/25/21 21:06	CJ	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	537391	05/25/21 21:21	CJ	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	535479	05/08/21 11:42	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	535715	05/11/21 11:34	LEB	TAL DEN
Total/NA	Prep	PrecSep-21			1000.12 mL	1.0 g	509510	05/13/21 15:59	LAR	TAL SL
Total/NA	Analysis	9315		1			513127	06/07/21 15:34	AK	TAL SL
Total/NA	Prep	PrecSep_0			1000.32 mL	1.0 g	512597	06/03/21 09:11	HRT	TAL SL
Total/NA	Analysis	9320		1			513352	06/08/21 11:38	ANW	TAL SL

Eurofins TestAmerica, Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Client Sample ID: PNMW22

Date Collected: 05/06/21 16:45

Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Ra226_Ra228		1			513493	06/09/21 22:01	SCB	TAL SL

Client Sample ID: PNMW23

Date Collected: 05/06/21 13:15

Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	485385	05/12/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			485625	05/13/21 20:15	RKT	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	485385	05/12/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			485764	05/13/21 19:08	DTN	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	485385	05/12/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			486047	05/14/21 14:54	RKT	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	485390	05/12/21 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			485757	05/13/21 12:32	MRL	TAL CAN
Total/NA	Analysis	9040B		1			535676	05/10/21 14:27	QJB	TAL DEN
Total/NA	Analysis	9056A		10	10 mL	10 mL	537568	05/27/21 13:52	JMB	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	537391	05/25/21 23:05	CJ	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	535479	05/08/21 11:42	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	535715	05/11/21 11:34	LEB	TAL DEN
Total/NA	Prep	PrecSep-21			999.66 mL	1.0 g	509510	05/13/21 15:59	LAR	TAL SL
Total/NA	Analysis	9315		1			513127	06/07/21 17:15	AK	TAL SL
Total/NA	Prep	PrecSep_0			1000.17 mL	1.0 g	512597	06/03/21 09:11	HRT	TAL SL
Total/NA	Analysis	9320		1			220906	06/08/21 11:31	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			513493	06/09/21 22:01	SCB	TAL SL

Client Sample ID: PNMW18DUP

Date Collected: 05/05/21 17:20

Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	485385	05/12/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			485625	05/13/21 20:20	RKT	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	485385	05/12/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			485764	05/13/21 19:10	DTN	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	485385	05/12/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			486047	05/14/21 14:56	RKT	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	485390	05/12/21 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			485757	05/13/21 12:34	MRL	TAL CAN
Total/NA	Analysis	9040B		1			535676	05/10/21 14:31	QJB	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	537391	05/25/21 23:35	CJ	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	537391	05/25/21 23:50	CJ	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	535479	05/08/21 11:42	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	535602	05/10/21 13:38	JMH	TAL DEN

Eurofins TestAmerica, Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Client Sample ID: PNMW18DUP

Lab Sample ID: 280-148410-8

Date Collected: 05/05/21 17:20

Matrix: Water

Date Received: 05/07/21 15:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.50 mL	1.0 g	509510	05/13/21 15:59	LAR	TAL SL
Total/NA	Analysis	9315		1			513127	06/07/21 17:15	AK	TAL SL
Total/NA	Prep	PrecSep_0			1000.04 mL	1.0 g	512597	06/03/21 09:11	HRT	TAL SL
Total/NA	Analysis	9320		1			220906	06/08/21 12:43	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			513493	06/09/21 22:01	SCB	TAL SL

Client Sample ID: PNMW20EB

Lab Sample ID: 280-148410-9

Date Collected: 05/07/21 10:00

Matrix: Water

Date Received: 05/07/21 15:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	485385	05/12/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			485625	05/13/21 20:24	RKT	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	485385	05/12/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			485764	05/13/21 19:13	DTN	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	485385	05/12/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			486047	05/14/21 14:59	RKT	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	485390	05/12/21 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			485757	05/13/21 12:36	MRL	TAL CAN
Total/NA	Analysis	9040B		1			535764	05/11/21 13:50	QJB	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	537391	05/26/21 00:05	CJ	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	535479	05/08/21 11:42	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	535880	05/12/21 12:16	LRB	TAL DEN
Total/NA	Prep	PrecSep-21			999.67 mL	1.0 g	509510	05/13/21 15:59	LAR	TAL SL
Total/NA	Analysis	9315		1	1.0 mL	1.0 mL	513127	06/07/21 17:15	AK	TAL SL
Total/NA	Prep	PrecSep_0			1000.41 mL	1.0 g	512597	06/03/21 09:11	HRT	TAL SL
Total/NA	Analysis	9320		1			220906	06/08/21 11:31	RTM	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			513493	06/09/21 22:01	SCB	TAL SL

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Laboratory: Eurofins TestAmerica, Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-21
A2LA	ISO/IEC 17025	2907.01	10-31-21
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-28-22
Arizona	State	AZ0713	12-21-21
Arkansas DEQ	State	19-047-0	06-01-21
California	State	2513	01-08-22
Connecticut	State	PH-0686	11-30-22
Florida	NELAP	E87667-57	07-01-21
Georgia	State	4025-011	01-08-22
Illinois	NELAP	2000172019-1	04-30-21 *
Iowa	State	IA#370	12-02-21
Kansas	NELAP	E-10166	04-30-22
Kentucky (WW)	State	KY98047	12-31-21
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-21
Minnesota	NELAP	1788752	12-31-21
Nevada	State	CO000262020-1	07-31-21
New Hampshire	NELAP	205319	04-29-22
New Jersey	NELAP	190002	06-30-21
New York	NELAP	59923	04-01-22
North Carolina (WW/SW)	State	358	12-31-21
North Dakota	State	R-034	01-08-22
Oklahoma	State	2018-006	09-01-21
Oregon	NELAP	4025-011	01-08-22
Pennsylvania	NELAP	013	07-31-21
South Carolina	State	72002001	01-08-22
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-20-18	09-30-21
US Fish & Wildlife	US Federal Programs	058448	08-01-21
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-21
Virginia	NELAP	10490	06-14-21
Washington	State	C583-19	08-03-21
West Virginia DEP	State	354	11-30-21
Wisconsin	State	999615430	08-31-21
Wyoming (UST)	A2LA	2907.01	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Denver

Accreditation/Certification Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-22
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-21
Georgia	State	4062	02-23-22
Illinois	NELAP	200004	07-31-21
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-21 *
Kentucky (UST)	State	112225	02-23-22
Kentucky (WW)	State	KY98016	12-31-21
Minnesota	NELAP	OH00048	12-31-21
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-21
New York	NELAP	10975	03-31-22
Ohio VAP	State	CL0024	12-21-23
Oregon	NELAP	4062	02-23-22
Pennsylvania	NELAP	68-00340	08-31-21
Texas	NELAP	T104704517-18-10	08-31-21
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-21
Washington	State	C971	01-12-22
West Virginia DEP	State	210	12-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Denver

Accreditation/Certification Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Laboratory: Eurofins TestAmerica, St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-21
California	Los Angeles County Sanitation Districts	10259	06-30-21
California	State	2886	06-30-21
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-21
HI - RadChem Recognition	State	n/a	06-30-21
Illinois	NELAP	004553	11-30-21
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-21
Kentucky (DW)	State	KY90125	01-01-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-21
Louisiana	NELAP	04080	06-30-21
Louisiana (DW)	State	LA011	12-31-21
Maryland	State	310	09-30-21
MI - RadChem Recognition	State	9005	06-30-21
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-21
New Jersey	NELAP	MO002	06-30-21
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-21
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-21
Oregon	NELAP	4157	09-01-21
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-21
Texas	NELAP	T104704193	07-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542019-11	07-31-21
Virginia	NELAP	10310	06-14-21
Washington	State	C592	08-30-21
West Virginia DEP	State	381	10-31-21

Eurofins TestAmerica, Denver

Client Information		Sampler: <u>Rainsberger</u>		Lab PM: <u>Harrington, Danielle M</u>		Carrier Tracking No(s): <u>280-103358-30221.1</u>	
Client Contact: <u>Molly Reeves</u>		Phone: <u>208 841 9707</u>		E-Mail: <u>Danielle.Harrington@Eurofinset.com</u>		Page: <u>1 of 1</u>	
Company: <u>HDR Inc</u>		PO #: <u>DEN-019</u>		Job #: <u></u>		COC No: <u>280-103358-30221.1</u>	
Address: <u>9781 S. Meridian Blvd Suite 400</u>		TAT Requested (days): <u></u>		Due Date Requested: <u></u>		Analysis Requested: <u></u>	
City: <u>Englewood</u>		State: <u>CO</u>		Zip: <u>80112</u>		Preservation Codes:	
Phone: <u>734-263-7138(Tel)</u>		Email: <u>Molly.Reeves@hdrinc.com</u>		Project Name: <u>Xcel Energy GW CCR Monitoring - Pawnee</u>		Other: <u></u>	
Site: <u>BASP / AWP</u>		SSOW#: <u></u>		Project #: <u>28014378</u>		Special Instructions/Note: <u></u>	
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=soil, BT=Tissue, AA=)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)
<u>PMMW 17</u>	<u>5.5.21</u>	<u>1357</u>	<u>3</u>	<u>W</u>	<u>2</u>	<u>2</u>	<u>2</u>
<u>PMMW 18</u>	<u>5.5.21</u>	<u>1720</u>	<u>3</u>	<u>W</u>	<u>2</u>	<u>2</u>	<u>2</u>
<u>PMMW 19</u>	<u>5.6.21</u>	<u>1140</u>	<u>3</u>	<u>W</u>	<u>2</u>	<u>2</u>	<u>2</u>
<u>PMMW 20</u>	<u>5.6.21</u>	<u>1455</u>	<u>3</u>	<u>W</u>	<u>2</u>	<u>2</u>	<u>2</u>
<u>PMMW 21</u>	<u>5.7.21</u>	<u>1155</u>	<u>3</u>	<u>W</u>	<u>2</u>	<u>2</u>	<u>2</u>
<u>PMMW 22</u>	<u>5.6.21</u>	<u>1645</u>	<u>3</u>	<u>W</u>	<u>2</u>	<u>2</u>	<u>2</u>
<u>PMMW 23</u>	<u>5.6.21</u>	<u>1315</u>	<u>3</u>	<u>W</u>	<u>2</u>	<u>2</u>	<u>2</u>
<u>PMMW 18 DUP</u>	<u>5.5.21</u>	<u>1720</u>	<u>3</u>	<u>W</u>	<u>2</u>	<u>2</u>	<u>2</u>
<u>PMMW 20 EA</u>							
Possible Hazard Identification		☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological		☐ Return To Client ☐ Disposal By Lab ☐ Archive For <u>Months</u>		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
Deliverable Requested: I, II, III, IV, Other (specify) <u></u>		Empty Kit Relinquished by: <u></u>		Special Instructions/QC Requirements: <u></u>		Method of Shipment: <u></u>	
Relinquished by: <u>Kaitlin Rainsberger</u>		Date/Time: <u>5.7.2021 / 1505</u>		Company: <u>HDR</u>		Date/Time: <u>5/7/2021 1505</u>	
Relinquished by: <u></u>		Date/Time: <u></u>		Company: <u></u>		Date/Time: <u></u>	
Relinquished by: <u></u>		Date/Time: <u></u>		Company: <u></u>		Date/Time: <u></u>	
Custody Seals Intact: <u>Yes</u>		Custody Seal No.: <u></u>		Cooler Temperature: <u>24.4°C</u>		Other Remarks: <u>DRUCP704</u>	

Chain of Custody Record

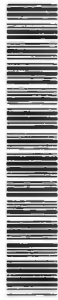
Environment Testing
America

Client Information (Sub Contract Lab)		Lab PM: Harrington, Danielle M		Carrier Tracking No(s):		COC No: 280-567527.1					
Shipping/Receiving		Phone:		State of Origin: Colorado		Page: 1 of 1					
Company: TestAmerica Laboratories, Inc.		E-Mail: Danielle.Harrington@Eurofinset.com		Accreditations Required (See note):		Job #: 280-148410-1					
Address: 13715 Rider Trail North, Earth City, MO, 63045		Due Date Requested: 6/7/2021		Analysis Requested:		Preservation Codes:					
City: Earth City		TAT Requested (days):				A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA M - Hexane N - None O - AsNaO2 P - Na2OAS Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)					
Phone: 314-298-8566(Tel) 314-298-8757(Fax)		PO #:									
Email:		WO #:									
Project Name: Xcel Energy GW CCR Monitoring - Pawnee		Project #:									
Site: Xcel Energy - Pawnee		SSOW#:									
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=tissue, AA=air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226/PreSep_21 Radium-226 (1/3)	9320_Ra228/PreSep_0 Radium-228 (2/3)	Ra226Ra228_GFP/PC/Ra-226/Ra-228 (3/3)	Total Number of containers	Special Instructions/Note:
PNMW17 (280-148410-1)	5/5/21	13:57 Mountain		Water			X	X	X	2	
PNMW18 (280-148410-2)	5/5/21	17:20 Mountain		Water			X	X	X	2	
PNMW19 (280-148410-3)	5/6/21	11:40 Mountain		Water			X	X	X	2	
PNMW21 (280-148410-4)	5/6/21	19:55 Mountain		Water			X	X	X	2	
PNMW20 (280-148410-5)	5/7/21	11:55 Mountain		Water			X	X	X	2	
PNMW22 (280-148410-6)	5/6/21	16:45 Mountain		Water			X	X	X	2	
PNMW23 (280-148410-7)	5/6/21	13:15 Mountain		Water			X	X	X	2	
PNMW18DUP (280-148410-8)	5/5/21	17:20 Mountain		Water			X	X	X	2	
PNMW20EB (280-148410-9)	5/7/21	10:00 Mountain		Water			X	X	X	2	
Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica.											
Possible Hazard Identification											
Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify) _____ Primary Deliverable Rank: 2											
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months											
Special Instructions/QC Requirements:											
Empty Kit Relinquished by: _____ Date: _____ Time: _____ Method of Shipment: _____											
Relinquished by: _____ Date/Time: _____ Company: _____											
Relinquished by: _____ Date/Time: _____ Company: _____											
Relinquished by: _____ Date/Time: _____ Company: _____											
Custody Seals Intact: _____ Cooler Temperature(s) °C and Other Remarks: _____											

Chain of Custody Record



Environment Testing
America



Client Information (Sub Contract Lab)		Sampler: Harrington, Danielle M		Lab PM: Harrington, Danielle M		Carrier Tracking No(s): 280-567528.1		COC No: 280-567528.1	
Client Contact:		Phone:		E-Mail: Danielle.Harrington@Eurofins.com		State of Origin: Colorado		Page: Page 1 of 1	
Company: TestAmerica Laboratories, Inc.		Address: 4101 Shuffel Street NW, North Canton, OH, 44720		City: North Canton		State: OH, 44720		Job #: 280-148410-2	
Phone: 330-497-9396(Tel) 330-497-0772(Fax)		Email:		PO #:		WO #:		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - HCAA W - pH 4-5 Z - other (specify)	
Project Name: Xcel Energy GW CCR Monitoring - Pawnee		Project #: 28014378		SSOW#:		Due Date Requested: 5/20/2021		Analysis Requested	
TAT Requested (days):		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=water/oil, BT=tissue, A=air)	
Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		6010C/3005A Boron		6020A/3005A Calcium		Total Number of Containers	
Sample Identification - Client ID (Lab ID)		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=water/oil, BT=tissue, A=air)	
PNMW17 (280-148410-1)		5/5/21		13:57 Mountain		Water		X	
PNMW21 (280-148410-4)		5/6/21		19:55 Mountain		Water		X	
PNMW22 (280-148410-6)		5/6/21		16:45 Mountain		Water		X	
PNMW23 (280-148410-7)		5/6/21		13:15 Mountain		Water		X	
Special Instructions/Note: 562									
Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica									
Possible Hazard Identification									
Unconfirmed									
Deliverable Requested: I, II, III, IV, Other (specify)									
Primary Deliverable Rank: 2									
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)									
Return To Client ☐ Disposal By Lab ☐ Archive For ☐ Months									
Special Instructions/QC Requirements:									
Empty Kit Relinquished by:									
Date:									
Relinquished by: [Signature]									
Date/Time: 5/10/21 16:40									
Relinquished by: [Signature]									
Date/Time: 5-11-21 10:20									
Relinquished by: [Signature]									
Date/Time: [Blank]									
Custody Seals Intact: Custody Seal No.:									
Cooler Temperature(s) °C and Other Remarks:									

Eurofins TestAmerica Canton Sample Receipt Form/Narrative Canton Facility				Login # : _____
Client <u>ETA - Denver</u>		Site Name <u>Xcel Energy</u>		Cooler unpacked by: <u>JMR</u>
Cooler Received on <u>5-11-21</u>		Opened on <u>5-11-21</u>		
FedEx: 1 st Grd Exp ☒ UPS ☐ FAS ☐ Clipper ☐ Client Drop Off ☐ TestAmerica Courier ☐ Other ☐				
Receipt After-hours: Drop-off Date/Time _____ Storage Location _____				
TestAmerica Cooler # <u>TA</u> Foam Box ☐ Client Cooler ☒ Box ☐ Other ☐ Packing material used: Bubble Wrap ☐ Foam ☐ <u>Plastic Bag</u> ☒ None ☐ Other ☐ COOLANT: Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ Water ☒ <u>None</u> ☒ ☐ See Multiple Cooler Form				
1. Cooler temperature upon receipt ☐ IR GUN# IR-11 (CF +0.1 °C) Observed Cooler Temp. <u>8.4</u> °C Corrected Cooler Temp. <u>8.5</u> °C IR GUN #IR-12 (CF +0.2 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C				
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity <u>1</u> ☒ Yes ☐ No -Were the seals on the outside of the cooler(s) signed & dated? ☒ Yes ☐ No ☐ NA -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? ☒ Yes ☐ No ☐ NA -Were tamper/custody seals intact and uncompromised? ☒ Yes ☐ No ☐ NA				
3. Shippers' packing slip attached to the cooler(s)? ☒ Yes ☐ No 4. Did custody papers accompany the sample(s)? ☒ Yes ☐ No 5. Were the custody papers relinquished & signed in the appropriate place? ☒ Yes ☐ No 6. Was/were the person(s) who collected the samples clearly identified on the COC? ☒ Yes ☐ No 7. Did all bottles arrive in good condition (Unbroken)? ☒ Yes ☐ No 8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? ☒ Yes ☐ No 9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp(Y/N)? ☒ Yes ☐ No 10. Were correct bottle(s) used for the test(s) indicated? ☒ Yes ☐ No 11. Sufficient quantity received to perform indicated analyses? ☒ Yes ☐ No 12. Are these work share samples and all listed on the COC? ☒ Yes ☐ No If yes, Questions 13-17 have been checked at the originating laboratory.				
13. Were all preserved sample(s) at the correct pH upon receipt? ☒ Yes ☐ No ☐ NA pH Strip Lot# <u>HC022887</u> 14. Were VOAs on the COC? ☒ Yes ☐ No 15. Were air bubbles >6 mm in any VOA vials? ☒ Yes ☐ No ☐ NA Larger than this. 16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ ☒ Yes ☐ No 17. Was a LL Hg or Me Hg trip blank present? _____ ☒ Yes ☐ No				
Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____ Concerning _____				

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page	Samples processed by: _____ _____ _____ _____
19. SAMPLE CONDITION Sample(s) _____ were received after the recommended holding time had expired. Sample(s) _____ were received in a broken container. Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)	
20. SAMPLE PRESERVATION Sample(s) _____ were further preserved in the laboratory. Time preserved: _____ Preservative(s) added/Lot number(s): _____ VOA Sample Preservation - Date/Time VOAs Frozen: _____	

WI-NC-099

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-148410-1

Login Number: 148410

List Source: Eurofins TestAmerica, Denver

List Number: 1

Creator: Rystrom, Joshua R

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-148410-1

Login Number: 148410

List Number: 2

Creator: Worthington, Sierra M

List Source: Eurofins TestAmerica, St. Louis

List Creation: 05/11/21 10:50 AM

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Tracer/Carrier Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-1

Method: 9315 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)					
		Ba					
Lab Sample ID	Client Sample ID	(40-110)					
280-148410-1	PNMW17	68.8					
280-148410-2	PNMW18	64.0					
280-148410-3	PNMW19	67.6					
280-148410-4	PNMW21	68.8					
280-148410-5	PNMW20	74.8					
280-148410-6	PNMW22	72.7					
280-148410-7	PNMW23	65.8					
280-148410-8	PNMW18DUP	65.8					
280-148410-9	PNMW20EB	68.2					
LCS 160-509510/1-A	Lab Control Sample	70.0					
MB 160-509510/23-A	Method Blank	72.4					
Tracer/Carrier Legend							
Ba = Ba Carrier							

Method: 9320 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)					
		Ba		Y			
Lab Sample ID	Client Sample ID	(40-110)	(40-110)				
280-148410-1	PNMW17	81.9	88.2				
280-148410-2	PNMW18	89.4	87.9				
280-148410-3	PNMW19	82.2	85.6				
280-148410-4	PNMW21	87.9	86.0				
280-148410-5	PNMW20	91.9	86.7				
280-148410-6	PNMW22	89.1	86.7				
280-148410-7	PNMW23	94.1	84.9				
280-148410-8	PNMW18DUP	87.2	88.6				
280-148410-9	PNMW20EB	89.4	92.3				
LCS 160-512597/1-A	Lab Control Sample	93.1	88.6				
LCSD 160-512597/2-A	Lab Control Sample Dup	85.4	76.6				
MB 160-512597/23-A	Method Blank	78.8	87.1				
Tracer/Carrier Legend							
Ba = Ba Carrier							
Y = Y Carrier							

ANALYTICAL REPORT

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

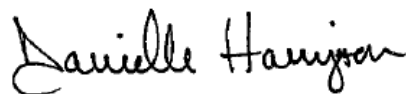
Laboratory Job ID: 280-148410-2

Client Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

For:

HDR Inc
1670 Broadway
Suite 3400
Denver, Colorado 80202

Attn: Molly Reeves



Authorized for release by:
6/1/2021 8:21:50 AM

Danielle Harrington, Project Manager II
(303)736-0176
Danielle.Harrington@Eurofinset.com

LINKS

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results through
TotalAccess

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www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1

Table of Contents 2

Definitions 3

Case Narrative 4

Detection Summary 5

Method Summary 6

Sample Summary 7

Client Sample Results 8

QC Sample Results 10

QC Association 14

Chronicle 16

Certification Summary 18

Chain of Custody 20

Receipt Checklists 23



Definitions/Glossary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-2

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-2

Job ID: 280-148410-2

Laboratory: Eurofins TestAmerica, Denver

Narrative

CASE NARRATIVE

Client: HDR Inc

Project: Xcel Energy GW CCR Monitoring - Pawnee

Report Number: 280-148410-2

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 05/07/2021; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt were 1.1° C, 2.5° C, 3.0° C and 4.8° C.

TOTAL RECOVERABLE METALS- METHOD 6010C/6020A

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL RECOVERABLE METALS (ICPMS)

The accuracy and precision of the Calcium MS/MSD performed on a sample PNMW17 could not be reliably evaluated, as the concentrations present in the parent sample were 4 times greater than the matrix spike concentration. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GENERAL CHEMISTRY

All of the samples required a dilution or was prepped at a dilution for various analyses. The reporting limits have been adjusted accordingly.

The Fluoride sample duplicate analysis data associated with QC batch 280-537391 exhibited RPD data outside the QC limits. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-2

Client Sample ID: PNMW17

Lab Sample ID: 280-148410-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.18		0.10	0.023	mg/L	1		6010C	Total Recoverable
Calcium	200		1.0	0.58	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.1	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	250		15	5.1	mg/L	5		9056A	Total/NA
Sulfate	390		25	5.2	mg/L	5		9056A	Total/NA
Total Dissolved Solids (TDS)	1300		20	9.4	mg/L	1		SM 2540C	Total/NA

Client Sample ID: PNMW21

Lab Sample ID: 280-148410-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.18		0.10	0.023	mg/L	1		6010C	Total Recoverable
Calcium	190		1.0	0.58	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.7	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.3	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	250		15	5.1	mg/L	5		9056A	Total/NA
Fluoride	0.94		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	620		25	5.2	mg/L	5		9056A	Total/NA
Total Dissolved Solids (TDS)	1500		20	9.4	mg/L	1		SM 2540C	Total/NA

Client Sample ID: PNMW22

Lab Sample ID: 280-148410-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.18		0.10	0.023	mg/L	1		6010C	Total Recoverable
Calcium	280		1.0	0.58	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.5	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.9	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	240		15	5.1	mg/L	5		9056A	Total/NA
Fluoride	1.2		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	1000		50	10	mg/L	10		9056A	Total/NA
Total Dissolved Solids (TDS)	2100		20	9.4	mg/L	1		SM 2540C	Total/NA

Client Sample ID: PNMW23

Lab Sample ID: 280-148410-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.17		0.10	0.023	mg/L	1		6010C	Total Recoverable
Calcium	280		1.0	0.58	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.7	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.6	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	120		3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.43	J	0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	1400		50	10	mg/L	10		9056A	Total/NA
Total Dissolved Solids (TDS)	2400		20	9.4	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Method Summary

Client: HDR Inc

Job ID: 280-148410-2

Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CAN
6020A	Metals (ICP/MS)	SW846	TAL CAN
9040B	pH	SW846	TAL DEN
9056A	Anions, Ion Chromatography	SW846	TAL DEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL DEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Sample Summary

Client: HDR Inc

Job ID: 280-148410-2

Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
280-148410-1	PNMW17	Water	05/05/21 13:57	05/07/21 15:05	
280-148410-4	PNMW21	Water	05/06/21 19:55	05/07/21 15:05	
280-148410-6	PNMW22	Water	05/06/21 16:45	05/07/21 15:05	
280-148410-7	PNMW23	Water	05/06/21 13:15	05/07/21 15:05	

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-2

Method: 6010C - Metals (ICP) - Total Recoverable

Client Sample ID: PNMW17
Date Collected: 05/05/21 13:57
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.18		0.10	0.023	mg/L		05/12/21 14:00	05/14/21 10:34	1

Client Sample ID: PNMW21
Date Collected: 05/06/21 19:55
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.18		0.10	0.023	mg/L		05/12/21 14:00	05/13/21 20:02	1

Client Sample ID: PNMW22
Date Collected: 05/06/21 16:45
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.18		0.10	0.023	mg/L		05/12/21 14:00	05/13/21 20:11	1

Client Sample ID: PNMW23
Date Collected: 05/06/21 13:15
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.17		0.10	0.023	mg/L		05/12/21 14:00	05/13/21 20:15	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: PNMW17
Date Collected: 05/05/21 13:57
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	200		1.0	0.58	mg/L		05/12/21 14:00	05/13/21 18:36	1

Client Sample ID: PNMW21
Date Collected: 05/06/21 19:55
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	190		1.0	0.58	mg/L		05/12/21 14:00	05/13/21 19:00	1

Client Sample ID: PNMW22
Date Collected: 05/06/21 16:45
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	280		1.0	0.58	mg/L		05/12/21 14:00	05/13/21 19:05	1

Client Sample ID: PNMW23
Date Collected: 05/06/21 13:15
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	280		1.0	0.58	mg/L		05/12/21 14:00	05/13/21 19:08	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-2

General Chemistry

Client Sample ID: PNMW17
Date Collected: 05/05/21 13:57
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU			05/10/21 13:35	1
Temperature	20.1	HF	1.0	1.0	Degrees C			05/10/21 13:35	1
Chloride	250		15	5.1	mg/L			05/25/21 16:20	5
Fluoride	ND		2.5	0.83	mg/L			05/25/21 16:20	5
Sulfate	390		25	5.2	mg/L			05/25/21 16:20	5
Total Dissolved Solids (TDS)	1300		20	9.4	mg/L			05/08/21 11:43	1

Client Sample ID: PNMW21
Date Collected: 05/06/21 19:55
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.7	HF	0.1	0.1	SU			05/10/21 14:16	1
Temperature	20.3	HF	1.0	1.0	Degrees C			05/10/21 14:16	1
Chloride	250		15	5.1	mg/L			05/25/21 20:21	5
Fluoride	0.94		0.50	0.17	mg/L			05/25/21 20:07	1
Sulfate	620		25	5.2	mg/L			05/25/21 20:21	5
Total Dissolved Solids (TDS)	1500		20	9.4	mg/L			05/08/21 11:42	1

Client Sample ID: PNMW22
Date Collected: 05/06/21 16:45
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.5	HF	0.1	0.1	SU			05/11/21 13:36	1
Temperature	20.9	HF	1.0	1.0	Degrees C			05/11/21 13:36	1
Chloride	240		15	5.1	mg/L			05/25/21 21:21	5
Fluoride	1.2		0.50	0.17	mg/L			05/25/21 21:06	1
Sulfate	1000		50	10	mg/L			05/27/21 13:38	10
Total Dissolved Solids (TDS)	2100		20	9.4	mg/L			05/08/21 11:42	1

Client Sample ID: PNMW23
Date Collected: 05/06/21 13:15
Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.7	HF	0.1	0.1	SU			05/11/21 13:44	1
Temperature	20.6	HF	1.0	1.0	Degrees C			05/11/21 13:44	1
Chloride	120		3.0	1.0	mg/L			05/25/21 23:05	1
Fluoride	0.43	J	0.50	0.17	mg/L			05/25/21 23:05	1
Sulfate	1400		50	10	mg/L			05/27/21 13:52	10
Total Dissolved Solids (TDS)	2400		20	9.4	mg/L			05/08/21 11:42	1

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-2

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 240-485385/1-A
Matrix: Water
Analysis Batch: 486046

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 485385

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.023	mg/L		05/12/21 14:00	05/14/21 10:26	1

Lab Sample ID: LCS 240-485385/2-A
Matrix: Water
Analysis Batch: 486046

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 485385

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.08		mg/L		108	80 - 120

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 240-485385/1-A
Matrix: Water
Analysis Batch: 485764

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 485385

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	ND		1.0	0.58	mg/L		05/12/21 14:00	05/13/21 18:31	1

Lab Sample ID: LCS 240-485385/3-A
Matrix: Water
Analysis Batch: 485764

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 485385

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	25.0	23.2		mg/L		93	80 - 120

Lab Sample ID: 280-148410-1 MS
Matrix: Water
Analysis Batch: 485764

Client Sample ID: PNMW17
Prep Type: Total Recoverable
Prep Batch: 485385

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	200		25.0	217	4	mg/L		77	75 - 125

Lab Sample ID: 280-148410-1 MSD
Matrix: Water
Analysis Batch: 485764

Client Sample ID: PNMW17
Prep Type: Total Recoverable
Prep Batch: 485385

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	200		25.0	214	4	mg/L		64	75 - 125	1	20

Method: 9040B - pH

Lab Sample ID: LCS 280-535676/30
Matrix: Water
Analysis Batch: 535676

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH adj. to 25 deg C	7.00	7.1		SU		101	99 - 101

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QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-2

Method: 9040B - pH (Continued)

Lab Sample ID: LCS 280-535676/4

Matrix: Water

Analysis Batch: 535676

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH adj. to 25 deg C	7.00	7.1		SU		101	99 - 101

Lab Sample ID: LCS 280-535764/4

Matrix: Water

Analysis Batch: 535764

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH adj. to 25 deg C	7.00	7.1		SU		101	99 - 101

Lab Sample ID: 280-148410-6 DU

Matrix: Water

Analysis Batch: 535764

Client Sample ID: PNMW22

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH adj. to 25 deg C	7.5	HF	7.7		SU		3	5
Temperature	20.9	HF	21.0		Degrees C		0.3	10

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 280-537391/6

Matrix: Water

Analysis Batch: 537391

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			05/25/21 14:47	1
Fluoride	ND		0.50	0.17	mg/L			05/25/21 14:47	1
Sulfate	ND		5.0	1.0	mg/L			05/25/21 14:47	1

Lab Sample ID: LCS 280-537391/4

Matrix: Water

Analysis Batch: 537391

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	98.4		mg/L		98	90 - 110
Fluoride	5.00	4.79		mg/L		96	90 - 110
Sulfate	100	97.3		mg/L		97	90 - 110

Lab Sample ID: LCSD 280-537391/5

Matrix: Water

Analysis Batch: 537391

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	98.4		mg/L		98	90 - 110	0	10
Fluoride	5.00	4.88		mg/L		98	90 - 110	2	10
Sulfate	100	97.5		mg/L		98	90 - 110	0	10

Eurofins TestAmerica, Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-2

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: MRL 280-537391/3
Matrix: Water
Analysis Batch: 537391

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	4.06		mg/L		81	50 - 150
Fluoride	0.500	0.487	J	mg/L		97	50 - 150
Sulfate	5.00	4.24	J	mg/L		85	50 - 150

Lab Sample ID: MB 280-537568/13
Matrix: Water
Analysis Batch: 537568

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			05/26/21 20:22	1
Fluoride	ND		0.50	0.17	mg/L			05/26/21 20:22	1
Sulfate	ND		5.0	1.0	mg/L			05/26/21 20:22	1

Lab Sample ID: LCS 280-537568/11
Matrix: Water
Analysis Batch: 537568

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	99.5		mg/L		99	90 - 110
Fluoride	5.00	5.10		mg/L		102	90 - 110
Sulfate	100	99.5		mg/L		99	90 - 110

Lab Sample ID: LCSD 280-537568/12
Matrix: Water
Analysis Batch: 537568

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	99.4		mg/L		99	90 - 110	0	10
Fluoride	5.00	5.09		mg/L		102	90 - 110	0	10
Sulfate	100	99.3		mg/L		99	90 - 110	0	10

Lab Sample ID: MRL 280-537568/10
Matrix: Water
Analysis Batch: 537568

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	4.79		mg/L		96	50 - 150
Fluoride	0.500	0.468	J	mg/L		94	50 - 150
Sulfate	5.00	4.55	J	mg/L		91	50 - 150

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 280-535479/1
Matrix: Water
Analysis Batch: 535479

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			05/08/21 11:42	1

Eurofins TestAmerica, Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-2

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 280-535479/2

Matrix: Water

Analysis Batch: 535479

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids (TDS)	501	522		mg/L		104	88 - 114

Lab Sample ID: MB 280-535480/1

Matrix: Water

Analysis Batch: 535480

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			05/08/21 11:43	1

Lab Sample ID: LCS 280-535480/2

Matrix: Water

Analysis Batch: 535480

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids (TDS)	501	491		mg/L		98	88 - 114

Lab Sample ID: 280-148410-1 DU

Matrix: Water

Analysis Batch: 535480

Client Sample ID: PNMW17

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids (TDS)	1300		1280		mg/L		0.6	10

QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-2

Metals

Prep Batch: 485385

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148410-1	PNMW17	Total Recoverable	Water	3005A	
280-148410-4	PNMW21	Total Recoverable	Water	3005A	
280-148410-6	PNMW22	Total Recoverable	Water	3005A	
280-148410-7	PNMW23	Total Recoverable	Water	3005A	
MB 240-485385/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-485385/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-485385/3-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-148410-1 MS	PNMW17	Total Recoverable	Water	3005A	
280-148410-1 MSD	PNMW17	Total Recoverable	Water	3005A	

Analysis Batch: 485625

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148410-4	PNMW21	Total Recoverable	Water	6010C	485385
280-148410-6	PNMW22	Total Recoverable	Water	6010C	485385
280-148410-7	PNMW23	Total Recoverable	Water	6010C	485385

Analysis Batch: 485764

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148410-1	PNMW17	Total Recoverable	Water	6020A	485385
280-148410-4	PNMW21	Total Recoverable	Water	6020A	485385
280-148410-6	PNMW22	Total Recoverable	Water	6020A	485385
280-148410-7	PNMW23	Total Recoverable	Water	6020A	485385
MB 240-485385/1-A	Method Blank	Total Recoverable	Water	6020A	485385
LCS 240-485385/3-A	Lab Control Sample	Total Recoverable	Water	6020A	485385
280-148410-1 MS	PNMW17	Total Recoverable	Water	6020A	485385
280-148410-1 MSD	PNMW17	Total Recoverable	Water	6020A	485385

Analysis Batch: 486046

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148410-1	PNMW17	Total Recoverable	Water	6010C	485385
MB 240-485385/1-A	Method Blank	Total Recoverable	Water	6010C	485385
LCS 240-485385/2-A	Lab Control Sample	Total Recoverable	Water	6010C	485385

General Chemistry

Analysis Batch: 535479

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148410-4	PNMW21	Total/NA	Water	SM 2540C	
280-148410-6	PNMW22	Total/NA	Water	SM 2540C	
280-148410-7	PNMW23	Total/NA	Water	SM 2540C	
MB 280-535479/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-535479/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 535480

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148410-1	PNMW17	Total/NA	Water	SM 2540C	
MB 280-535480/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-535480/2	Lab Control Sample	Total/NA	Water	SM 2540C	
280-148410-1 DU	PNMW17	Total/NA	Water	SM 2540C	

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QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-2

General Chemistry

Analysis Batch: 535676

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148410-1	PNMW17	Total/NA	Water	9040B	
280-148410-4	PNMW21	Total/NA	Water	9040B	
LCS 280-535676/30	Lab Control Sample	Total/NA	Water	9040B	
LCS 280-535676/4	Lab Control Sample	Total/NA	Water	9040B	

Analysis Batch: 535764

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148410-6	PNMW22	Total/NA	Water	9040B	
280-148410-7	PNMW23	Total/NA	Water	9040B	
LCS 280-535764/4	Lab Control Sample	Total/NA	Water	9040B	
280-148410-6 DU	PNMW22	Total/NA	Water	9040B	

Analysis Batch: 537391

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148410-1	PNMW17	Total/NA	Water	9056A	
280-148410-4	PNMW21	Total/NA	Water	9056A	
280-148410-4	PNMW21	Total/NA	Water	9056A	
280-148410-6	PNMW22	Total/NA	Water	9056A	
280-148410-6	PNMW22	Total/NA	Water	9056A	
280-148410-7	PNMW23	Total/NA	Water	9056A	
MB 280-537391/6	Method Blank	Total/NA	Water	9056A	
LCS 280-537391/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-537391/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-537391/3	Lab Control Sample	Total/NA	Water	9056A	

Analysis Batch: 537568

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-148410-6	PNMW22	Total/NA	Water	9056A	
280-148410-7	PNMW23	Total/NA	Water	9056A	
MB 280-537568/13	Method Blank	Total/NA	Water	9056A	
LCS 280-537568/11	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-537568/12	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-537568/10	Lab Control Sample	Total/NA	Water	9056A	

Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-2

Client Sample ID: PNMW17

Date Collected: 05/05/21 13:57

Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	485385	05/12/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			486046	05/14/21 10:34	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	485385	05/12/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			485764	05/13/21 18:36	DTN	TAL CAN
Total/NA	Analysis	9040B		1			535676	05/10/21 13:35	QJB	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	537391	05/25/21 16:20	CJ	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	535480	05/08/21 11:43	JMH	TAL DEN

Client Sample ID: PNMW21

Date Collected: 05/06/21 19:55

Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	485385	05/12/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			485625	05/13/21 20:02	RKT	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	485385	05/12/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			485764	05/13/21 19:00	DTN	TAL CAN
Total/NA	Analysis	9040B		1			535676	05/10/21 14:16	QJB	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	537391	05/25/21 20:07	CJ	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	537391	05/25/21 20:21	CJ	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	535479	05/08/21 11:42	JMH	TAL DEN

Client Sample ID: PNMW22

Date Collected: 05/06/21 16:45

Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	485385	05/12/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			485625	05/13/21 20:11	RKT	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	485385	05/12/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			485764	05/13/21 19:05	DTN	TAL CAN
Total/NA	Analysis	9040B		1			535764	05/11/21 13:36	QJB	TAL DEN
Total/NA	Analysis	9056A		10	10 mL	10 mL	537568	05/27/21 13:38	JMB	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	537391	05/25/21 21:06	CJ	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	537391	05/25/21 21:21	CJ	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	535479	05/08/21 11:42	JMH	TAL DEN

Client Sample ID: PNMW23

Date Collected: 05/06/21 13:15

Date Received: 05/07/21 15:05

Lab Sample ID: 280-148410-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	485385	05/12/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			485625	05/13/21 20:15	RKT	TAL CAN

Eurofins TestAmerica, Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-2

Client Sample ID: PNMW23

Lab Sample ID: 280-148410-7

Date Collected: 05/06/21 13:15

Matrix: Water

Date Received: 05/07/21 15:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	485385	05/12/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			485764	05/13/21 19:08	DTN	TAL CAN
Total/NA	Analysis	9040B		1			535764	05/11/21 13:44	QJB	TAL DEN
Total/NA	Analysis	9056A		10	10 mL	10 mL	537568	05/27/21 13:52	JMB	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	537391	05/25/21 23:05	CJ	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	535479	05/08/21 11:42	JMH	TAL DEN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Accreditation/Certification Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-2

Laboratory: Eurofins TestAmerica, Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-21
A2LA	ISO/IEC 17025	2907.01	10-31-21
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-28-22
Arizona	State	AZ0713	12-21-21
Arkansas DEQ	State	19-047-0	06-01-21
California	State	2513	01-08-22
Connecticut	State	PH-0686	11-30-22
Florida	NELAP	E87667-57	07-01-21
Georgia	State	4025-011	01-08-22
Illinois	NELAP	2000172019-1	04-30-21 *
Iowa	State	IA#370	12-02-21
Kansas	NELAP	E-10166	04-30-22
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-21
Minnesota	NELAP	1788752	12-31-21
Nevada	State	CO000262020-1	07-31-21
New Hampshire	NELAP	205319	04-29-22
New Jersey	NELAP	190002	06-30-21
New York	NELAP	59923	04-01-22
North Carolina (WW/SW)	State	358	12-31-21
North Dakota	State	R-034	01-08-22
Oklahoma	State	2018-006	09-01-21
Oregon	NELAP	4025-011	01-08-22
Pennsylvania	NELAP	013	07-31-21
South Carolina	State	72002001	01-08-22
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-20-18	09-30-21
US Fish & Wildlife	US Federal Programs	058448	08-01-21
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-21
Virginia	NELAP	10490	06-14-21
Washington	State	C583-19	08-03-21
West Virginia DEP	State	354	11-30-21
Wisconsin	State	999615430	08-31-21
Wyoming (UST)	A2LA	2907.01	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Denver

Accreditation/Certification Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-148410-2

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-22
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-21
Georgia	State	4062	02-23-22
Illinois	NELAP	200004	07-31-21
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-21 *
Kentucky (UST)	State	112225	02-23-22
Kentucky (WW)	State	KY98016	12-31-21
Minnesota	NELAP	OH00048	12-31-21
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-21
New York	NELAP	10975	03-31-22
Ohio VAP	State	CL0024	12-21-23
Oregon	NELAP	4062	02-23-22
Pennsylvania	NELAP	68-00340	08-31-21
Texas	NELAP	T104704517-18-10	08-31-21
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-21
Washington	State	C971	01-12-22
West Virginia DEP	State	210	12-31-21

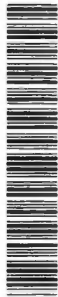
* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Denver

Chain of Custody Record



Environment Testing
America



Client Information (Sub Contract Lab)		Sampler: Harrington, Danielle M		Lab PM: Harrington, Danielle M		Carrier Tracking No(s): 280-567528.1		COC No: 280-567528.1	
Client Contact:		Phone:		E-Mail: Danielle.Harrington@Eurofins.com		State of Origin: Colorado		Page: Page 1 of 1	
Company: TestAmerica Laboratories, Inc.		Address: 4101 Shuffel Street NW, North Canton, OH, 44720		City: North Canton		State: OH, 44720		Job #: 280-148410-2	
Phone: 330-497-9396(Tel) 330-497-0772(Fax)		Email:		PO #:		WO #:		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - HCAA W - pH 4-5 Z - other (specify)	
Project Name: Xcel Energy GW CCR Monitoring - Pawnee		Project #: 28014378		SSOW#:		Due Date Requested: 5/20/2021		Analysis Requested	
TAT Requested (days):		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=water/oil, BT=tissue, AA=)	
Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		6010C/3005A Boron		6020A/3005A Calcium		Total Number of Containers	
Sample Identification - Client ID (Lab ID)		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=water/oil, BT=tissue, AA=)	
PNMW17 (280-148410-1)		5/5/21		13:57 Mountain		Water		X	
PNMW21 (280-148410-4)		5/6/21		19:55 Mountain		Water		X	
PNMW22 (280-148410-6)		5/6/21		16:45 Mountain		Water		X	
PNMW23 (280-148410-7)		5/6/21		13:15 Mountain		Water		X	
Special Instructions/Note: 562									

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica

Possible Hazard Identification		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
Unconfirmed		Return To Client ☐ Disposal By Lab ☐ Archive For ☐ Months	
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:	
Empty Kit Relinquished by:		Time:	
Relinquished by: [Signature]		Date: 5/10/21 16:40	
Relinquished by:		Date/Time:	
Relinquished by:		Date/Time:	
Custody Seals Intact: Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:	
Δ Yes Δ No			

Eurofins TestAmerica Canton Sample Receipt Form/Narrative Canton Facility				Login # : _____
Client <u>ETA - Denver</u>		Site Name <u>Xcel Energy</u>		Cooler unpacked by: <u>JMR</u>
Cooler Received on <u>5-11-21</u>		Opened on <u>5-11-21</u>		
FedEx: 1 st Grd Exp ☒ UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____				
Receipt After-hours: Drop-off Date/Time _____ Storage Location _____				
TestAmerica Cooler # <u>TA</u> Foam Box ☐ Client Cooler ☒ Box ☐ Other _____ Packing material used: Bubble Wrap ☐ Foam ☐ Plastic Bag ☒ None ☐ Other _____ COOLANT: Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ Water ☒ None ☐ ☐ See Multiple Cooler Form				
1. Cooler temperature upon receipt IR GUN# IR-11 (CF +0.1 °C) Observed Cooler Temp. <u>8.4</u> °C Corrected Cooler Temp. <u>8.5</u> °C IR GUN #IR-12 (CF +0.2 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C				
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity <u>1</u> -Were the seals on the outside of the cooler(s) signed & dated? ☒ Yes ☐ No ☐ NA -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? ☒ Yes ☐ No ☐ NA -Were tamper/custody seals intact and uncompromised? ☒ Yes ☐ No ☐ NA				
3. Shippers' packing slip attached to the cooler(s)? ☒ Yes ☐ No ☐ NA 4. Did custody papers accompany the sample(s)? ☒ Yes ☐ No ☐ NA 5. Were the custody papers relinquished & signed in the appropriate place? ☒ Yes ☐ No ☐ NA 6. Was/were the person(s) who collected the samples clearly identified on the COC? ☒ Yes ☐ No ☐ NA 7. Did all bottles arrive in good condition (Unbroken)? ☒ Yes ☐ No ☐ NA 8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? ☒ Yes ☐ No ☐ NA 9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp(Y/N)? ☒ Yes ☐ No ☐ NA 10. Were correct bottle(s) used for the test(s) indicated? ☒ Yes ☐ No ☐ NA 11. Sufficient quantity received to perform indicated analyses? ☒ Yes ☐ No ☐ NA 12. Are these work share samples and all listed on the COC? ☒ Yes ☐ No ☐ NA If yes, Questions 13-17 have been checked at the originating laboratory.				
13. Were all preserved sample(s) at the correct pH upon receipt? ☒ Yes ☐ No ☐ NA pH Strip Lot# <u>HC022887</u> 14. Were VOAs on the COC? ☒ Yes ☐ No ☐ NA 15. Were air bubbles >6 mm in any VOA vials? ☒ Yes ☐ No ☐ NA ● ← Larger than this. 16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ ☒ Yes ☐ No ☐ NA 17. Was a LL Hg or Me Hg trip blank present? _____ ☒ Yes ☐ No ☐ NA				
Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____ Concerning _____				

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page	Samples processed by: _____ _____ _____ _____
19. SAMPLE CONDITION Sample(s) _____ were received after the recommended holding time had expired. Sample(s) _____ were received in a broken container. Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)	
20. SAMPLE PRESERVATION Sample(s) _____ were further preserved in the laboratory. Time preserved: _____ Preservative(s) added/Lot number(s): _____ VOA Sample Preservation - Date/Time VOAs Frozen: _____	

WI-NC-099

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-148410-2

Login Number: 148410

List Source: Eurofins TestAmerica, Denver

List Number: 1

Creator: Rystrom, Joshua R

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

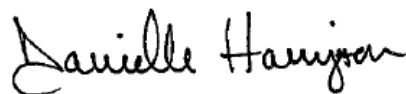
Laboratory Job ID: 280-151655-1

Client Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

For:

HDR Inc
1670 Broadway
Suite 3400
Denver, Colorado 80202

Attn: Molly Reeves



Authorized for release by:
9/14/2021 10:05:52 AM

Danielle Harrington, Project Manager II
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Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page	1
Table of Contents	2
Definitions	3
Case Narrative	4
Detection Summary	6
Method Summary	12
Sample Summary	13
Client Sample Results	14
QC Sample Results	32
QC Association	42
Chronicle	48
Certification Summary	55
Chain of Custody	57
Receipt Checklists	68
Tracer Carrier Summary	70



Definitions/Glossary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
E	Result exceeded calibration range.
F1	MS and/or MSD recovery exceeds control limits.
F3	Duplicate RPD exceeds the control limit
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Job ID: 280-151655-1

Laboratory: Eurofins TestAmerica, Denver

Narrative

CASE NARRATIVE

Client: HDR Inc

Project: Xcel Energy GW CCR Monitoring - Pawnee

Report Number: 280-151655-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 08/06/2021; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt were 0.6°C, 0.7°C, 0.9°C and 1.0°C.

Please note, the sample time on sample PNMW16 container label lists 12:11, however, the chain of custody lists sample time of 1129. The sample was logged per the chain of custody. Also, the plastic 500 ml Nitric for sample PNMW13 was received ¾ full. Sufficient volume was received for requested analyses.

DISSOLVED METALS- METHOD 6010C/6020A/7470A

The accuracy and precision of the Dissolved Calcium MS/MSD performed on a laboratory generated sample could not be reliably evaluated, as the concentrations present in the parent sample were 4 times greater than the matrix spike concentration. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL RECOVERABLE METALS- METHOD 6010C/6020A/7470A

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GENERAL CHEMISTRY- VARIOUS

Several samples required a dilution or prepped at a dilution prior to analysis for various methods. The reporting limits have been adjusted accordingly.

The pH adj. to 25 deg C sample duplicate analysis data was performed on sample PNMW2B exhibited RPD data outside the QC limits. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

MS/MSD analyses were performed on sample PNMW15. The MS/MSD for Chloride and Fluoride method 9056A exhibited spike compound recoveries outside the QC limits. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

MS/MSD analyses were performed on sample P7 DUP. The MS/MSD for Sulfate method 9056A exhibited spike compound recoveries outside the QC limits. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore,

Case Narrative

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Job ID: 280-151655-1 (Continued)

Laboratory: Eurofins TestAmerica, Denver (Continued)

corrective action is deemed unnecessary.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

RADIUM-226 (GFPC)- METHOD 9315

The following samples were prepared at a reduced aliquot due to Matrix: PNMW14 (280-151655-5) and PNMW15 (280-151655-6).

The method 9315 sample duplicate could not be performed, due to insufficient sample volume. Method precision and accuracy have been verified by the acceptable LCS/LCSD analysis data.

The detection goal was not met for the following sample(s). The sample was prepped at a reduced aliquot due to the presence of matrix interferences: PNMW15 (280-151655-6). Analytical results are reported with the detection limit achieved.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

RADIUM-228- Method 9320

The following samples were prepared at a reduced aliquot due to Matrix: PNMW14 (280-151655-5) and PNMW15 (280-151655-6).

The method 9320 sample duplicate could not be performed, due to insufficient sample volume. Method precision and accuracy have been verified by the acceptable LCS/LCSD analysis data.

The detection goal was not met for the following sample(s). The sample was prepped at a reduced aliquot due to the presence of matrix interferences: PNMW15 (280-151655-6). Analytical results are reported with the detection limit achieved.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

RADIUM-226/RADIUM-228 (GFPC)

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Client Sample ID: PNMW1B

Lab Sample ID: 280-151655-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.31		0.10	0.057	mg/L	1		6010C	Total Recoverable
Barium	0.023		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	120		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cobalt	0.00039	J	0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Chromium	0.0025		0.0025	0.0025	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0029	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	0.017		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Thallium	0.00045	J	0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Lithium	0.090		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	19.6	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	15		3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.62		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	430		25	5.2	mg/L	5		9056A	Total/NA
Total Dissolved Solids (TDS)	1000		20	9.4	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	1.2	J	4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: PNMW2B

Lab Sample ID: 280-151655-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.067	J	0.10	0.057	mg/L	1		6010C	Total Recoverable
Barium	0.11		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	60		1.0	0.58	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0034	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	0.0022	J	0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Lithium	0.033		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	19.8	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	6.9		3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.46	J	0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	15		5.0	1.0	mg/L	1		9056A	Total/NA
Total Dissolved Solids (TDS)	340		10	4.7	mg/L	1		SM 2540C	Total/NA

Client Sample ID: PNMW6B

Lab Sample ID: 280-151655-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.34		0.10	0.057	mg/L	1		6010C	Total Recoverable
Arsenic	0.00077	J	0.0050	0.00075	mg/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Detection Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Client Sample ID: PNMW6B (Continued)

Lab Sample ID: 280-151655-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.036		0.0050	0.0022	mg/L	1		6020A	Total
									Recoverable
Calcium	65		1.0	0.58	mg/L	1		6020A	Total
									Recoverable
Cadmium	0.00022	J	0.0010	0.00020	mg/L	1		6020A	Total
									Recoverable
Cobalt	0.00040	J	0.0010	0.00019	mg/L	1		6020A	Total
									Recoverable
Molybdenum	0.0082	J	0.010	0.0011	mg/L	1		6020A	Total
									Recoverable
Selenium	0.0011	J	0.0050	0.00089	mg/L	1		6020A	Total
									Recoverable
Thallium	0.00071	J	0.0010	0.00020	mg/L	1		6020A	Total
									Recoverable
Lithium	0.069		0.0080	0.0017	mg/L	1		6020A	Total
									Recoverable
pH adj. to 25 deg C	7.8	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	19.9	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	76		3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.79		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	190		25	5.2	mg/L	5		9056A	Total/NA
Total Dissolved Solids (TDS)	770		20	9.4	mg/L	1		SM 2540C	Total/NA

Client Sample ID: PNMW13

Lab Sample ID: 280-151655-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.25		0.10	0.057	mg/L	1		6010C	Total
									Recoverable
Arsenic	0.00076	J	0.0050	0.00075	mg/L	1		6020A	Total
									Recoverable
Barium	0.056		0.0050	0.0022	mg/L	1		6020A	Total
									Recoverable
Calcium	41		1.0	0.58	mg/L	1		6020A	Total
									Recoverable
Cobalt	0.00085	J	0.0010	0.00019	mg/L	1		6020A	Total
									Recoverable
Molybdenum	0.0036	J	0.010	0.0011	mg/L	1		6020A	Total
									Recoverable
Selenium	0.0019	J	0.0050	0.00089	mg/L	1		6020A	Total
									Recoverable
Thallium	0.00026	J	0.0010	0.00020	mg/L	1		6020A	Total
									Recoverable
Lithium	0.057		0.0080	0.0017	mg/L	1		6020A	Total
									Recoverable
pH adj. to 25 deg C	7.9	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	19.0	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	3.4		3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.79		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	34		5.0	1.0	mg/L	1		9056A	Total/NA
Total Dissolved Solids (TDS)	400		10	4.7	mg/L	1		SM 2540C	Total/NA

Client Sample ID: PNMW14

Lab Sample ID: 280-151655-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.072	J	0.10	0.057	mg/L	1		6010C	Total
									Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Detection Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Client Sample ID: PNMW14 (Continued)

Lab Sample ID: 280-151655-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.062	J	0.10	0.057	mg/L	1		6010C	Dissolved
Barium	0.092		0.0050	0.0022	mg/L	1		6020A	Total
Calcium	39		1.0	0.58	mg/L	1		6020A	Total
Cobalt	0.00033	J	0.0010	0.00019	mg/L	1		6020A	Total
Chromium	0.0034		0.0025	0.0025	mg/L	1		6020A	Total
Molybdenum	0.0048	J	0.010	0.0011	mg/L	1		6020A	Total
Lead	0.00048	J	0.0010	0.00045	mg/L	1		6020A	Total
Selenium	0.0022	J	0.0050	0.00089	mg/L	1		6020A	Total
Lithium	0.033		0.0080	0.0017	mg/L	1		6020A	Total
Barium	0.086		0.0050	0.0022	mg/L	1		6020A	Dissolved
Calcium	38		1.0	0.58	mg/L	1		6020A	Dissolved
Molybdenum	0.0048	J	0.010	0.0011	mg/L	1		6020A	Dissolved
Selenium	0.0021	J	0.0050	0.00089	mg/L	1		6020A	Dissolved
Lithium	0.032		0.0080	0.0017	mg/L	1		6020A	Dissolved
pH adj. to 25 deg C	7.9	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	18.6	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	1.8	J	3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.81		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	19		5.0	1.0	mg/L	1		9056A	Total/NA
Total Dissolved Solids (TDS)	220		10	4.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	19		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: PNMW15

Lab Sample ID: 280-151655-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.34		0.10	0.057	mg/L	1		6010C	Total
Boron	0.31		0.10	0.057	mg/L	1		6010C	Recoverable
Arsenic	0.0012	J	0.0050	0.00075	mg/L	1		6020A	Dissolved
Barium	0.039		0.0050	0.0022	mg/L	1		6020A	Total
Calcium	120		1.0	0.58	mg/L	1		6020A	Total
Cobalt	0.0036		0.0010	0.00019	mg/L	1		6020A	Recoverable
Chromium	0.0043		0.0025	0.0025	mg/L	1		6020A	Total
Molybdenum	0.0013	J	0.010	0.0011	mg/L	1		6020A	Total
Lead	0.0020		0.0010	0.00045	mg/L	1		6020A	Recoverable
Selenium	0.0012	J	0.0050	0.00089	mg/L	1		6020A	Total
Lithium	0.096		0.0080	0.0017	mg/L	1		6020A	Recoverable
Barium	0.023		0.0050	0.0022	mg/L	1		6020A	Total
Calcium	130		1.0	0.58	mg/L	1		6020A	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Detection Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Client Sample ID: PNMW15 (Continued)

Lab Sample ID: 280-151655-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	0.0028		0.0010	0.00019	mg/L	1		6020A	Dissolved
Molybdenum	0.0015	J	0.010	0.0011	mg/L	1		6020A	Dissolved
Selenium	0.00093	J	0.0050	0.00089	mg/L	1		6020A	Dissolved
Lithium	0.10		0.0080	0.0017	mg/L	1		6020A	Dissolved
pH adj. to 25 deg C	7.5	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	18.7	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	3.1	F1	3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.45	J F1	0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	600		25	5.2	mg/L	5		9056A	Total/NA
Total Dissolved Solids (TDS)	1200		20	9.4	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	68		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: PNMW16

Lab Sample ID: 280-151655-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.45		0.10	0.057	mg/L	1		6010C	Total Recoverable
Arsenic	0.00094	J	0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.018		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	210		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cobalt	0.0033		0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0022	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Lithium	0.15		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.3	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	19.2	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	1.7	J	3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.32	J	0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	960		50	10	mg/L	10		9056A	Total/NA
Total Dissolved Solids (TDS)	1800		20	9.4	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	5.6		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: P7EB

Lab Sample ID: 280-151655-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH adj. to 25 deg C	8.5	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	19.0	HF	1.0	1.0	Degrees C	1		9040B	Total/NA

Client Sample ID: P7

Lab Sample ID: 280-151655-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.16		0.10	0.057	mg/L	1		6010C	Total Recoverable
Arsenic	0.0011	J	0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.037		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	780		1.0	0.58	mg/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Detection Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Client Sample ID: P7 (Continued)

Lab Sample ID: 280-151655-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	0.0013		0.0010	0.00019	mg/L	1		6020A	Total
									Recoverable
Chromium	0.0038		0.0025	0.0025	mg/L	1		6020A	Total
									Recoverable
Selenium	0.0045	J	0.0050	0.00089	mg/L	1		6020A	Total
									Recoverable
Lithium	0.048		0.0080	0.0017	mg/L	1		6020A	Total
									Recoverable
pH adj. to 25 deg C	7.4	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.0	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	450		15	5.1	mg/L	5		9056A	Total/NA
Fluoride	4.9		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	2000		100	21	mg/L	20		9056A	Total/NA
Total Dissolved Solids (TDS)	4000		40	19	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	1.6	J	4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: P7 DUP

Lab Sample ID: 280-151655-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.17		0.10	0.057	mg/L	1		6010C	Total
									Recoverable
Arsenic	0.0017	J	0.0050	0.00075	mg/L	1		6020A	Total
									Recoverable
Barium	0.036		0.0050	0.0022	mg/L	1		6020A	Total
									Recoverable
Calcium	780		1.0	0.58	mg/L	1		6020A	Total
									Recoverable
Cobalt	0.0013		0.0010	0.00019	mg/L	1		6020A	Total
									Recoverable
Chromium	0.0036		0.0025	0.0025	mg/L	1		6020A	Total
									Recoverable
Selenium	0.0045	J	0.0050	0.00089	mg/L	1		6020A	Total
									Recoverable
Lithium	0.047		0.0080	0.0017	mg/L	1		6020A	Total
									Recoverable
pH adj. to 25 deg C	7.4	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	19.2	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	450		15	5.1	mg/L	5		9056A	Total/NA
Fluoride	5.0		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	2100	F1	100	21	mg/L	20		9056A	Total/NA
Total Dissolved Solids (TDS)	4000		40	19	mg/L	1		SM 2540C	Total/NA

Client Sample ID: P6

Lab Sample ID: 280-151655-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.26		0.10	0.057	mg/L	1		6010C	Total
									Recoverable
Barium	0.031		0.0050	0.0022	mg/L	1		6020A	Total
									Recoverable
Calcium	100		1.0	0.58	mg/L	1		6020A	Total
									Recoverable
Cobalt	0.0013		0.0010	0.00019	mg/L	1		6020A	Total
									Recoverable
Molybdenum	0.0047	J	0.010	0.0011	mg/L	1		6020A	Total
									Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Detection Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Client Sample ID: P6 (Continued)

Lab Sample ID: 280-151655-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.030		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.7	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	18.8	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	100		3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.63		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	320		25	5.2	mg/L	5		9056A	Total/NA
Total Dissolved Solids (TDS)	890		20	9.4	mg/L	1		SM 2540C	Total/NA

Client Sample ID: P18B

Lab Sample ID: 280-151655-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0019	J	0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.055		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	94		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cobalt	0.00020	J	0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Chromium	0.0038		0.0025	0.0025	mg/L	1		6020A	Total Recoverable
Selenium	0.0051		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Lithium	0.023		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.7	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	18.7	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	32		3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.20	J	0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	100		5.0	1.0	mg/L	1		9056A	Total/NA
Total Dissolved Solids (TDS)	410		10	4.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	6.4		4.0	1.1	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Method Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CAN
6020A	Metals (ICP/MS)	SW846	TAL CAN
7470A	Mercury (CVAA)	SW846	TAL CAN
9040B	pH	SW846	TAL DEN
9056A	Anions, Ion Chromatography	SW846	TAL DEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL DEN
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL DEN
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN
7470A	Preparation, Mercury	SW846	TAL CAN
FILTRATION	Sample Filtration	None	TAL CAN
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-151655-1	PNMW1B	Water	08/03/21 16:25	08/06/21 14:35
280-151655-2	PNMW2B	Water	08/03/21 16:57	08/06/21 14:35
280-151655-3	PNMW6B	Water	08/03/21 14:57	08/06/21 14:35
280-151655-4	PNMW13	Water	08/03/21 10:10	08/06/21 14:35
280-151655-5	PNMW14	Water	08/03/21 15:15	08/06/21 14:35
280-151655-6	PNMW15	Water	08/03/21 14:25	08/06/21 14:35
280-151655-7	PNMW16	Water	08/03/21 11:29	08/06/21 14:35
280-151655-8	P7EB	Water	08/04/21 16:40	08/06/21 14:35
280-151655-9	P7	Water	08/04/21 19:10	08/06/21 14:35
280-151655-10	P7 DUP	Water	08/04/21 19:10	08/06/21 14:35
280-151655-11	P6	Water	08/04/21 21:10	08/06/21 14:35
280-151655-12	P18B	Water	08/04/21 14:40	08/06/21 14:35

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Method: 6010C - Metals (ICP) - Total Recoverable

Client Sample ID: PNMW1B
Date Collected: 08/03/21 16:25
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.31		0.10	0.057	mg/L		08/11/21 14:00	08/13/21 19:22	1

Client Sample ID: PNMW2B
Date Collected: 08/03/21 16:57
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.067	J	0.10	0.057	mg/L		08/11/21 14:00	08/13/21 19:51	1

Client Sample ID: PNMW6B
Date Collected: 08/03/21 14:57
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.34		0.10	0.057	mg/L		08/11/21 14:00	08/13/21 19:55	1

Client Sample ID: PNMW13
Date Collected: 08/03/21 10:10
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.25		0.10	0.057	mg/L		08/11/21 14:00	08/13/21 20:00	1

Client Sample ID: PNMW14
Date Collected: 08/03/21 15:15
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.072	J	0.10	0.057	mg/L		08/11/21 14:00	08/13/21 20:04	1

Client Sample ID: PNMW15
Date Collected: 08/03/21 14:25
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.34		0.10	0.057	mg/L		08/11/21 14:00	08/13/21 20:08	1

Client Sample ID: PNMW16
Date Collected: 08/03/21 11:29
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.45		0.10	0.057	mg/L		08/11/21 14:00	08/13/21 20:12	1

Client Sample ID: P7EB
Date Collected: 08/04/21 16:40
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.057	mg/L		08/11/21 14:00	08/13/21 20:17	1

Client Sample ID: P7
Date Collected: 08/04/21 19:10
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.16		0.10	0.057	mg/L		08/11/21 14:00	08/13/21 20:21	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Method: 6010C - Metals (ICP) - Total Recoverable

Client Sample ID: P7 DUP
Date Collected: 08/04/21 19:10
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.17		0.10	0.057	mg/L		08/11/21 14:00	08/13/21 20:34	1

Client Sample ID: P6
Date Collected: 08/04/21 21:10
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.26		0.10	0.057	mg/L		08/11/21 14:00	08/13/21 20:38	1

Client Sample ID: P18B
Date Collected: 08/04/21 14:40
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-12
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.057	mg/L		08/11/21 14:00	08/13/21 20:42	1

Method: 6010C - Metals (ICP) - Dissolved

Client Sample ID: PNMW14
Date Collected: 08/03/21 15:15
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.062	J	0.10	0.057	mg/L		08/13/21 14:00	08/17/21 02:40	1

Client Sample ID: PNMW15
Date Collected: 08/03/21 14:25
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.31		0.10	0.057	mg/L		08/13/21 14:00	08/17/21 02:45	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: PNMW1B
Date Collected: 08/03/21 16:25
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		08/11/21 14:00	08/12/21 15:50	1
Arsenic	ND		0.0050	0.00075	mg/L		08/11/21 14:00	08/12/21 15:50	1
Barium	0.023		0.0050	0.0022	mg/L		08/11/21 14:00	08/12/21 15:50	1
Beryllium	ND		0.0010	0.00062	mg/L		08/11/21 14:00	08/12/21 15:50	1
Calcium	120		1.0	0.58	mg/L		08/11/21 14:00	08/12/21 15:50	1
Cadmium	ND		0.0010	0.00020	mg/L		08/11/21 14:00	08/12/21 15:50	1
Cobalt	0.00039	J	0.0010	0.00019	mg/L		08/11/21 14:00	08/12/21 15:50	1
Chromium	0.0025		0.0025	0.0025	mg/L		08/11/21 14:00	08/12/21 15:50	1
Molybdenum	0.0029	J	0.010	0.0011	mg/L		08/11/21 14:00	08/12/21 15:50	1
Lead	ND		0.0010	0.00045	mg/L		08/11/21 14:00	08/12/21 15:50	1
Selenium	0.017		0.0050	0.00089	mg/L		08/11/21 14:00	08/12/21 15:50	1
Thallium	0.00045	J	0.0010	0.00020	mg/L		08/11/21 14:00	08/12/21 15:50	1
Lithium	0.090		0.0080	0.0017	mg/L		08/11/21 14:00	08/12/21 15:50	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: PNMW2B
Date Collected: 08/03/21 16:57
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		08/11/21 14:00	08/12/21 15:53	1
Arsenic	ND		0.0050	0.00075	mg/L		08/11/21 14:00	08/12/21 15:53	1
Barium	0.11		0.0050	0.0022	mg/L		08/11/21 14:00	08/12/21 15:53	1
Beryllium	ND		0.0010	0.00062	mg/L		08/11/21 14:00	08/12/21 15:53	1
Calcium	60		1.0	0.58	mg/L		08/11/21 14:00	08/12/21 15:53	1
Cadmium	ND		0.0010	0.00020	mg/L		08/11/21 14:00	08/12/21 15:53	1
Cobalt	ND		0.0010	0.00019	mg/L		08/11/21 14:00	08/12/21 15:53	1
Chromium	ND		0.0025	0.0025	mg/L		08/11/21 14:00	08/12/21 15:53	1
Molybdenum	0.0034	J	0.010	0.0011	mg/L		08/11/21 14:00	08/12/21 15:53	1
Lead	ND		0.0010	0.00045	mg/L		08/11/21 14:00	08/12/21 15:53	1
Selenium	0.0022	J	0.0050	0.00089	mg/L		08/11/21 14:00	08/12/21 15:53	1
Thallium	ND		0.0010	0.00020	mg/L		08/11/21 14:00	08/12/21 15:53	1
Lithium	0.033		0.0080	0.0017	mg/L		08/11/21 14:00	08/12/21 15:53	1

Client Sample ID: PNMW6B
Date Collected: 08/03/21 14:57
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		08/11/21 14:00	08/12/21 16:05	1
Arsenic	0.00077	J	0.0050	0.00075	mg/L		08/11/21 14:00	08/12/21 16:05	1
Barium	0.036		0.0050	0.0022	mg/L		08/11/21 14:00	08/12/21 16:05	1
Beryllium	ND		0.0010	0.00062	mg/L		08/11/21 14:00	08/12/21 16:05	1
Calcium	65		1.0	0.58	mg/L		08/11/21 14:00	08/12/21 16:05	1
Cadmium	0.00022	J	0.0010	0.00020	mg/L		08/11/21 14:00	08/12/21 16:05	1
Cobalt	0.00040	J	0.0010	0.00019	mg/L		08/11/21 14:00	08/12/21 16:05	1
Chromium	ND		0.0025	0.0025	mg/L		08/11/21 14:00	08/12/21 16:05	1
Molybdenum	0.0082	J	0.010	0.0011	mg/L		08/11/21 14:00	08/12/21 16:05	1
Lead	ND		0.0010	0.00045	mg/L		08/11/21 14:00	08/12/21 16:05	1
Selenium	0.0011	J	0.0050	0.00089	mg/L		08/11/21 14:00	08/12/21 16:05	1
Thallium	0.00071	J	0.0010	0.00020	mg/L		08/11/21 14:00	08/12/21 16:05	1
Lithium	0.069		0.0080	0.0017	mg/L		08/11/21 14:00	08/12/21 16:05	1

Client Sample ID: PNMW13
Date Collected: 08/03/21 10:10
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		08/11/21 14:00	08/12/21 16:07	1
Arsenic	0.00076	J	0.0050	0.00075	mg/L		08/11/21 14:00	08/12/21 16:07	1
Barium	0.056		0.0050	0.0022	mg/L		08/11/21 14:00	08/12/21 16:07	1
Beryllium	ND		0.0010	0.00062	mg/L		08/11/21 14:00	08/12/21 16:07	1
Calcium	41		1.0	0.58	mg/L		08/11/21 14:00	08/12/21 16:07	1
Cadmium	ND		0.0010	0.00020	mg/L		08/11/21 14:00	08/12/21 16:07	1
Cobalt	0.00085	J	0.0010	0.00019	mg/L		08/11/21 14:00	08/12/21 16:07	1
Chromium	ND		0.0025	0.0025	mg/L		08/11/21 14:00	08/12/21 16:07	1
Molybdenum	0.0036	J	0.010	0.0011	mg/L		08/11/21 14:00	08/12/21 16:07	1
Lead	ND		0.0010	0.00045	mg/L		08/11/21 14:00	08/12/21 16:07	1
Selenium	0.0019	J	0.0050	0.00089	mg/L		08/11/21 14:00	08/12/21 16:07	1
Thallium	0.00026	J	0.0010	0.00020	mg/L		08/11/21 14:00	08/12/21 16:07	1
Lithium	0.057		0.0080	0.0017	mg/L		08/11/21 14:00	08/12/21 16:07	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: PNMW14
Date Collected: 08/03/21 15:15
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		08/11/21 14:00	08/12/21 16:15	1
Arsenic	ND		0.0050	0.00075	mg/L		08/11/21 14:00	08/12/21 16:15	1
Barium	0.092		0.0050	0.0022	mg/L		08/11/21 14:00	08/12/21 16:15	1
Beryllium	ND		0.0010	0.00062	mg/L		08/11/21 14:00	08/12/21 16:15	1
Calcium	39		1.0	0.58	mg/L		08/11/21 14:00	08/12/21 16:15	1
Cadmium	ND		0.0010	0.00020	mg/L		08/11/21 14:00	08/12/21 16:15	1
Cobalt	0.00033	J	0.0010	0.00019	mg/L		08/11/21 14:00	08/12/21 16:15	1
Chromium	0.0034		0.0025	0.0025	mg/L		08/11/21 14:00	08/12/21 16:15	1
Molybdenum	0.0048	J	0.010	0.0011	mg/L		08/11/21 14:00	08/12/21 16:15	1
Lead	0.00048	J	0.0010	0.00045	mg/L		08/11/21 14:00	08/12/21 16:15	1
Selenium	0.0022	J	0.0050	0.00089	mg/L		08/11/21 14:00	08/12/21 16:15	1
Thallium	ND		0.0010	0.00020	mg/L		08/11/21 14:00	08/12/21 16:15	1
Lithium	0.033		0.0080	0.0017	mg/L		08/11/21 14:00	08/12/21 16:15	1

Client Sample ID: PNMW15
Date Collected: 08/03/21 14:25
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		08/11/21 14:00	08/12/21 16:17	1
Arsenic	0.0012	J	0.0050	0.00075	mg/L		08/11/21 14:00	08/12/21 16:17	1
Barium	0.039		0.0050	0.0022	mg/L		08/11/21 14:00	08/12/21 16:17	1
Beryllium	ND		0.0010	0.00062	mg/L		08/11/21 14:00	08/12/21 16:17	1
Calcium	120		1.0	0.58	mg/L		08/11/21 14:00	08/12/21 16:17	1
Cadmium	ND		0.0010	0.00020	mg/L		08/11/21 14:00	08/12/21 16:17	1
Cobalt	0.0036		0.0010	0.00019	mg/L		08/11/21 14:00	08/12/21 16:17	1
Chromium	0.0043		0.0025	0.0025	mg/L		08/11/21 14:00	08/12/21 16:17	1
Molybdenum	0.0013	J	0.010	0.0011	mg/L		08/11/21 14:00	08/12/21 16:17	1
Lead	0.0020		0.0010	0.00045	mg/L		08/11/21 14:00	08/12/21 16:17	1
Selenium	0.0012	J	0.0050	0.00089	mg/L		08/11/21 14:00	08/12/21 16:17	1
Thallium	ND		0.0010	0.00020	mg/L		08/11/21 14:00	08/12/21 16:17	1
Lithium	0.096		0.0080	0.0017	mg/L		08/11/21 14:00	08/12/21 16:17	1

Client Sample ID: PNMW16
Date Collected: 08/03/21 11:29
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		08/11/21 14:00	08/12/21 16:20	1
Arsenic	0.00094	J	0.0050	0.00075	mg/L		08/11/21 14:00	08/12/21 16:20	1
Barium	0.018		0.0050	0.0022	mg/L		08/11/21 14:00	08/12/21 16:20	1
Beryllium	ND		0.0010	0.00062	mg/L		08/11/21 14:00	08/12/21 16:20	1
Calcium	210		1.0	0.58	mg/L		08/11/21 14:00	08/12/21 16:20	1
Cadmium	ND		0.0010	0.00020	mg/L		08/11/21 14:00	08/12/21 16:20	1
Cobalt	0.0033		0.0010	0.00019	mg/L		08/11/21 14:00	08/12/21 16:20	1
Chromium	ND		0.0025	0.0025	mg/L		08/11/21 14:00	08/12/21 16:20	1
Molybdenum	0.0022	J	0.010	0.0011	mg/L		08/11/21 14:00	08/12/21 16:20	1
Lead	ND		0.0010	0.00045	mg/L		08/11/21 14:00	08/12/21 16:20	1
Selenium	ND		0.0050	0.00089	mg/L		08/11/21 14:00	08/12/21 16:20	1
Thallium	ND		0.0010	0.00020	mg/L		08/11/21 14:00	08/12/21 16:20	1
Lithium	0.15		0.0080	0.0017	mg/L		08/11/21 14:00	08/12/21 16:20	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: P7EB
Date Collected: 08/04/21 16:40
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		08/11/21 14:00	08/12/21 16:22	1
Arsenic	ND		0.0050	0.00075	mg/L		08/11/21 14:00	08/12/21 16:22	1
Barium	ND		0.0050	0.0022	mg/L		08/11/21 14:00	08/12/21 16:22	1
Beryllium	ND		0.0010	0.00062	mg/L		08/11/21 14:00	08/12/21 16:22	1
Calcium	ND		1.0	0.58	mg/L		08/11/21 14:00	08/12/21 16:22	1
Cadmium	ND		0.0010	0.00020	mg/L		08/11/21 14:00	08/12/21 16:22	1
Cobalt	ND		0.0010	0.00019	mg/L		08/11/21 14:00	08/12/21 16:22	1
Chromium	ND		0.0025	0.0025	mg/L		08/11/21 14:00	08/12/21 16:22	1
Molybdenum	ND		0.010	0.0011	mg/L		08/11/21 14:00	08/12/21 16:22	1
Lead	ND		0.0010	0.00045	mg/L		08/11/21 14:00	08/12/21 16:22	1
Selenium	ND		0.0050	0.00089	mg/L		08/11/21 14:00	08/12/21 16:22	1
Thallium	ND		0.0010	0.00020	mg/L		08/11/21 14:00	08/12/21 16:22	1
Lithium	ND		0.0080	0.0017	mg/L		08/11/21 14:00	08/12/21 16:22	1

Client Sample ID: P7
Date Collected: 08/04/21 19:10
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		08/11/21 14:00	08/12/21 16:25	1
Arsenic	0.0011	J	0.0050	0.00075	mg/L		08/11/21 14:00	08/12/21 16:25	1
Barium	0.037		0.0050	0.0022	mg/L		08/11/21 14:00	08/12/21 16:25	1
Beryllium	ND		0.0010	0.00062	mg/L		08/11/21 14:00	08/12/21 16:25	1
Calcium	780		1.0	0.58	mg/L		08/11/21 14:00	08/12/21 16:25	1
Cadmium	ND		0.0010	0.00020	mg/L		08/11/21 14:00	08/12/21 16:25	1
Cobalt	0.0013		0.0010	0.00019	mg/L		08/11/21 14:00	08/12/21 16:25	1
Chromium	0.0038		0.0025	0.0025	mg/L		08/11/21 14:00	08/12/21 16:25	1
Molybdenum	ND		0.010	0.0011	mg/L		08/11/21 14:00	08/12/21 16:25	1
Lead	ND		0.0010	0.00045	mg/L		08/11/21 14:00	08/12/21 16:25	1
Selenium	0.0045	J	0.0050	0.00089	mg/L		08/11/21 14:00	08/12/21 16:25	1
Thallium	ND		0.0010	0.00020	mg/L		08/11/21 14:00	08/12/21 16:25	1
Lithium	0.048		0.0080	0.0017	mg/L		08/11/21 14:00	08/12/21 16:25	1

Client Sample ID: P7 DUP
Date Collected: 08/04/21 19:10
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		08/11/21 14:00	08/12/21 16:27	1
Arsenic	0.0017	J	0.0050	0.00075	mg/L		08/11/21 14:00	08/12/21 16:27	1
Barium	0.036		0.0050	0.0022	mg/L		08/11/21 14:00	08/12/21 16:27	1
Beryllium	ND		0.0010	0.00062	mg/L		08/11/21 14:00	08/12/21 16:27	1
Calcium	780		1.0	0.58	mg/L		08/11/21 14:00	08/12/21 16:27	1
Cadmium	ND		0.0010	0.00020	mg/L		08/11/21 14:00	08/12/21 16:27	1
Cobalt	0.0013		0.0010	0.00019	mg/L		08/11/21 14:00	08/12/21 16:27	1
Chromium	0.0036		0.0025	0.0025	mg/L		08/11/21 14:00	08/12/21 16:27	1
Molybdenum	ND		0.010	0.0011	mg/L		08/11/21 14:00	08/12/21 16:27	1
Lead	ND		0.0010	0.00045	mg/L		08/11/21 14:00	08/12/21 16:27	1
Selenium	0.0045	J	0.0050	0.00089	mg/L		08/11/21 14:00	08/12/21 16:27	1
Thallium	ND		0.0010	0.00020	mg/L		08/11/21 14:00	08/12/21 16:27	1
Lithium	0.047		0.0080	0.0017	mg/L		08/11/21 14:00	08/12/21 16:27	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: P6
Date Collected: 08/04/21 21:10
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		08/11/21 14:00	08/12/21 16:30	1
Arsenic	ND		0.0050	0.00075	mg/L		08/11/21 14:00	08/12/21 16:30	1
Barium	0.031		0.0050	0.0022	mg/L		08/11/21 14:00	08/12/21 16:30	1
Beryllium	ND		0.0010	0.00062	mg/L		08/11/21 14:00	08/12/21 16:30	1
Calcium	100		1.0	0.58	mg/L		08/11/21 14:00	08/12/21 16:30	1
Cadmium	ND		0.0010	0.00020	mg/L		08/11/21 14:00	08/12/21 16:30	1
Cobalt	0.0013		0.0010	0.00019	mg/L		08/11/21 14:00	08/12/21 16:30	1
Chromium	ND		0.0025	0.0025	mg/L		08/11/21 14:00	08/12/21 16:30	1
Molybdenum	0.0047	J	0.010	0.0011	mg/L		08/11/21 14:00	08/12/21 16:30	1
Lead	ND		0.0010	0.00045	mg/L		08/11/21 14:00	08/12/21 16:30	1
Selenium	ND		0.0050	0.00089	mg/L		08/11/21 14:00	08/12/21 16:30	1
Thallium	ND		0.0010	0.00020	mg/L		08/11/21 14:00	08/12/21 16:30	1
Lithium	0.030		0.0080	0.0017	mg/L		08/11/21 14:00	08/12/21 16:30	1

Client Sample ID: P18B
Date Collected: 08/04/21 14:40
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-12
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		08/11/21 14:00	08/12/21 16:32	1
Arsenic	0.0019	J	0.0050	0.00075	mg/L		08/11/21 14:00	08/12/21 16:32	1
Barium	0.055		0.0050	0.0022	mg/L		08/11/21 14:00	08/12/21 16:32	1
Beryllium	ND		0.0010	0.00062	mg/L		08/11/21 14:00	08/12/21 16:32	1
Calcium	94		1.0	0.58	mg/L		08/11/21 14:00	08/12/21 16:32	1
Cadmium	ND		0.0010	0.00020	mg/L		08/11/21 14:00	08/12/21 16:32	1
Cobalt	0.00020	J	0.0010	0.00019	mg/L		08/11/21 14:00	08/12/21 16:32	1
Chromium	0.0038		0.0025	0.0025	mg/L		08/11/21 14:00	08/12/21 16:32	1
Molybdenum	ND		0.010	0.0011	mg/L		08/11/21 14:00	08/12/21 16:32	1
Lead	ND		0.0010	0.00045	mg/L		08/11/21 14:00	08/12/21 16:32	1
Selenium	0.0051		0.0050	0.00089	mg/L		08/11/21 14:00	08/12/21 16:32	1
Thallium	ND		0.0010	0.00020	mg/L		08/11/21 14:00	08/12/21 16:32	1
Lithium	0.023		0.0080	0.0017	mg/L		08/11/21 14:00	08/12/21 16:32	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Client Sample ID: PNMW14
Date Collected: 08/03/21 15:15
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.00075	mg/L		08/13/21 14:00	08/16/21 20:02	1
Barium	0.086		0.0050	0.0022	mg/L		08/13/21 14:00	08/16/21 20:02	1
Beryllium	ND		0.0010	0.00062	mg/L		08/13/21 14:00	08/16/21 20:02	1
Calcium	38		1.0	0.58	mg/L		08/13/21 14:00	08/16/21 20:02	1
Cadmium	ND		0.0010	0.00020	mg/L		08/13/21 14:00	08/16/21 20:02	1
Cobalt	ND		0.0010	0.00019	mg/L		08/13/21 14:00	08/16/21 20:02	1
Chromium	ND		0.0025	0.0025	mg/L		08/13/21 14:00	08/16/21 20:02	1
Molybdenum	0.0048	J	0.010	0.0011	mg/L		08/13/21 14:00	08/16/21 20:02	1
Lead	ND		0.0010	0.00045	mg/L		08/13/21 14:00	08/16/21 20:02	1
Antimony	ND		0.0020	0.00057	mg/L		08/13/21 14:00	08/16/21 20:02	1
Selenium	0.0021	J	0.0050	0.00089	mg/L		08/13/21 14:00	08/16/21 20:02	1
Lithium	0.032		0.0080	0.0017	mg/L		08/13/21 14:00	08/16/21 20:02	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Method: 6020A - Metals (ICP/MS) - Dissolved (Continued)

Client Sample ID: PNMW14
Date Collected: 08/03/21 15:15
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	ND		0.0010	0.00020	mg/L		08/13/21 14:00	08/16/21 20:02	1

Client Sample ID: PNMW15
Date Collected: 08/03/21 14:25
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.00075	mg/L		08/13/21 14:00	08/16/21 20:04	1
Barium	0.023		0.0050	0.0022	mg/L		08/13/21 14:00	08/16/21 20:04	1
Beryllium	ND		0.0010	0.00062	mg/L		08/13/21 14:00	08/16/21 20:04	1
Calcium	130		1.0	0.58	mg/L		08/13/21 14:00	08/16/21 20:04	1
Cadmium	ND		0.0010	0.00020	mg/L		08/13/21 14:00	08/16/21 20:04	1
Cobalt	0.0028		0.0010	0.00019	mg/L		08/13/21 14:00	08/16/21 20:04	1
Chromium	ND		0.0025	0.0025	mg/L		08/13/21 14:00	08/16/21 20:04	1
Molybdenum	0.0015	J	0.010	0.0011	mg/L		08/13/21 14:00	08/16/21 20:04	1
Lead	ND		0.0010	0.00045	mg/L		08/13/21 14:00	08/16/21 20:04	1
Antimony	ND		0.0020	0.00057	mg/L		08/13/21 14:00	08/16/21 20:04	1
Selenium	0.00093	J	0.0050	0.00089	mg/L		08/13/21 14:00	08/16/21 20:04	1
Lithium	0.10		0.0080	0.0017	mg/L		08/13/21 14:00	08/16/21 20:04	1
Thallium	ND		0.0010	0.00020	mg/L		08/13/21 14:00	08/16/21 20:04	1

Method: 7470A - Mercury (CVAA)

Client Sample ID: PNMW1B
Date Collected: 08/03/21 16:25
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		08/11/21 14:00	08/12/21 13:16	1

Client Sample ID: PNMW2B
Date Collected: 08/03/21 16:57
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		08/11/21 14:00	08/12/21 13:23	1

Client Sample ID: PNMW6B
Date Collected: 08/03/21 14:57
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		08/11/21 14:00	08/12/21 13:25	1

Client Sample ID: PNMW13
Date Collected: 08/03/21 10:10
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		08/11/21 14:00	08/12/21 13:32	1

Client Sample ID: PNMW14
Date Collected: 08/03/21 15:15
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		08/11/21 14:00	08/12/21 13:34	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Method: 7470A - Mercury (CVAA)

Client Sample ID: PNMW15
Date Collected: 08/03/21 14:25
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		08/11/21 14:00	08/12/21 13:36	1

Client Sample ID: PNMW16
Date Collected: 08/03/21 11:29
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		08/11/21 14:00	08/12/21 13:38	1

Client Sample ID: P7EB
Date Collected: 08/04/21 16:40
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		08/11/21 14:00	08/12/21 13:40	1

Client Sample ID: P7
Date Collected: 08/04/21 19:10
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		08/11/21 14:00	08/12/21 13:42	1

Client Sample ID: P7 DUP
Date Collected: 08/04/21 19:10
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		08/11/21 14:00	08/12/21 13:44	1

Client Sample ID: P6
Date Collected: 08/04/21 21:10
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		08/11/21 14:00	08/12/21 13:46	1

Client Sample ID: P18B
Date Collected: 08/04/21 14:40
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-12
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		08/11/21 14:00	08/12/21 13:48	1

Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: PNMW14
Date Collected: 08/03/21 15:15
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		08/13/21 14:00	08/16/21 16:26	1

Client Sample ID: PNMW15
Date Collected: 08/03/21 14:25
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		08/13/21 14:00	08/16/21 16:28	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

General Chemistry

Client Sample ID: PNMW1B
Date Collected: 08/03/21 16:25
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU			08/16/21 17:29	1
Temperature	19.6	HF	1.0	1.0	Degrees C			08/16/21 17:29	1
Chloride	15		3.0	1.0	mg/L			08/19/21 14:30	1
Fluoride	0.62		0.50	0.17	mg/L			08/19/21 14:30	1
Sulfate	430		25	5.2	mg/L			08/20/21 16:26	5
Total Dissolved Solids (TDS)	1000		20	9.4	mg/L			08/07/21 09:36	1
Total Suspended Solids	1.2	J	4.0	1.1	mg/L			08/08/21 16:17	1

Client Sample ID: PNMW2B
Date Collected: 08/03/21 16:57
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU			08/17/21 13:15	1
Temperature	19.8	HF	1.0	1.0	Degrees C			08/17/21 13:15	1
Chloride	6.9		3.0	1.0	mg/L			08/19/21 15:00	1
Fluoride	0.46	J	0.50	0.17	mg/L			08/19/21 15:00	1
Sulfate	15		5.0	1.0	mg/L			08/19/21 15:00	1
Total Dissolved Solids (TDS)	340		10	4.7	mg/L			08/07/21 09:36	1
Total Suspended Solids	ND		4.0	1.1	mg/L			08/08/21 16:17	1

Client Sample ID: PNMW6B
Date Collected: 08/03/21 14:57
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.8	HF	0.1	0.1	SU			08/16/21 17:51	1
Temperature	19.9	HF	1.0	1.0	Degrees C			08/16/21 17:51	1
Chloride	76		3.0	1.0	mg/L			08/19/21 15:30	1
Fluoride	0.79		0.50	0.17	mg/L			08/19/21 15:30	1
Sulfate	190		25	5.2	mg/L			08/19/21 15:45	5
Total Dissolved Solids (TDS)	770		20	9.4	mg/L			08/07/21 09:36	1
Total Suspended Solids	ND		4.0	1.1	mg/L			08/08/21 16:17	1

Client Sample ID: PNMW13
Date Collected: 08/03/21 10:10
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.9	HF	0.1	0.1	SU			08/17/21 13:23	1
Temperature	19.0	HF	1.0	1.0	Degrees C			08/17/21 13:23	1
Chloride	3.4		3.0	1.0	mg/L			08/20/21 16:41	1
Fluoride	0.79		0.50	0.17	mg/L			08/19/21 16:00	1
Sulfate	34		5.0	1.0	mg/L			08/19/21 16:00	1
Total Dissolved Solids (TDS)	400		10	4.7	mg/L			08/07/21 09:36	1
Total Suspended Solids	ND		4.0	1.1	mg/L			08/08/21 16:17	1

Client Sample ID: PNMW14
Date Collected: 08/03/21 15:15
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.9	HF	0.1	0.1	SU			08/16/21 17:11	1
Temperature	18.6	HF	1.0	1.0	Degrees C			08/16/21 17:11	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

General Chemistry (Continued)

Client Sample ID: PNMW14
Date Collected: 08/03/21 15:15
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.8	J	3.0	1.0	mg/L			08/19/21 16:45	1
Fluoride	0.81		0.50	0.17	mg/L			08/19/21 16:45	1
Sulfate	19		5.0	1.0	mg/L			08/19/21 16:45	1
Total Dissolved Solids (TDS)	220		10	4.7	mg/L			08/07/21 09:36	1
Total Suspended Solids	19		4.0	1.1	mg/L			08/08/21 16:17	1

Client Sample ID: PNMW15
Date Collected: 08/03/21 14:25
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.5	HF	0.1	0.1	SU			08/16/21 17:15	1
Temperature	18.7	HF	1.0	1.0	Degrees C			08/16/21 17:15	1
Chloride	3.1	F1	3.0	1.0	mg/L			08/19/21 17:14	1
Fluoride	0.45	J F1	0.50	0.17	mg/L			08/19/21 17:14	1
Sulfate	600		25	5.2	mg/L			08/20/21 16:56	5
Total Dissolved Solids (TDS)	1200		20	9.4	mg/L			08/07/21 09:36	1
Total Suspended Solids	68		4.0	1.1	mg/L			08/08/21 16:17	1

Client Sample ID: PNMW16
Date Collected: 08/03/21 11:29
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.3	HF	0.1	0.1	SU			08/16/21 17:19	1
Temperature	19.2	HF	1.0	1.0	Degrees C			08/16/21 17:19	1
Chloride	1.7	J	3.0	1.0	mg/L			08/19/21 18:14	1
Fluoride	0.32	J	0.50	0.17	mg/L			08/19/21 18:14	1
Sulfate	960		50	10	mg/L			08/20/21 17:11	10
Total Dissolved Solids (TDS)	1800		20	9.4	mg/L			08/07/21 09:36	1
Total Suspended Solids	5.6		4.0	1.1	mg/L			08/08/21 16:17	1

Client Sample ID: P7EB
Date Collected: 08/04/21 16:40
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	8.5	HF	0.1	0.1	SU			08/17/21 13:29	1
Temperature	19.0	HF	1.0	1.0	Degrees C			08/17/21 13:29	1
Chloride	ND		3.0	1.0	mg/L			08/19/21 18:29	1
Fluoride	ND		0.50	0.17	mg/L			08/19/21 18:29	1
Sulfate	ND		5.0	1.0	mg/L			08/19/21 18:29	1
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			08/07/21 09:36	1
Total Suspended Solids	ND		4.0	1.1	mg/L			08/08/21 16:17	1

Client Sample ID: P7
Date Collected: 08/04/21 19:10
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.4	HF	0.1	0.1	SU			08/16/21 16:56	1
Temperature	20.0	HF	1.0	1.0	Degrees C			08/16/21 16:56	1
Chloride	450		15	5.1	mg/L			08/19/21 18:59	5
Fluoride	4.9		0.50	0.17	mg/L			08/19/21 18:44	1

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Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

General Chemistry (Continued)

Client Sample ID: P7
Date Collected: 08/04/21 19:10
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	2000		100	21	mg/L			08/20/21 17:41	20
Total Dissolved Solids (TDS)	4000		40	19	mg/L			08/07/21 09:36	1
Total Suspended Solids	1.6	J	4.0	1.1	mg/L			08/08/21 16:17	1

Client Sample ID: P7 DUP
Date Collected: 08/04/21 19:10
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.4	HF	0.1	0.1	SU			08/16/21 17:00	1
Temperature	19.2	HF	1.0	1.0	Degrees C			08/16/21 17:00	1
Chloride	450		15	5.1	mg/L			08/19/21 19:59	5
Fluoride	5.0		0.50	0.17	mg/L			08/19/21 19:44	1
Sulfate	2100	F1	100	21	mg/L			08/20/21 17:56	20
Total Dissolved Solids (TDS)	4000		40	19	mg/L			08/07/21 09:36	1
Total Suspended Solids	ND		4.0	1.1	mg/L			08/08/21 16:17	1

Client Sample ID: P6
Date Collected: 08/04/21 21:10
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.7	HF	0.1	0.1	SU			08/16/21 17:03	1
Temperature	18.8	HF	1.0	1.0	Degrees C			08/16/21 17:03	1
Chloride	100		3.0	1.0	mg/L			08/19/21 20:14	1
Fluoride	0.63		0.50	0.17	mg/L			08/19/21 20:14	1
Sulfate	320		25	5.2	mg/L			08/19/21 20:28	5
Total Dissolved Solids (TDS)	890		20	9.4	mg/L			08/07/21 09:36	1
Total Suspended Solids	ND		4.0	1.1	mg/L			08/08/21 16:17	1

Client Sample ID: P18B
Date Collected: 08/04/21 14:40
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-12
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.7	HF	0.1	0.1	SU			08/16/21 17:07	1
Temperature	18.7	HF	1.0	1.0	Degrees C			08/16/21 17:07	1
Chloride	32		3.0	1.0	mg/L			08/19/21 20:43	1
Fluoride	0.20	J	0.50	0.17	mg/L			08/19/21 20:43	1
Sulfate	100		5.0	1.0	mg/L			08/19/21 20:43	1
Total Dissolved Solids (TDS)	410		10	4.7	mg/L			08/07/21 09:36	1
Total Suspended Solids	6.4		4.0	1.1	mg/L			08/08/21 16:17	1

Method: 9315 - Radium-226 (GFPC)

Client Sample ID: PNMW1B
Date Collected: 08/03/21 16:25
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.638		0.302	0.307	1.00	0.364	pCi/L	08/12/21 09:07	09/09/21 16:03	1

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Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Method: 9315 - Radium-226 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.8		40 - 110					08/12/21 09:07	09/09/21 16:03	1
Client Sample ID: PNMW2B								Lab Sample ID: 280-151655-2		
Date Collected: 08/03/21 16:57								Matrix: Water		
Date Received: 08/06/21 14:35										
Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.615		0.344	0.348	1.00	0.474	pCi/L	08/12/21 09:07	09/09/21 16:03	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.3		40 - 110					08/12/21 09:07	09/09/21 16:03	1
Client Sample ID: PNMW6B								Lab Sample ID: 280-151655-3		
Date Collected: 08/03/21 14:57								Matrix: Water		
Date Received: 08/06/21 14:35										
Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.423		0.257	0.260	1.00	0.361	pCi/L	08/12/21 09:07	09/10/21 12:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.0		40 - 110					08/12/21 09:07	09/10/21 12:49	1
Client Sample ID: PNMW14								Lab Sample ID: 280-151655-5		
Date Collected: 08/03/21 15:15								Matrix: Water		
Date Received: 08/06/21 14:35										
Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.365		0.248	0.250	1.00	0.347	pCi/L	08/12/21 09:07	09/10/21 17:55	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.9		40 - 110					08/12/21 09:07	09/10/21 17:55	1
Client Sample ID: PNMW15								Lab Sample ID: 280-151655-6		
Date Collected: 08/03/21 14:25								Matrix: Water		
Date Received: 08/06/21 14:35										
Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.87	G	0.867	0.883	1.00	1.05	pCi/L	08/12/21 09:07	09/09/21 16:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	59.4		40 - 110					08/12/21 09:07	09/09/21 16:07	1
Client Sample ID: PNMW16								Lab Sample ID: 280-151655-7		
Date Collected: 08/03/21 11:29								Matrix: Water		
Date Received: 08/06/21 14:35										
Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.527		0.326	0.330	1.00	0.456	pCi/L	08/12/21 09:07	09/09/21 16:07	1

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Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Method: 9315 - Radium-226 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	81.6		40 - 110	08/12/21 09:07	09/09/21 16:07	1

Client Sample ID: P7EB
Date Collected: 08/04/21 16:40
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-8
Matrix: Water

			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.251	U	0.272	0.273	1.00	0.440	pCi/L	08/12/21 09:07	09/09/21 16:07	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.0		40 - 110					08/12/21 09:07	09/09/21 16:07	1

Client Sample ID: P7
Date Collected: 08/04/21 19:10
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-9
Matrix: Water

Data Received 08/02/21 11:00										
Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.204	U	0.229	0.230	1.00	0.371	pCi/L	08/12/21 09:07	09/09/21 16:08	1
Carrier	%Yield	Qualifier	Limits							
Ba Carrier	94.1		40 - 110	Prepared	Analyzed	Dil Fac				
				08/12/21 09:07	09/09/21 16:08	1				

Client Sample ID: P7 DUP
Date Collected: 08/04/21 19:10
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-10
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.251	U	0.259	0.260	1.00	0.412	pCi/L	08/12/21 09:07	09/09/21 16:08	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.4		40 - 110					08/12/21 09:07	09/09/21 16:08	1

Client Sample ID: P6
Date Collected: 08/04/21 21:10
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-11
Matrix: Water

			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.325	U	0.319	0.320	1.00	0.504	pCi/L	08/12/21 09:07	09/09/21 16:08	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	70.4		40 - 110					08/12/21 09:07	09/09/21 16:08	1

Client Sample ID: P18B
Date Collected: 08/04/21 14:40
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-12
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.244	U	0.251	0.252	1.00	0.399	pCi/L	08/12/21 09:07	09/09/21 16:08	1

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Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Method: 9315 - Radium-226 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	88.2		40 - 110	08/12/21 09:07	09/09/21 16:08	1

Method: 9320 - Radium-228 (GFPC)

Client Sample ID: PNMW1B
Date Collected: 08/03/21 16:25
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-1
Matrix: Water

			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.97		0.415	0.497	1.00	0.405	pCi/L	08/12/21 09:58	09/09/21 12:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.8		40 - 110					08/12/21 09:58	09/09/21 12:44	1
Y Carrier	92.3		40 - 110					08/12/21 09:58	09/09/21 12:44	1

Client Sample ID: PNMW2B
Date Collected: 08/03/21 16:57
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-2
Matrix: Water

			Count	Total						
	Result	Qualifier	Uncert.	Uncert.	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Analyte			(2σ+/-)	(2σ+/-)						
Radium-228	2.11		0.372	0.420	1.00	0.400	pCi/L	08/12/21 09:58	09/09/21 12:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.3		40 - 110					08/12/21 09:58	09/09/21 12:44	1
Y Carrier	93.1		40 - 110					08/12/21 09:58	09/09/21 12:44	1

Client Sample ID: PNMW6B
Date Collected: 08/03/21 14:57
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-3
Matrix: Water

			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0520	U	0.256	0.256	1.00	0.448	pCi/L	08/12/21 09:58	09/09/21 12:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.0		40 - 110					08/12/21 09:58	09/09/21 12:44	1
Y Carrier	89.0		40 - 110					08/12/21 09:58	09/09/21 12:44	1

Client Sample ID: PNMW14
Date Collected: 08/03/21 15:15
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-5
Matrix: Water

			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.541		0.348	0.351	1.00	0.535	pCi/L	08/12/21 09:58	09/09/21 12:44	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.9		40 - 110					08/12/21 09:58	09/09/21 12:44	1
Y Carrier	90.5		40 - 110					08/12/21 09:58	09/09/21 12:44	1

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Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Method: 9320 - Radium-228 (GFPC)

Client Sample ID: PNMW15
Date Collected: 08/03/21 14:25
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-6
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.473	U G	0.772	0.773	1.00	1.30	pCi/L	08/12/21 09:58	09/09/21 12:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	59.4		40 - 110					08/12/21 09:58	09/09/21 12:45	1
Y Carrier	89.0		40 - 110					08/12/21 09:58	09/09/21 12:45	1

Client Sample ID: PNMW16
Date Collected: 08/03/21 11:29
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-7
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.05		0.394	0.437	1.00	0.433	pCi/L	08/12/21 09:58	09/09/21 12:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.6		40 - 110					08/12/21 09:58	09/09/21 12:45	1
Y Carrier	93.5		40 - 110					08/12/21 09:58	09/09/21 12:45	1

Client Sample ID: P7EB
Date Collected: 08/04/21 16:40
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-8
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.17		0.324	0.341	1.00	0.413	pCi/L	08/12/21 09:58	09/09/21 12:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.0		40 - 110					08/12/21 09:58	09/09/21 12:45	1
Y Carrier	89.7		40 - 110					08/12/21 09:58	09/09/21 12:45	1

Client Sample ID: P7
Date Collected: 08/04/21 19:10
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-9
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.478		0.247	0.251	1.00	0.367	pCi/L	08/12/21 09:58	09/09/21 12:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.1		40 - 110					08/12/21 09:58	09/09/21 12:52	1
Y Carrier	94.6		40 - 110					08/12/21 09:58	09/09/21 12:52	1

Client Sample ID: P7 DUP
Date Collected: 08/04/21 19:10
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-10
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.244	U	0.237	0.238	1.00	0.383	pCi/L	08/12/21 09:58	09/09/21 12:52	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Method: 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	88.4		40 - 110	08/12/21 09:58	09/09/21 12:52	1
Y Carrier	92.0		40 - 110	08/12/21 09:58	09/09/21 12:52	1

Client Sample ID: P6
Date Collected: 08/04/21 21:10
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-11
Matrix: Water

			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.240	U	0.291	0.292	1.00	0.481	pCi/L	08/12/21 09:58	09/09/21 12:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	70.4		40 - 110					08/12/21 09:58	09/09/21 12:52	1
Y Carrier	91.2		40 - 110					08/12/21 09:58	09/09/21 12:52	1

Client Sample ID: P18B
Date Collected: 08/04/21 14:40
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-12
Matrix: Water

			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.347	U	0.273	0.275	1.00	0.434	pCi/L	08/12/21 09:58	09/09/21 12:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.2		40 - 110					08/12/21 09:58	09/09/21 12:52	1
Y Carrier	94.6		40 - 110					08/12/21 09:58	09/09/21 12:52	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Client Sample ID: PNMW1B
Date Collected: 08/03/21 16:25
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	3.60		0.513	0.584	5.00	0.405	pCi/L		09/10/21 19:42	1

Client Sample ID: PNMW2B
Date Collected: 08/03/21 16:57
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-2
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.72		0.507	0.545	5.00	0.474	pCi/L		09/10/21 19:42	1

Client Sample ID: PNMW6B
Date Collected: 08/03/21 14:57
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-3
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.475		0.363	0.365	5.00	0.448	pCi/L		09/10/21 19:42	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Client Sample ID: PNMW14
Date Collected: 08/03/21 15:15
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-5
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.905		0.427	0.431	5.00	0.535	pCi/L		09/13/21 16:47	1

Client Sample ID: PNMW15
Date Collected: 08/03/21 14:25
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-6
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.34		1.16	1.17	5.00	1.30	pCi/L		09/10/21 19:42	1

Client Sample ID: PNMW16
Date Collected: 08/03/21 11:29
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-7
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.58		0.511	0.548	5.00	0.456	pCi/L		09/10/21 19:42	1

Client Sample ID: P7EB
Date Collected: 08/04/21 16:40
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-8
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.42		0.423	0.437	5.00	0.440	pCi/L		09/10/21 19:42	1

Client Sample ID: P7
Date Collected: 08/04/21 19:10
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-9
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.682		0.337	0.340	5.00	0.371	pCi/L		09/10/21 19:42	1

Client Sample ID: P7 DUP
Date Collected: 08/04/21 19:10
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-10
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.495		0.351	0.352	5.00	0.412	pCi/L		09/10/21 19:42	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Client Sample ID: P6
Date Collected: 08/04/21 21:10
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-11
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.566		0.432	0.433	5.00	0.504	pCi/L		09/10/21 19:42	1

Client Sample ID: P18B
Date Collected: 08/04/21 14:40
Date Received: 08/06/21 14:35

Lab Sample ID: 280-151655-12
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.591		0.371	0.373	5.00	0.434	pCi/L		09/10/21 19:42	1

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 240-499061/1-A
Matrix: Water
Analysis Batch: 499572

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 499061

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.057	mg/L		08/11/21 14:00	08/13/21 19:14	1

Lab Sample ID: LCS 240-499061/2-A
Matrix: Water
Analysis Batch: 499572

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 499061

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.05		mg/L		105	80 - 120

Lab Sample ID: 280-151655-1 MS
Matrix: Water
Analysis Batch: 499572

Client Sample ID: PNMW1B
Prep Type: Total Recoverable
Prep Batch: 499061

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.31		1.00	1.35		mg/L		104	75 - 125

Lab Sample ID: 280-151655-1 MSD
Matrix: Water
Analysis Batch: 499572

Client Sample ID: PNMW1B
Prep Type: Total Recoverable
Prep Batch: 499061

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.31		1.00	1.33		mg/L		103	75 - 125	1	20

Lab Sample ID: MB 240-499414/1-A
Matrix: Water
Analysis Batch: 499674

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 499414

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.057	mg/L		08/13/21 14:00	08/17/21 01:10	1

Lab Sample ID: LCS 240-499414/2-A
Matrix: Water
Analysis Batch: 499674

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 499414

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.02		mg/L		102	80 - 120

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 240-499061/1-A
Matrix: Water
Analysis Batch: 499368

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 499061

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.00075	mg/L		08/11/21 14:00	08/12/21 15:46	1
Barium	ND		0.0050	0.0022	mg/L		08/11/21 14:00	08/12/21 15:46	1
Beryllium	ND		0.0010	0.00062	mg/L		08/11/21 14:00	08/12/21 15:46	1
Calcium	ND		1.0	0.58	mg/L		08/11/21 14:00	08/12/21 15:46	1
Cadmium	ND		0.0010	0.00020	mg/L		08/11/21 14:00	08/12/21 15:46	1
Cobalt	ND		0.0010	0.00019	mg/L		08/11/21 14:00	08/12/21 15:46	1

Eurofins TestAmerica, Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 240-499061/1-A
Matrix: Water
Analysis Batch: 499368

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 499061

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND		0.0025	0.0025	mg/L		08/11/21 14:00	08/12/21 15:46	1
Molybdenum	ND		0.010	0.0011	mg/L		08/11/21 14:00	08/12/21 15:46	1
Antimony	ND		0.0020	0.00057	mg/L		08/11/21 14:00	08/12/21 15:46	1
Lead	ND		0.0010	0.00045	mg/L		08/11/21 14:00	08/12/21 15:46	1
Selenium	ND		0.0050	0.00089	mg/L		08/11/21 14:00	08/12/21 15:46	1
Lithium	ND		0.0080	0.0017	mg/L		08/11/21 14:00	08/12/21 15:46	1
Thallium	ND		0.0010	0.00020	mg/L		08/11/21 14:00	08/12/21 15:46	1

Lab Sample ID: LCS 240-499061/3-A
Matrix: Water
Analysis Batch: 499368

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 499061

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.937		mg/L		94	80 - 120
Barium	1.00	0.927		mg/L		93	80 - 120
Beryllium	0.500	0.450		mg/L		90	80 - 120
Calcium	25.0	25.1		mg/L		100	80 - 120
Cadmium	0.500	0.474		mg/L		95	80 - 120
Cobalt	0.500	0.487		mg/L		97	80 - 120
Chromium	0.500	0.475		mg/L		95	80 - 120
Molybdenum	0.500	0.461		mg/L		92	80 - 120
Antimony	0.100	0.0986		mg/L		99	80 - 120
Lead	0.500	0.492		mg/L		98	80 - 120
Selenium	1.00	0.904		mg/L		90	80 - 120
Lithium	0.500	0.467		mg/L		93	80 - 120
Thallium	1.00	0.953		mg/L		95	80 - 120

Lab Sample ID: 280-151655-2 MS
Matrix: Water
Analysis Batch: 499368

Client Sample ID: PNMW2B
Prep Type: Total Recoverable
Prep Batch: 499061

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		1.00	0.938		mg/L		94	75 - 125
Barium	0.11		1.00	1.05		mg/L		94	75 - 125
Beryllium	ND		0.500	0.460		mg/L		92	75 - 125
Calcium	60		25.0	82.1		mg/L		89	75 - 125
Cadmium	ND		0.500	0.473		mg/L		95	75 - 125
Cobalt	ND		0.500	0.478		mg/L		96	75 - 125
Chromium	ND		0.500	0.476		mg/L		95	75 - 125
Molybdenum	0.0034	J	0.500	0.468		mg/L		93	75 - 125
Antimony	ND		0.100	0.0985		mg/L		98	75 - 125
Lead	ND		0.500	0.488		mg/L		98	75 - 125
Selenium	0.0022	J	1.00	0.904		mg/L		90	75 - 125
Lithium	0.033		0.500	0.506		mg/L		95	75 - 125
Thallium	ND		1.00	0.952		mg/L		95	75 - 125

Eurofins TestAmerica, Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 280-151655-2 MSD

Matrix: Water

Analysis Batch: 499368

Client Sample ID: PNMW2B

Prep Type: Total Recoverable

Prep Batch: 499061

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		1.00	0.967		mg/L		97	75 - 125	3	20
Barium	0.11		1.00	1.08		mg/L		97	75 - 125	3	20
Beryllium	ND		0.500	0.475		mg/L		95	75 - 125	3	20
Calcium	60		25.0	84.4		mg/L		98	75 - 125	3	20
Cadmium	ND		0.500	0.486		mg/L		97	75 - 125	3	20
Cobalt	ND		0.500	0.491		mg/L		98	75 - 125	3	20
Chromium	ND		0.500	0.489		mg/L		98	75 - 125	3	20
Molybdenum	0.0034	J	0.500	0.486		mg/L		96	75 - 125	4	20
Antimony	ND		0.100	0.101		mg/L		101	75 - 125	3	20
Lead	ND		0.500	0.507		mg/L		101	75 - 125	4	20
Selenium	0.0022	J	1.00	0.920		mg/L		92	75 - 125	2	20
Lithium	0.033		0.500	0.519		mg/L		97	75 - 125	3	20
Thallium	ND		1.00	0.980		mg/L		98	75 - 125	3	20

Lab Sample ID: MB 240-499414/1-A

Matrix: Water

Analysis Batch: 499783

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 499414

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.00075	mg/L		08/13/21 14:00	08/16/21 19:10	1
Barium	ND		0.0050	0.0022	mg/L		08/13/21 14:00	08/16/21 19:10	1
Beryllium	ND		0.0010	0.00062	mg/L		08/13/21 14:00	08/16/21 19:10	1
Calcium	ND		1.0	0.58	mg/L		08/13/21 14:00	08/16/21 19:10	1
Cadmium	ND		0.0010	0.00020	mg/L		08/13/21 14:00	08/16/21 19:10	1
Cobalt	ND		0.0010	0.00019	mg/L		08/13/21 14:00	08/16/21 19:10	1
Chromium	ND		0.0025	0.0025	mg/L		08/13/21 14:00	08/16/21 19:10	1
Molybdenum	ND		0.010	0.0011	mg/L		08/13/21 14:00	08/16/21 19:10	1
Antimony	ND		0.0020	0.00057	mg/L		08/13/21 14:00	08/16/21 19:10	1
Lead	ND		0.0010	0.00045	mg/L		08/13/21 14:00	08/16/21 19:10	1
Selenium	ND		0.0050	0.00089	mg/L		08/13/21 14:00	08/16/21 19:10	1
Lithium	ND		0.0080	0.0017	mg/L		08/13/21 14:00	08/16/21 19:10	1
Thallium	ND		0.0010	0.00020	mg/L		08/13/21 14:00	08/16/21 19:10	1

Lab Sample ID: LCS 240-499414/3-A

Matrix: Water

Analysis Batch: 499783

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 499414

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.932		mg/L		93	80 - 120
Barium	1.00	0.943		mg/L		94	80 - 120
Beryllium	0.500	0.525		mg/L		105	80 - 120
Calcium	25.0	24.4		mg/L		98	80 - 120
Cadmium	0.500	0.485		mg/L		97	80 - 120
Cobalt	0.500	0.491		mg/L		98	80 - 120
Chromium	0.500	0.505		mg/L		101	80 - 120
Molybdenum	0.500	0.471		mg/L		94	80 - 120
Antimony	0.100	0.101		mg/L		101	80 - 120
Lead	0.500	0.531		mg/L		106	80 - 120
Selenium	1.00	0.922		mg/L		92	80 - 120

Eurofins TestAmerica, Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 240-499414/3-A

Matrix: Water

Analysis Batch: 499783

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 499414

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.500	0.485		mg/L		97	80 - 120
Thallium	1.00	1.02		mg/L		102	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-499065/1-A

Matrix: Water

Analysis Batch: 499408

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 499065

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		08/11/21 14:00	08/12/21 13:12	1

Lab Sample ID: LCS 240-499065/2-A

Matrix: Water

Analysis Batch: 499408

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 499065

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	5.00	5.32		ug/L		106	80 - 120

Lab Sample ID: 280-151655-1 MS

Matrix: Water

Analysis Batch: 499408

Client Sample ID: PNMW1B

Prep Type: Total/NA

Prep Batch: 499065

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		1.00	1.10		ug/L		110	80 - 120

Lab Sample ID: 280-151655-1 MSD

Matrix: Water

Analysis Batch: 499408

Client Sample ID: PNMW1B

Prep Type: Total/NA

Prep Batch: 499065

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		1.00	1.05		ug/L		105	80 - 120	4	20

Lab Sample ID: MB 240-499416/1-A

Matrix: Water

Analysis Batch: 499790

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 499416

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		08/13/21 14:00	08/16/21 15:46	1

Lab Sample ID: LCS 240-499416/2-A

Matrix: Water

Analysis Batch: 499790

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 499416

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00517		mg/L		103	80 - 120

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QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Method: 9040B - pH

Lab Sample ID: LCS 280-546666/16

Matrix: Water

Analysis Batch: 546666

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH adj. to 25 deg C	7.00	7.0		SU		100	99 - 101

Lab Sample ID: LCS 280-546666/28

Matrix: Water

Analysis Batch: 546666

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH adj. to 25 deg C	7.00	7.0		SU		100	99 - 101

Lab Sample ID: LCS 280-546822/4

Matrix: Water

Analysis Batch: 546822

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH adj. to 25 deg C	7.00	7.0		SU		100	99 - 101

Lab Sample ID: 280-151655-2 DU

Matrix: Water

Analysis Batch: 546822

Client Sample ID: PNMW2B

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH adj. to 25 deg C	7.1	HF	7.8	F3	SU		10	5
Temperature	19.8	HF	19.4		Degrees C		2	10

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 280-547004/6

Matrix: Water

Analysis Batch: 547004

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			08/19/21 11:49	1
Fluoride	ND		0.50	0.17	mg/L			08/19/21 11:49	1
Sulfate	ND		5.0	1.0	mg/L			08/19/21 11:49	1

Lab Sample ID: LCS 280-547004/4

Matrix: Water

Analysis Batch: 547004

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	91.3		mg/L		91	90 - 110
Fluoride	5.00	4.62		mg/L		92	90 - 110
Sulfate	100	93.9		mg/L		94	90 - 110

Lab Sample ID: LCSD 280-547004/5

Matrix: Water

Analysis Batch: 547004

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	90.7		mg/L		91	90 - 110	1	10

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QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 280-547004/5

Matrix: Water

Analysis Batch: 547004

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	5.00	4.64		mg/L		93	90 - 110	0	10
Sulfate	100	93.4		mg/L		93	90 - 110	1	10

Lab Sample ID: MRL 280-547004/3

Matrix: Water

Analysis Batch: 547004

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	5.00	3.88		mg/L		78	50 - 150		
Fluoride	0.500	0.476	J	mg/L		95	50 - 150		
Sulfate	5.00	4.03	J	mg/L		81	50 - 150		

Lab Sample ID: 280-151655-6 MS

Matrix: Water

Analysis Batch: 547004

Client Sample ID: PNMW15

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	3.1	F1	50.0	109	F1	mg/L		212	80 - 120		
Fluoride	0.45	J F1	5.00	10.3	E F1	mg/L		196	80 - 120		

Lab Sample ID: 280-151655-6 MSD

Matrix: Water

Analysis Batch: 547004

Client Sample ID: PNMW15

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	3.1	F1	50.0	102	F1	mg/L		198	80 - 120	7	20
Fluoride	0.45	J F1	5.00	9.63	F1	mg/L		184	80 - 120	6	20

Lab Sample ID: 280-151655-6 DU

Matrix: Water

Analysis Batch: 547004

Client Sample ID: PNMW15

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	DU Result	DU Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	3.1	F1		3.06		mg/L				2	15
Fluoride	0.45	J F1		0.437	J	mg/L				3	15

Lab Sample ID: MB 280-547155/6

Matrix: Water

Analysis Batch: 547155

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			08/20/21 12:03	1
Sulfate	ND		5.0	1.0	mg/L			08/20/21 12:03	1

Lab Sample ID: LCS 280-547155/4

Matrix: Water

Analysis Batch: 547155

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	89.9		mg/L		90	90 - 110		

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QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 280-547155/4

Matrix: Water

Analysis Batch: 547155

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	100	93.8		mg/L		94	90 - 110

Lab Sample ID: LCSD 280-547155/5

Matrix: Water

Analysis Batch: 547155

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	89.6		mg/L		90	90 - 110	0	10
Sulfate	100	93.3		mg/L		93	90 - 110	1	10

Lab Sample ID: MRL 280-547155/3

Matrix: Water

Analysis Batch: 547155

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	3.85		mg/L		77	50 - 150
Sulfate	5.00	4.17	J	mg/L		83	50 - 150

Lab Sample ID: 280-151655-10 MS

Matrix: Water

Analysis Batch: 547155

Client Sample ID: P7 DUP

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	2100	F1	1000	3980	F1	mg/L		192	80 - 120

Lab Sample ID: 280-151655-10 MSD

Matrix: Water

Analysis Batch: 547155

Client Sample ID: P7 DUP

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	2100	F1	1000	3700	F1	mg/L		164	80 - 120	7	20

Lab Sample ID: 280-151655-10 DU

Matrix: Water

Analysis Batch: 547155

Client Sample ID: P7 DUP

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	2100	F1	2000		mg/L		3	15

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 280-545735/1

Matrix: Water

Analysis Batch: 545735

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			08/07/21 09:36	1

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QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 280-545735/2
Matrix: Water
Analysis Batch: 545735

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids (TDS)	506	485		mg/L		96	88 - 114

Lab Sample ID: 280-151655-2 DU
Matrix: Water
Analysis Batch: 545735

Client Sample ID: PNMW2B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids (TDS)	340		347		mg/L		3	10

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 280-545776/3
Matrix: Water
Analysis Batch: 545776

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			08/08/21 16:17	1

Lab Sample ID: LCS 280-545776/1
Matrix: Water
Analysis Batch: 545776

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	100	92.0		mg/L		92	79 - 114

Lab Sample ID: LCSD 280-545776/2
Matrix: Water
Analysis Batch: 545776

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Suspended Solids	100	96.4		mg/L		96	79 - 114	5	20

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-522404/23-A
Matrix: Water
Analysis Batch: 526070

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 522404

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.06799	U	0.173	0.173	1.00	0.381	pCi/L	08/12/21 09:07	09/09/21 17:11	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.5		40 - 110					08/12/21 09:07	09/09/21 17:11	1

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QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Method: 9315 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCS 160-522404/1-A
Matrix: Water
Analysis Batch: 526070

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 522404

Analyte		Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226		11.3	10.89		1.45	1.00	0.485	pCi/L	96	75 - 125		
	LCS	LCS										
Carrier	%Yield	Qualifier	Limits									
Ba Carrier	97.6		40 - 110									

Lab Sample ID: LCSD 160-522404/2-A
Matrix: Water
Analysis Batch: 526070

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 522404

Analyte		Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226		11.3	10.04		1.33	1.00	0.369	pCi/L	88	75 - 125	0.31	1
	LCSD	LCSD										
Carrier	%Yield	Qualifier	Limits									
Ba Carrier	94.3		40 - 110									

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-522409/23-A
Matrix: Water
Analysis Batch: 526075

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 522409

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.01244	U	0.255	0.255	1.00	0.449	pCi/L	08/12/21 09:58	09/09/21 12:55	1
	MB	MB								
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	96.5		40 - 110					08/12/21 09:58	09/09/21 12:55	1
Y Carrier	91.2		40 - 110					08/12/21 09:58	09/09/21 12:55	1

Lab Sample ID: LCS 160-522409/1-A
Matrix: Water
Analysis Batch: 526073

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 522409

Analyte		Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228		9.35	8.397		0.991	1.00	0.397	pCi/L	90	75 - 125		
	LCS	LCS										
Carrier	%Yield	Qualifier	Limits									
Ba Carrier	97.6		40 - 110									
Y Carrier	91.2		40 - 110									

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QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCSD 160-522409/2-A

Matrix: Water

Analysis Batch: 526073

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 522409

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228	9.35	10.53		1.19	1.00	0.364	pCi/L	113	75 - 125	0.98	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	94.3		40 - 110
Y Carrier	91.2		40 - 110

QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Metals

Prep Batch: 499061

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-151655-1	PNMW1B	Total Recoverable	Water	3005A	
280-151655-2	PNMW2B	Total Recoverable	Water	3005A	
280-151655-3	PNMW6B	Total Recoverable	Water	3005A	
280-151655-4	PNMW13	Total Recoverable	Water	3005A	
280-151655-5	PNMW14	Total Recoverable	Water	3005A	
280-151655-6	PNMW15	Total Recoverable	Water	3005A	
280-151655-7	PNMW16	Total Recoverable	Water	3005A	
280-151655-8	P7EB	Total Recoverable	Water	3005A	
280-151655-9	P7	Total Recoverable	Water	3005A	
280-151655-10	P7 DUP	Total Recoverable	Water	3005A	
280-151655-11	P6	Total Recoverable	Water	3005A	
280-151655-12	P18B	Total Recoverable	Water	3005A	
MB 240-499061/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-499061/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-499061/3-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-151655-1 MS	PNMW1B	Total Recoverable	Water	3005A	
280-151655-1 MSD	PNMW1B	Total Recoverable	Water	3005A	
280-151655-2 MS	PNMW2B	Total Recoverable	Water	3005A	
280-151655-2 MSD	PNMW2B	Total Recoverable	Water	3005A	

Prep Batch: 499065

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-151655-1	PNMW1B	Total/NA	Water	7470A	
280-151655-2	PNMW2B	Total/NA	Water	7470A	
280-151655-3	PNMW6B	Total/NA	Water	7470A	
280-151655-4	PNMW13	Total/NA	Water	7470A	
280-151655-5	PNMW14	Total/NA	Water	7470A	
280-151655-6	PNMW15	Total/NA	Water	7470A	
280-151655-7	PNMW16	Total/NA	Water	7470A	
280-151655-8	P7EB	Total/NA	Water	7470A	
280-151655-9	P7	Total/NA	Water	7470A	
280-151655-10	P7 DUP	Total/NA	Water	7470A	
280-151655-11	P6	Total/NA	Water	7470A	
280-151655-12	P18B	Total/NA	Water	7470A	
MB 240-499065/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-499065/2-A	Lab Control Sample	Total/NA	Water	7470A	
280-151655-1 MS	PNMW1B	Total/NA	Water	7470A	
280-151655-1 MSD	PNMW1B	Total/NA	Water	7470A	

Analysis Batch: 499368

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-151655-1	PNMW1B	Total Recoverable	Water	6020A	499061
280-151655-2	PNMW2B	Total Recoverable	Water	6020A	499061
280-151655-3	PNMW6B	Total Recoverable	Water	6020A	499061
280-151655-4	PNMW13	Total Recoverable	Water	6020A	499061
280-151655-5	PNMW14	Total Recoverable	Water	6020A	499061
280-151655-6	PNMW15	Total Recoverable	Water	6020A	499061
280-151655-7	PNMW16	Total Recoverable	Water	6020A	499061
280-151655-8	P7EB	Total Recoverable	Water	6020A	499061
280-151655-9	P7	Total Recoverable	Water	6020A	499061
280-151655-10	P7 DUP	Total Recoverable	Water	6020A	499061

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QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Metals (Continued)

Analysis Batch: 499368 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-151655-11	P6	Total Recoverable	Water	6020A	499061
280-151655-12	P18B	Total Recoverable	Water	6020A	499061
MB 240-499061/1-A	Method Blank	Total Recoverable	Water	6020A	499061
LCS 240-499061/3-A	Lab Control Sample	Total Recoverable	Water	6020A	499061
280-151655-2 MS	PNMW2B	Total Recoverable	Water	6020A	499061
280-151655-2 MSD	PNMW2B	Total Recoverable	Water	6020A	499061

Analysis Batch: 499408

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-151655-1	PNMW1B	Total/NA	Water	7470A	499065
280-151655-2	PNMW2B	Total/NA	Water	7470A	499065
280-151655-3	PNMW6B	Total/NA	Water	7470A	499065
280-151655-4	PNMW13	Total/NA	Water	7470A	499065
280-151655-5	PNMW14	Total/NA	Water	7470A	499065
280-151655-6	PNMW15	Total/NA	Water	7470A	499065
280-151655-7	PNMW16	Total/NA	Water	7470A	499065
280-151655-8	P7EB	Total/NA	Water	7470A	499065
280-151655-9	P7	Total/NA	Water	7470A	499065
280-151655-10	P7 DUP	Total/NA	Water	7470A	499065
280-151655-11	P6	Total/NA	Water	7470A	499065
280-151655-12	P18B	Total/NA	Water	7470A	499065
MB 240-499065/1-A	Method Blank	Total/NA	Water	7470A	499065
LCS 240-499065/2-A	Lab Control Sample	Total/NA	Water	7470A	499065
280-151655-1 MS	PNMW1B	Total/NA	Water	7470A	499065
280-151655-1 MSD	PNMW1B	Total/NA	Water	7470A	499065

Filtration Batch: 499413

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-151655-5	PNMW14	Dissolved	Water	FILTRATION	
280-151655-6	PNMW15	Dissolved	Water	FILTRATION	

Prep Batch: 499414

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-151655-5	PNMW14	Dissolved	Water	3005A	499413
280-151655-6	PNMW15	Dissolved	Water	3005A	499413
MB 240-499414/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-499414/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-499414/3-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 499416

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-151655-5	PNMW14	Dissolved	Water	7470A	499413
280-151655-6	PNMW15	Dissolved	Water	7470A	499413
MB 240-499416/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-499416/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 499572

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-151655-1	PNMW1B	Total Recoverable	Water	6010C	499061
280-151655-2	PNMW2B	Total Recoverable	Water	6010C	499061
280-151655-3	PNMW6B	Total Recoverable	Water	6010C	499061

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QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Metals (Continued)

Analysis Batch: 499572 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-151655-4	PNMW13	Total Recoverable	Water	6010C	499061
280-151655-5	PNMW14	Total Recoverable	Water	6010C	499061
280-151655-6	PNMW15	Total Recoverable	Water	6010C	499061
280-151655-7	PNMW16	Total Recoverable	Water	6010C	499061
280-151655-8	P7EB	Total Recoverable	Water	6010C	499061
280-151655-9	P7	Total Recoverable	Water	6010C	499061
280-151655-10	P7 DUP	Total Recoverable	Water	6010C	499061
280-151655-11	P6	Total Recoverable	Water	6010C	499061
280-151655-12	P18B	Total Recoverable	Water	6010C	499061
MB 240-499061/1-A	Method Blank	Total Recoverable	Water	6010C	499061
LCS 240-499061/2-A	Lab Control Sample	Total Recoverable	Water	6010C	499061
280-151655-1 MS	PNMW1B	Total Recoverable	Water	6010C	499061
280-151655-1 MSD	PNMW1B	Total Recoverable	Water	6010C	499061

Analysis Batch: 499674

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-151655-5	PNMW14	Dissolved	Water	6010C	499414
280-151655-6	PNMW15	Dissolved	Water	6010C	499414
MB 240-499414/1-A	Method Blank	Total Recoverable	Water	6010C	499414
LCS 240-499414/2-A	Lab Control Sample	Total Recoverable	Water	6010C	499414

Analysis Batch: 499783

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-151655-5	PNMW14	Dissolved	Water	6020A	499414
280-151655-6	PNMW15	Dissolved	Water	6020A	499414
MB 240-499414/1-A	Method Blank	Total Recoverable	Water	6020A	499414
LCS 240-499414/3-A	Lab Control Sample	Total Recoverable	Water	6020A	499414

Analysis Batch: 499790

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-151655-5	PNMW14	Dissolved	Water	7470A	499416
280-151655-6	PNMW15	Dissolved	Water	7470A	499416
MB 240-499416/1-A	Method Blank	Total/NA	Water	7470A	499416
LCS 240-499416/2-A	Lab Control Sample	Total/NA	Water	7470A	499416

General Chemistry

Analysis Batch: 545735

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-151655-1	PNMW1B	Total/NA	Water	SM 2540C	
280-151655-2	PNMW2B	Total/NA	Water	SM 2540C	
280-151655-3	PNMW6B	Total/NA	Water	SM 2540C	
280-151655-4	PNMW13	Total/NA	Water	SM 2540C	
280-151655-5	PNMW14	Total/NA	Water	SM 2540C	
280-151655-6	PNMW15	Total/NA	Water	SM 2540C	
280-151655-7	PNMW16	Total/NA	Water	SM 2540C	
280-151655-8	P7EB	Total/NA	Water	SM 2540C	
280-151655-9	P7	Total/NA	Water	SM 2540C	
280-151655-10	P7 DUP	Total/NA	Water	SM 2540C	
280-151655-11	P6	Total/NA	Water	SM 2540C	
280-151655-12	P18B	Total/NA	Water	SM 2540C	

Eurofins TestAmerica, Denver

QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

General Chemistry (Continued)

Analysis Batch: 545735 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 280-545735/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-545735/2	Lab Control Sample	Total/NA	Water	SM 2540C	
280-151655-2 DU	PNMW2B	Total/NA	Water	SM 2540C	

Analysis Batch: 545776

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-151655-1	PNMW1B	Total/NA	Water	SM 2540D	
280-151655-2	PNMW2B	Total/NA	Water	SM 2540D	
280-151655-3	PNMW6B	Total/NA	Water	SM 2540D	
280-151655-4	PNMW13	Total/NA	Water	SM 2540D	
280-151655-5	PNMW14	Total/NA	Water	SM 2540D	
280-151655-6	PNMW15	Total/NA	Water	SM 2540D	
280-151655-7	PNMW16	Total/NA	Water	SM 2540D	
280-151655-8	P7EB	Total/NA	Water	SM 2540D	
280-151655-9	P7	Total/NA	Water	SM 2540D	
280-151655-10	P7 DUP	Total/NA	Water	SM 2540D	
280-151655-11	P6	Total/NA	Water	SM 2540D	
280-151655-12	P18B	Total/NA	Water	SM 2540D	
MB 280-545776/3	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-545776/1	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 280-545776/2	Lab Control Sample Dup	Total/NA	Water	SM 2540D	

Analysis Batch: 546666

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-151655-1	PNMW1B	Total/NA	Water	9040B	
280-151655-3	PNMW6B	Total/NA	Water	9040B	
280-151655-5	PNMW14	Total/NA	Water	9040B	
280-151655-6	PNMW15	Total/NA	Water	9040B	
280-151655-7	PNMW16	Total/NA	Water	9040B	
280-151655-9	P7	Total/NA	Water	9040B	
280-151655-10	P7 DUP	Total/NA	Water	9040B	
280-151655-11	P6	Total/NA	Water	9040B	
280-151655-12	P18B	Total/NA	Water	9040B	
LCS 280-546666/16	Lab Control Sample	Total/NA	Water	9040B	
LCS 280-546666/28	Lab Control Sample	Total/NA	Water	9040B	

Analysis Batch: 546822

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-151655-2	PNMW2B	Total/NA	Water	9040B	
280-151655-4	PNMW13	Total/NA	Water	9040B	
280-151655-8	P7EB	Total/NA	Water	9040B	
LCS 280-546822/4	Lab Control Sample	Total/NA	Water	9040B	
280-151655-2 DU	PNMW2B	Total/NA	Water	9040B	

Analysis Batch: 547004

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-151655-1	PNMW1B	Total/NA	Water	9056A	
280-151655-2	PNMW2B	Total/NA	Water	9056A	
280-151655-3	PNMW6B	Total/NA	Water	9056A	
280-151655-3	PNMW6B	Total/NA	Water	9056A	
280-151655-4	PNMW13	Total/NA	Water	9056A	

Eurofins TestAmerica, Denver

QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

General Chemistry (Continued)

Analysis Batch: 547004 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-151655-5	PNMW14	Total/NA	Water	9056A	
280-151655-6	PNMW15	Total/NA	Water	9056A	
280-151655-7	PNMW16	Total/NA	Water	9056A	
280-151655-8	P7EB	Total/NA	Water	9056A	
280-151655-9	P7	Total/NA	Water	9056A	
280-151655-9	P7	Total/NA	Water	9056A	
280-151655-10	P7 DUP	Total/NA	Water	9056A	
280-151655-10	P7 DUP	Total/NA	Water	9056A	
280-151655-11	P6	Total/NA	Water	9056A	
280-151655-11	P6	Total/NA	Water	9056A	
280-151655-12	P18B	Total/NA	Water	9056A	
MB 280-547004/6	Method Blank	Total/NA	Water	9056A	
LCS 280-547004/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-547004/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-547004/3	Lab Control Sample	Total/NA	Water	9056A	
280-151655-6 MS	PNMW15	Total/NA	Water	9056A	
280-151655-6 MSD	PNMW15	Total/NA	Water	9056A	
280-151655-6 DU	PNMW15	Total/NA	Water	9056A	

Analysis Batch: 547155

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-151655-1	PNMW1B	Total/NA	Water	9056A	
280-151655-4	PNMW13	Total/NA	Water	9056A	
280-151655-6	PNMW15	Total/NA	Water	9056A	
280-151655-7	PNMW16	Total/NA	Water	9056A	
280-151655-9	P7	Total/NA	Water	9056A	
280-151655-10	P7 DUP	Total/NA	Water	9056A	
MB 280-547155/6	Method Blank	Total/NA	Water	9056A	
LCS 280-547155/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-547155/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-547155/3	Lab Control Sample	Total/NA	Water	9056A	
280-151655-10 MS	P7 DUP	Total/NA	Water	9056A	
280-151655-10 MSD	P7 DUP	Total/NA	Water	9056A	
280-151655-10 DU	P7 DUP	Total/NA	Water	9056A	

Rad

Prep Batch: 522404

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-151655-1	PNMW1B	Total/NA	Water	PrecSep-21	
280-151655-2	PNMW2B	Total/NA	Water	PrecSep-21	
280-151655-3	PNMW6B	Total/NA	Water	PrecSep-21	
280-151655-5	PNMW14	Total/NA	Water	PrecSep-21	
280-151655-6	PNMW15	Total/NA	Water	PrecSep-21	
280-151655-7	PNMW16	Total/NA	Water	PrecSep-21	
280-151655-8	P7EB	Total/NA	Water	PrecSep-21	
280-151655-9	P7	Total/NA	Water	PrecSep-21	
280-151655-10	P7 DUP	Total/NA	Water	PrecSep-21	
280-151655-11	P6	Total/NA	Water	PrecSep-21	
280-151655-12	P18B	Total/NA	Water	PrecSep-21	
MB 160-522404/23-A	Method Blank	Total/NA	Water	PrecSep-21	

Eurofins TestAmerica, Denver

QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Rad (Continued)

Prep Batch: 522404 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 160-522404/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-522404/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 522409

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-151655-1	PNMW1B	Total/NA	Water	PrecSep_0	
280-151655-2	PNMW2B	Total/NA	Water	PrecSep_0	
280-151655-3	PNMW6B	Total/NA	Water	PrecSep_0	
280-151655-5	PNMW14	Total/NA	Water	PrecSep_0	
280-151655-6	PNMW15	Total/NA	Water	PrecSep_0	
280-151655-7	PNMW16	Total/NA	Water	PrecSep_0	
280-151655-8	P7EB	Total/NA	Water	PrecSep_0	
280-151655-9	P7	Total/NA	Water	PrecSep_0	
280-151655-10	P7 DUP	Total/NA	Water	PrecSep_0	
280-151655-11	P6	Total/NA	Water	PrecSep_0	
280-151655-12	P18B	Total/NA	Water	PrecSep_0	
MB 160-522409/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-522409/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-522409/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Client Sample ID: PNMW1B

Lab Sample ID: 280-151655-1

Date Collected: 08/03/21 16:25

Matrix: Water

Date Received: 08/06/21 14:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	499061	08/11/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			499572	08/13/21 19:22	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	499061	08/11/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			499368	08/12/21 15:50	RKT	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	499065	08/11/21 14:00	SHB	TAL CAN
Total/NA	Analysis	7470A		1			499408	08/12/21 13:16	MRL	TAL CAN
Total/NA	Analysis	9040B		1			546666	08/16/21 17:29	ECC	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	547004	08/19/21 14:30	SPG	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	547155	08/20/21 16:26	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	545735	08/07/21 09:36	LRB	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	545776	08/08/21 16:17	SVC	TAL DEN
Total/NA	Prep	PrecSep-21			1000.71 mL	1.0 g	522404	08/12/21 09:07	MJ	TAL SL
Total/NA	Analysis	9315		1			526070	09/09/21 16:03	ANW	TAL SL
Total/NA	Prep	PrecSep_0			1000.71 mL	1.0 g	522409	08/12/21 09:58	MJ	TAL SL
Total/NA	Analysis	9320		1			526073	09/09/21 12:44	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			526412	09/10/21 19:42	EMH	TAL SL

Client Sample ID: PNMW2B

Lab Sample ID: 280-151655-2

Date Collected: 08/03/21 16:57

Matrix: Water

Date Received: 08/06/21 14:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	499061	08/11/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			499572	08/13/21 19:51	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	499061	08/11/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			499368	08/12/21 15:53	RKT	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	499065	08/11/21 14:00	SHB	TAL CAN
Total/NA	Analysis	7470A		1			499408	08/12/21 13:23	MRL	TAL CAN
Total/NA	Analysis	9040B		1			546822	08/17/21 13:15	ECC	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	547004	08/19/21 15:00	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	545735	08/07/21 09:36	LRB	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	545776	08/08/21 16:17	SVC	TAL DEN
Total/NA	Prep	PrecSep-21			999.23 mL	1.0 g	522404	08/12/21 09:07	MJ	TAL SL
Total/NA	Analysis	9315		1	1.0 mL	1.0 mL	526070	09/09/21 16:03	ANW	TAL SL
Total/NA	Prep	PrecSep_0			999.23 mL	1.0 g	522409	08/12/21 09:58	MJ	TAL SL
Total/NA	Analysis	9320		1			526073	09/09/21 12:44	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			526412	09/10/21 19:42	EMH	TAL SL

Eurofins TestAmerica, Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Client Sample ID: PNMW6B

Lab Sample ID: 280-151655-3

Date Collected: 08/03/21 14:57

Matrix: Water

Date Received: 08/06/21 14:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	499061	08/11/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			499572	08/13/21 19:55	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	499061	08/11/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			499368	08/12/21 16:05	RKT	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	499065	08/11/21 14:00	SHB	TAL CAN
Total/NA	Analysis	7470A		1			499408	08/12/21 13:25	MRL	TAL CAN
Total/NA	Analysis	9040B		1			546666	08/16/21 17:51	ECC	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	547004	08/19/21 15:30	SPG	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	547004	08/19/21 15:45	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	545735	08/07/21 09:36	LRB	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	545776	08/08/21 16:17	SVC	TAL DEN
Total/NA	Prep	PrecSep-21			999.03 mL	1.0 g	522404	08/12/21 09:07	MJ	TAL SL
Total/NA	Analysis	9315		1			526240	09/10/21 12:49	FLC	TAL SL
Total/NA	Prep	PrecSep_0			999.03 mL	1.0 g	522409	08/12/21 09:58	MJ	TAL SL
Total/NA	Analysis	9320		1			526073	09/09/21 12:44	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			526412	09/10/21 19:42	EMH	TAL SL

Client Sample ID: PNMW13

Lab Sample ID: 280-151655-4

Date Collected: 08/03/21 10:10

Matrix: Water

Date Received: 08/06/21 14:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	499061	08/11/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			499572	08/13/21 20:00	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	499061	08/11/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			499368	08/12/21 16:07	RKT	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	499065	08/11/21 14:00	SHB	TAL CAN
Total/NA	Analysis	7470A		1			499408	08/12/21 13:32	MRL	TAL CAN
Total/NA	Analysis	9040B		1			546822	08/17/21 13:23	ECC	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	547004	08/19/21 16:00	SPG	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	547155	08/20/21 16:41	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	545735	08/07/21 09:36	LRB	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	545776	08/08/21 16:17	SVC	TAL DEN

Client Sample ID: PNMW14

Lab Sample ID: 280-151655-5

Date Collected: 08/03/21 15:15

Matrix: Water

Date Received: 08/06/21 14:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	499413	08/13/21 11:30	SHB	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	499414	08/13/21 14:00	SHB	TAL CAN
Dissolved	Analysis	6010C		1			499674	08/17/21 02:40	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	499061	08/11/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			499572	08/13/21 20:04	DSH	TAL CAN

Eurofins TestAmerica, Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Client Sample ID: PNMW14

Lab Sample ID: 280-151655-5

Date Collected: 08/03/21 15:15

Matrix: Water

Date Received: 08/06/21 14:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	499413	08/13/21 11:30	SHB	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	499414	08/13/21 14:00	SHB	TAL CAN
Dissolved	Analysis	6020A		1			499783	08/16/21 20:02	RKT	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	499061	08/11/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			499368	08/12/21 16:15	RKT	TAL CAN
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	499413	08/13/21 11:30	SHB	TAL CAN
Dissolved	Prep	7470A			50 mL	50 mL	499416	08/13/21 14:00	SHB	TAL CAN
Dissolved	Analysis	7470A		1			499790	08/16/21 16:26	MRL	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	499065	08/11/21 14:00	SHB	TAL CAN
Total/NA	Analysis	7470A		1			499408	08/12/21 13:34	MRL	TAL CAN
Total/NA	Analysis	9040B		1			546666	08/16/21 17:11	ECC	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	547004	08/19/21 16:45	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	545735	08/07/21 09:36	LRB	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	545776	08/08/21 16:17	SVC	TAL DEN
Total/NA	Prep	PrecSep-21			749.47 mL	1.0 g	522404	08/12/21 09:07	MJ	TAL SL
Total/NA	Analysis	9315		1			526240	09/10/21 17:55	FLC	TAL SL
Total/NA	Prep	PrecSep_0			749.47 mL	1.0 g	522409	08/12/21 09:58	MJ	TAL SL
Total/NA	Analysis	9320		1			526073	09/09/21 12:44	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			526823	09/13/21 16:47	CAH	TAL SL

Client Sample ID: PNMW15

Lab Sample ID: 280-151655-6

Date Collected: 08/03/21 14:25

Matrix: Water

Date Received: 08/06/21 14:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	499413	08/13/21 11:30	SHB	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	499414	08/13/21 14:00	SHB	TAL CAN
Dissolved	Analysis	6010C		1			499674	08/17/21 02:45	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	499061	08/11/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			499572	08/13/21 20:08	DSH	TAL CAN
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	499413	08/13/21 11:30	SHB	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	499414	08/13/21 14:00	SHB	TAL CAN
Dissolved	Analysis	6020A		1			499783	08/16/21 20:04	RKT	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	499061	08/11/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			499368	08/12/21 16:17	RKT	TAL CAN
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	499413	08/13/21 11:30	SHB	TAL CAN
Dissolved	Prep	7470A			50 mL	50 mL	499416	08/13/21 14:00	SHB	TAL CAN
Dissolved	Analysis	7470A		1			499790	08/16/21 16:28	MRL	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	499065	08/11/21 14:00	SHB	TAL CAN
Total/NA	Analysis	7470A		1			499408	08/12/21 13:36	MRL	TAL CAN
Total/NA	Analysis	9040B		1			546666	08/16/21 17:15	ECC	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	547004	08/19/21 17:14	SPG	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	547155	08/20/21 16:56	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	545735	08/07/21 09:36	LRB	TAL DEN

Eurofins TestAmerica, Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Client Sample ID: PNMW15

Lab Sample ID: 280-151655-6

Date Collected: 08/03/21 14:25

Matrix: Water

Date Received: 08/06/21 14:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	545776	08/08/21 16:17	SVC	TAL DEN
Total/NA	Prep	PrecSep-21			500.25 mL	1.0 g	522404	08/12/21 09:07	MJ	TAL SL
Total/NA	Analysis	9315		1			526071	09/09/21 16:07	ANW	TAL SL
Total/NA	Prep	PrecSep_0			500.25 mL	1.0 g	522409	08/12/21 09:58	MJ	TAL SL
Total/NA	Analysis	9320		1			526073	09/09/21 12:45	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			526412	09/10/21 19:42	EMH	TAL SL

Client Sample ID: PNMW16

Lab Sample ID: 280-151655-7

Date Collected: 08/03/21 11:29

Matrix: Water

Date Received: 08/06/21 14:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	499061	08/11/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			499572	08/13/21 20:12	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	499061	08/11/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			499368	08/12/21 16:20	RKT	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	499065	08/11/21 14:00	SHB	TAL CAN
Total/NA	Analysis	7470A		1			499408	08/12/21 13:38	MRL	TAL CAN
Total/NA	Analysis	9040B		1			546666	08/16/21 17:19	ECC	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	547004	08/19/21 18:14	SPG	TAL DEN
Total/NA	Analysis	9056A		10	5 mL	5 mL	547155	08/20/21 17:11	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	545735	08/07/21 09:36	LRB	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	545776	08/08/21 16:17	SVC	TAL DEN
Total/NA	Prep	PrecSep-21			1000.83 mL	1.0 g	522404	08/12/21 09:07	MJ	TAL SL
Total/NA	Analysis	9315		1			526071	09/09/21 16:07	ANW	TAL SL
Total/NA	Prep	PrecSep_0			1000.83 mL	1.0 g	522409	08/12/21 09:58	MJ	TAL SL
Total/NA	Analysis	9320		1			526073	09/09/21 12:45	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			526412	09/10/21 19:42	EMH	TAL SL

Client Sample ID: P7EB

Lab Sample ID: 280-151655-8

Date Collected: 08/04/21 16:40

Matrix: Water

Date Received: 08/06/21 14:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	499061	08/11/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			499572	08/13/21 20:17	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	499061	08/11/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			499368	08/12/21 16:22	RKT	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	499065	08/11/21 14:00	SHB	TAL CAN
Total/NA	Analysis	7470A		1			499408	08/12/21 13:40	MRL	TAL CAN
Total/NA	Analysis	9040B		1			546822	08/17/21 13:29	ECC	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	547004	08/19/21 18:29	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	545735	08/07/21 09:36	LRB	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	545776	08/08/21 16:17	SVC	TAL DEN

Eurofins TestAmerica, Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Client Sample ID: P7EB

Lab Sample ID: 280-151655-8

Date Collected: 08/04/21 16:40

Matrix: Water

Date Received: 08/06/21 14:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.25 mL	1.0 g	522404	08/12/21 09:07	MJ	TAL SL
Total/NA	Analysis	9315		1			526071	09/09/21 16:07	ANW	TAL SL
Total/NA	Prep	PrecSep_0			1000.25 mL	1.0 g	522409	08/12/21 09:58	MJ	TAL SL
Total/NA	Analysis	9320		1			526073	09/09/21 12:45	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			526412	09/10/21 19:42	EMH	TAL SL

Client Sample ID: P7

Lab Sample ID: 280-151655-9

Date Collected: 08/04/21 19:10

Matrix: Water

Date Received: 08/06/21 14:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	499061	08/11/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			499572	08/13/21 20:21	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	499061	08/11/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			499368	08/12/21 16:25	RKT	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	499065	08/11/21 14:00	SHB	TAL CAN
Total/NA	Analysis	7470A		1			499408	08/12/21 13:42	MRL	TAL CAN
Total/NA	Analysis	9040B		1			546666	08/16/21 16:56	ECC	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	547004	08/19/21 18:44	SPG	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	547004	08/19/21 18:59	SPG	TAL DEN
Total/NA	Analysis	9056A		20	5 mL	5 mL	547155	08/20/21 17:41	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	545735	08/07/21 09:36	LRB	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	545776	08/08/21 16:17	SVC	TAL DEN
Total/NA	Prep	PrecSep-21			999.63 mL	1.0 g	522404	08/12/21 09:07	MJ	TAL SL
Total/NA	Analysis	9315		1			526071	09/09/21 16:08	ANW	TAL SL
Total/NA	Prep	PrecSep_0			999.63 mL	1.0 g	522409	08/12/21 09:58	MJ	TAL SL
Total/NA	Analysis	9320		1			526075	09/09/21 12:52	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			526412	09/10/21 19:42	EMH	TAL SL

Client Sample ID: P7 DUP

Lab Sample ID: 280-151655-10

Date Collected: 08/04/21 19:10

Matrix: Water

Date Received: 08/06/21 14:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	499061	08/11/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			499572	08/13/21 20:34	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	499061	08/11/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			499368	08/12/21 16:27	RKT	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	499065	08/11/21 14:00	SHB	TAL CAN
Total/NA	Analysis	7470A		1			499408	08/12/21 13:44	MRL	TAL CAN
Total/NA	Analysis	9040B		1			546666	08/16/21 17:00	ECC	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	547004	08/19/21 19:44	SPG	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	547004	08/19/21 19:59	SPG	TAL DEN
Total/NA	Analysis	9056A		20	5 mL	5 mL	547155	08/20/21 17:56	SPG	TAL DEN

Eurofins TestAmerica, Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Client Sample ID: P7 DUP

Lab Sample ID: 280-151655-10

Date Collected: 08/04/21 19:10

Matrix: Water

Date Received: 08/06/21 14:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	545735	08/07/21 09:36	LRB	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	545776	08/08/21 16:17	SVC	TAL DEN
Total/NA	Prep	PrecSep-21			999.80 mL	1.0 g	522404	08/12/21 09:07	MJ	TAL SL
Total/NA	Analysis	9315		1			526071	09/09/21 16:08	ANW	TAL SL
Total/NA	Prep	PrecSep_0			999.80 mL	1.0 g	522409	08/12/21 09:58	MJ	TAL SL
Total/NA	Analysis	9320		1			526075	09/09/21 12:52	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			526412	09/10/21 19:42	EMH	TAL SL

Client Sample ID: P6

Lab Sample ID: 280-151655-11

Date Collected: 08/04/21 21:10

Matrix: Water

Date Received: 08/06/21 14:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	499061	08/11/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			499572	08/13/21 20:38	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	499061	08/11/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			499368	08/12/21 16:30	RKT	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	499065	08/11/21 14:00	SHB	TAL CAN
Total/NA	Analysis	7470A		1			499408	08/12/21 13:46	MRL	TAL CAN
Total/NA	Analysis	9040B		1			546666	08/16/21 17:03	ECC	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	547004	08/19/21 20:14	SPG	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	547004	08/19/21 20:28	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	545735	08/07/21 09:36	LRB	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	545776	08/08/21 16:17	SVC	TAL DEN
Total/NA	Prep	PrecSep-21			1000.41 mL	1.0 g	522404	08/12/21 09:07	MJ	TAL SL
Total/NA	Analysis	9315		1			526071	09/09/21 16:08	ANW	TAL SL
Total/NA	Prep	PrecSep_0			1000.41 mL	1.0 g	522409	08/12/21 09:58	MJ	TAL SL
Total/NA	Analysis	9320		1			526075	09/09/21 12:52	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			526412	09/10/21 19:42	EMH	TAL SL

Client Sample ID: P18B

Lab Sample ID: 280-151655-12

Date Collected: 08/04/21 14:40

Matrix: Water

Date Received: 08/06/21 14:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	499061	08/11/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			499572	08/13/21 20:42	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	499061	08/11/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			499368	08/12/21 16:32	RKT	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	499065	08/11/21 14:00	SHB	TAL CAN
Total/NA	Analysis	7470A		1			499408	08/12/21 13:48	MRL	TAL CAN
Total/NA	Analysis	9040B		1			546666	08/16/21 17:07	ECC	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	547004	08/19/21 20:43	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	545735	08/07/21 09:36	LRB	TAL DEN

Eurofins TestAmerica, Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Client Sample ID: P18B

Lab Sample ID: 280-151655-12

Date Collected: 08/04/21 14:40

Matrix: Water

Date Received: 08/06/21 14:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	545776	08/08/21 16:17	SVC	TAL DEN
Total/NA	Prep	PrecSep-21			999.36 mL	1.0 g	522404	08/12/21 09:07	MJ	TAL SL
Total/NA	Analysis	9315		1	1.0 mL	1.0 mL	526071	09/09/21 16:08	ANW	TAL SL
Total/NA	Prep	PrecSep_0			999.36 mL	1.0 g	522409	08/12/21 09:58	MJ	TAL SL
Total/NA	Analysis	9320		1	1.0 mL	1.0 mL	526075	09/09/21 12:52	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			526412	09/10/21 19:42	EMH	TAL SL

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Laboratory: Eurofins TestAmerica, Denver

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	11-02-21
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
9040B		Water	Temperature

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-22
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-22
Georgia	State	4062	02-23-22
Illinois	NELAP	200004	07-31-22
Iowa	State	421	06-01-23
Kansas	NELAP	E-10336	04-30-22
Kentucky (UST)	State	112225	02-23-22
Kentucky (WW)	State	KY98016	12-31-21
Minnesota	NELAP	OH00048	12-31-21
Minnesota (Petrofund)	State	3506	08-01-23
New Jersey	NELAP	OH001	06-30-22
New York	NELAP	10975	03-31-22
Ohio VAP	State	CL0024	12-21-23
Oregon	NELAP	4062	02-23-22
Pennsylvania	NELAP	68-00340	08-31-22
Texas	NELAP	T104704517-18-10	08-31-21
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	11570	09-14-21
Washington	State	C971	01-12-22
West Virginia DEP	State	210	12-31-21

Laboratory: Eurofins TestAmerica, St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-21
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	004553	11-30-21
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-21
Kentucky (DW)	State	KY90125	01-01-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Denver

Accreditation/Certification Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Laboratory: Eurofins TestAmerica, St. Louis (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-21
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-21
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542019-11	07-31-21 *
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-21 *
West Virginia DEP	State	381	10-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Denver

Chain of Custody Record

Denver
#280



Environment Testing
 America

Client Information Client Contact: <u>Molly Reeves</u> Company: <u>HDR Inc</u> Address: <u>9781 S. Meridian Blvd Suite 400</u> City: <u>Englewood</u> State, Zip: <u>CO, 80112</u> Phone: <u>734-263-7138 (Tel)</u> Email: <u>Molly.Reeves@hdrinc.com</u> Project Name: <u>Xcel Energy GW CCR Monitoring - Pawnee</u> Site: <u>North Landfill</u>		Sampler: <u>Munson & Schupp</u> Lab PM: <u>Harrington, Danielle M</u> E-Mail: <u>Danielle.Harrington@Eurofins.com</u> Carrier Tracking No(s): <u>280-103358-30221.1</u> Page: <u>Page 1 of 1</u> Job #:	
Due Date Requested: TAT Requested (days): PO #: <u>DEN-019</u> WO #: <u>28014378</u> Project #: <u>28014378</u> SSOW#:		Analysis Requested 6010C, 6020A, 7470A Total Metals to Canton 9040B pH, 9056A, 28D Chloride, Fluoride, Sulfate 2540C TDS, 2540D TSS 9315 Ra226, 9320 Ra228, Ra226Ra228_GFP to ETA SL Louis	
Sample Identification PMMW1B PMMW2B PMMW6B PMMW13 PMMW14 PMMW15 PMMW16		Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) 9040B pH, 9056A, 28D Chloride, Fluoride, Sulfate 2540C TDS, 2540D TSS 9315 Ra226, 9320 Ra228, Ra226Ra228_GFP to ETA SL Louis	
Sample Date 8/3/21 8/3/21 8/3/21 8/4/21 8/4/21 8/3/21 8/3/21		Sample Time 1625 1657 1457 1010 1515 1425 1129	
Sample Type (C=comp, G=grab) G G G G G G G		Matrix (V=water, S=solid, O=other) V V V V V V V	
Preservation Code: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:		Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O/S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
Total Number of Containers use add 1 aliquot from TSS 1 TSS for diss metals analysis		Special Instructions/Note: 280-151655 Chain of Custody	
Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological Deliverable Requested: I, II, III, IV, Other (specify)			
Empty Kit Relinquished by:			
Relinquished by: <u>[Signature]</u> Date/Time: <u>8/6/21</u>		Relinquished by: <u>[Signature]</u> Date/Time: <u>8/6/21</u>	
Relinquished by: <u>[Signature]</u> Date/Time: <u>8/6/21</u>		Relinquished by: <u>[Signature]</u> Date/Time: <u>8/6/21</u>	
Custody Seals Intact: <u>Yes</u> ☐ No ☐		Custody Seal No.: <u>1435</u>	
Cooler Temperature(s) °C and Other Remarks: <u>0.3, 0.1, 0.0, -0.4</u>		Cooler Temperature(s) °C and Other Remarks: <u>CFR 6 FR 12</u>	

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Phone: 303-736-0100 Fax: 303-431-7171

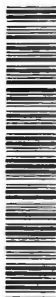
Chain of Custody Record



Environment Testing
America

[illegible]

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Chain of Custody Record

Client Information (Sub Contract Lab)			Lab PM: Harrington, Danielle M	Carrier Tracking No(s): 280-580008.1
Client Contact: Shipping/Receiving			E-Mail: Danielle.Harrington@Eurofins.com	Page Page 1 of 2
Company: TestAmerica Laboratories, Inc.			Accreditations Required (See note): DoD - A2LA	Job # 280-151655-1
Address: 4101 Shuffel Street NW, City North Canton State Zip: OH, 44720			Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
Phone 330-497-9396(Tel) 330-497-0772(Fax)			Total Number of containers	
Email			Special Instructions/Note: 543	
Project Name Xcel Energy GW CCR Monitoring - Pawnee			Analysis Requested	
Site Xcel Energy - Pawnee			Field Filtered Sample (Yes or No)	
Project # 28014378			Perform MS/MSD (Yes or No)	
SSOW#			6020A/3005A (MOD) 13 Total Metals (w/collision cell)	
			6010C/3005A Boron	
			7470A/7470A Prep Mercury - 2/2	
			6020A/FILTRATION (MOD) Boron	
			6020A/FILTRATION 13 Total Metals (w/collision cell) - SUB	
			7470A/FILTRATION Mercury	
Sample Date			Total Number of containers	
Sample Time			Special Instructions/Note: 543	
Sample Type (C=comp, G=grab)			Use Collision Cell	
Matrix (Water, Seawater, Other)			Use Collision Cell	
Preservation Code:			Use Collision Cell	
16:25 Mountain			Use Collision Cell	
8/3/21			Use Collision Cell	
16:57 Mountain			Use Collision Cell	
8/3/21			Use Collision Cell	
14:57 Mountain			Use Collision Cell	
8/3/21			Use Collision Cell	
10:10 Mountain			Use Collision Cell	
8/3/21			Use Collision Cell	
15:15 Mountain			Use Collision Cell	
8/3/21			Use Collision Cell	
14:25 Mountain			Use Collision Cell	
8/3/21			Use Collision Cell	
11:29 Mountain			Use Collision Cell	
8/3/21			Use Collision Cell	
16:40 Mountain			Use Collision Cell	
8/4/21			Use Collision Cell	
19:10 Mountain			Use Collision Cell	
8/4/21			Use Collision Cell	
PNMW1B (280-151655-1)			Use Collision Cell	
PNMW2B (280-151655-2)			Use Collision Cell	
PNMW6B (280-151655-3)			Use Collision Cell	
PNMW13 (280-151655-4)			Use Collision Cell	
PNMW14 (280-151655-5)			Use Collision Cell	
PNMW15 (280-151655-6)			Use Collision Cell	
PNMW16 (280-151655-7)			Use Collision Cell	
P7EB (280-151655-8)			Use Collision Cell	
P7 (280-151655-9)			Use Collision Cell	
Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica				
Possible Hazard Identification				
Unconfirmed				
Deliverable Requested: I, II, III, IV, Other (specify)				
Primary Deliverable Rank: 4				
Date:				
Empty Kit Relinquished by:				
Relinquished by:				
Relinquished by:				
Relinquished by:				
Custody Seal No.:				
Custody Seal Intact:				
Cooler Temperature(s) °C and Other Remarks				

Ver: 06/08/2021

Eurofins TestAmerica Canton Sample Receipt Form/Narrative Canton Facility				Login # : _____
Client <u>ETA Denver</u>		Site Name _____		Cooler unpacked by: <u>Brandon</u>
Cooler Received on <u>8-10-21</u>		Opened on <u>8-10-21</u>		
FedEx: 1 st Grd ☒ UPS ☐ FAS ☐ Clipper ☐ Client Drop Off ☐ TestAmerica Courier ☐ Other ☐				
Receipt After-hours: Drop-off Date/Time _____			Storage Location _____	
TestAmerica Cooler # <u>TA</u> Foam Box ☐ Client Cooler ☐ Box ☐ Other ☐				
Packing material used: <u>Bubble Wrap</u> Foam ☐ Plastic Bag ☐ None ☐ Other ☐				
COOLANT: <u>Wet Ice</u> Blue Ice ☐ Dry Ice ☐ Water ☐ None ☐				
1. Cooler temperature upon receipt ☐ See Multiple Cooler Form				
IR GUN# IR-11 (CF +0.1 °C)		Observed Cooler Temp. <u>1.1</u> °C		Corrected Cooler Temp. <u>1.2</u> °C
IR GUN# IR-12 (CF +0.2 °C)		Observed Cooler Temp. _____ °C		Corrected Cooler Temp. _____ °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity <u>Yes</u> No ☐				
-Were the seals on the outside of the cooler(s) signed & dated? <u>Yes</u> No ☐ NA ☐				
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? <u>Yes</u> No ☐ NA ☐				
-Were tamper/custody seals intact and uncompromised? <u>Yes</u> No ☐ NA ☐				
3. Shippers' packing slip attached to the cooler(s)? <u>Yes</u> No ☐				
4. Did custody papers accompany the sample(s)? <u>Yes</u> No ☐				
5. Were the custody papers relinquished & signed in the appropriate place? <u>Yes</u> No ☐				
6. Was/were the person(s) who collected the samples clearly identified on the COC? <u>Yes</u> No ☐				
7. Did all bottles arrive in good condition (Unbroken)? <u>Yes</u> No ☐				
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? <u>Yes</u> No ☐				
9. For each sample, does the COC specify preservatives (Y/N) # of containers (Y/N), and sample type of grab/comp (Y/N)? <u>Yes</u> No ☐				
10. Were correct bottle(s) used for the test(s) indicated? <u>Yes</u> No ☐				
11. Sufficient quantity received to perform indicated analyses? <u>Yes</u> No ☐				
12. Are these work share samples and all listed on the COC? <u>Yes</u> No ☐				
☒ If yes, Questions 13-17 have been checked at the originating laboratory.				
13. Were all preserved sample(s) at the correct pH upon receipt? <u>Yes</u> No ☐ NA ☐ pH Strip Lot# <u>HC157842</u>				
14. Were VOAs on the COC? <u>Yes</u> No ☐				
15. Were air bubbles >6 mm in any VOA vials? ☒ Larger than this. <u>Yes</u> No ☐ NA ☐				
16. Was a VOA trip blank present in the cooler(s)? <u>Yes</u> No ☐ Trip Blank Lot # _____				
17. Was a LL Hg or Me Hg trip blank present? <u>Yes</u> No ☐				
Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____				
Concerning _____				

Tests that are not checked for pH by Receiving:

VOAs
Oil and Grease
TOC

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page		Samples processed by: _____
19. SAMPLE CONDITION		
Sample(s) _____ were received after the recommended holding time had expired.		
Sample(s) _____ were received in a broken container.		
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)		
20. SAMPLE PRESERVATION		
Sample(s) _____ were further preserved in the laboratory.		
Time preserved: _____ Preservative(s) added/Lot number(s): _____		
VOA Sample Preservation - Date/Time VOAs Frozen: _____		

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Chain of Custody Record



Environment Testing
America

Client Information (Sub Contract Lab)		Sampler:	Lab PM	Carrier Tracking No(s):		COC No:
Client Contact Shipping/Receiving		Phone:	Harrington, Danielle M	State of Origin: Colorado		280-580149.1
Company TestAmerica Laboratories, Inc.		E-Mail:	Danielle.Harrington@Eurofinset.com	Page:		Page 1 of 1
Address: 4101 Shuffel Street NW, North Canton State Zip OH, 44720 Phone: 330-497-9396(Tel) 330-497-0772(Fax) Email:		Accreditations Required (See note): DoD - A2LA	Job #:		280-151655-1	
Due Date Requested: 9/7/2021		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: w98				
TAT Requested (days):		Analysis Requested				
PO #		6020A/3005A (MOD) 13 Total Metals (w/collision cell)				
WO #		7470A/7470A Prep Mercury - Z/2				
Project #		6010C/3005A Boron				
SSOW#		7470A/FILTRATION Mercury				
Sample Date		Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=organic, A=air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)
8/3/21	15:15 Mountain		Water		X	X
8/3/21	14:25 Mountain		Water		X	X
Sample Identification - Client ID (Lab ID)		Total Number of Containers				
PNMW14 (280-151655-5)		1				
PNMW15 (280-151655-6)		1				
Special Instructions/Note:		Use Collision Cell				
		Use Collision Cell				
Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to compliance to Eurofins TestAmerica.						
Possible Hazard Identification Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 4						
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☐ Disposal By Lab ☐ Archive For Months						
Special Instructions/QC Requirements:						
Time:						
Date:		Received by:		Date/Time:		Company:
8/24/2021 13:00		[Signature]		8-12-21		ETA
Date/Time:		Received by:		Date/Time:		Company:
Date/Time:		Received by:		Date/Time:		Company:
Date/Time:		Received by:		Date/Time:		Company:
Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:				
A Yes A No						

Eurofins TestAmerica Canton Sample Receipt Form/Narrative

Login # : _____

Canton Facility

Client ETA Site Name _____ Cooler unpacked by: Ryan C
 Cooler Received on 8-12-21 Opened on 8-12-21 800
 FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time

Storage Location

TestAmerica Cooler # TA Foam Box Client Cooler Box Other _____Packing material used: Bubble Wrap Foam Plastic Bag None Other _____COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt

☐ See Multiple Cooler FormIR GUN# IR-11 (CF +0.1 °C) Observed Cooler Temp. 0.6 °C Corrected Cooler Temp. 0.7 °C

IR GUN #IR-12 (CF +0.2 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1Yes No

-Were the seals on the outside of the cooler(s) signed & dated?

Yes No NA

-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?

Yes No

-Were tamper/custody seals intact and uncompromised?

Yes No NA

3. Shippers' packing slip attached to the cooler(s)?

Yes No

4. Did custody papers accompany the sample(s)?

Yes No

5. Were the custody papers relinquished & signed in the appropriate place?

Yes No

6. Was/were the person(s) who collected the samples clearly identified on the COC?

Yes No

7. Did all bottles arrive in good condition (Unbroken)?

Yes No

8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?

Yes No

9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?

10. Were correct bottle(s) used for the test(s) indicated?

Yes No

11. Sufficient quantity received to perform indicated analyses?

Yes No

12. Are these work share samples and all listed on the COC?

Yes No

If yes, Questions 13-17 have been checked at the originating laboratory.

13. Were all preserved sample(s) at the correct pH upon receipt?

Yes No NA pH Strip Lot# HC157842

14. Were VOAs on the COC?

Yes No15. Were air bubbles >6 mm in any VOA vials? Larger than this.Yes No NA

16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____

Yes No

17. Was a LL Hg or Me Hg trip blank present? _____

Yes No

Tests that are not
checked for pH by
Receiving:

VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by: _____

19. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

WI-NC-099

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Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-151655-1

Login Number: 151655

List Source: Eurofins TestAmerica, Denver

List Number: 1

Creator: Dubicki, Adam L

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-151655-1

Login Number: 151655

List Number: 3

Creator: Korrinhizer, Micha L

List Source: Eurofins TestAmerica, St. Louis

List Creation: 08/10/21 03:28 PM

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Tracer/Carrier Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-151655-1

Method: 9315 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)					
Lab Sample ID	Client Sample ID	Ba					
		(40-110)					
280-151655-1	PNMW1B	95.8					
280-151655-2	PNMW2B	94.3					
280-151655-3	PNMW6B	91.0					
280-151655-5	PNMW14	89.9					
280-151655-6	PNMW15	59.4					
280-151655-7	PNMW16	81.6					
280-151655-8	P7EB	91.0					
280-151655-9	P7	94.1					
280-151655-10	P7 DUP	88.4					
280-151655-11	P6	70.4					
280-151655-12	P18B	88.2					
LCS 160-522404/1-A	Lab Control Sample	97.6					
LCSD 160-522404/2-A	Lab Control Sample Dup	94.3					
MB 160-522404/23-A	Method Blank	96.5					
Tracer/Carrier Legend							
Ba = Ba Carrier							

Method: 9320 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)					
Lab Sample ID	Client Sample ID	Ba	Y				
		(40-110)	(40-110)				
280-151655-1	PNMW1B	95.8	92.3				
280-151655-2	PNMW2B	94.3	93.1				
280-151655-3	PNMW6B	91.0	89.0				
280-151655-5	PNMW14	89.9	90.5				
280-151655-6	PNMW15	59.4	89.0				
280-151655-7	PNMW16	81.6	93.5				
280-151655-8	P7EB	91.0	89.7				
280-151655-9	P7	94.1	94.6				
280-151655-10	P7 DUP	88.4	92.0				
280-151655-11	P6	70.4	91.2				
280-151655-12	P18B	88.2	94.6				
LCS 160-522409/1-A	Lab Control Sample	97.6	91.2				
LCSD 160-522409/2-A	Lab Control Sample Dup	94.3	91.2				
MB 160-522409/23-A	Method Blank	96.5	91.2				
Tracer/Carrier Legend							
Ba = Ba Carrier							
Y = Y Carrier							

ANALYTICAL REPORT

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

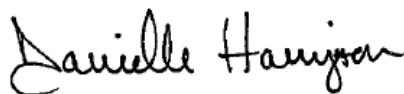
Laboratory Job ID: 280-155951-1

Client Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

For:

HDR Inc
1670 Broadway
Suite 3400
Denver, Colorado 80202

Attn: Molly Reeves



Authorized for release by:
12/16/2021 8:42:27 AM

Danielle Harrington, Project Manager II
(303)736-0176

Danielle.Harrington@Eurofinset.com

LINKS

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page	1
Table of Contents	2
Definitions	3
Case Narrative	4
Detection Summary	5
Method Summary	6
Sample Summary	7
Client Sample Results	8
QC Sample Results	10
QC Association	14
Chronicle	16
Certification Summary	18
Chain of Custody	19
Receipt Checklists	22



Definitions/Glossary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155951-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155951-1

Job ID: 280-155951-1

Laboratory: Eurofins TestAmerica, Denver

Narrative

CASE NARRATIVE

Client: HDR Inc

Project: Xcel Energy GW CCR Monitoring - Pawnee

Report Number: 280-155951-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 11/19/2021; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 5.3 C.

Please note, the 1 liter unpreserved poly was not completely full when received for sample PNMW-17 (280-155951-1). Sufficient volume was received for requested analyses.

TOTAL RECOVERABLE METALS- 6010C/6020A

Laboratory generated MS/MSD analysis data have been provided. The MS/MSD for Calcium method 6020A exhibited spike compound recoveries outside the QC limits. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GENERAL CHEMISTRY - VARIOUS

Samples PNMW-17 (280-155951-1), PNMW-21 (280-155951-2), PNMW-22 (280-155951-3), and PNMW-23 (280-155951-4) required dilution prior to analysis for Method 9056A. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155951-1

Client Sample ID: PNMW-17

Lab Sample ID: 280-155951-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.12		0.10	0.057	mg/L	1		6010C	Total Recoverable
Calcium	170		1.0	0.58	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	8.0	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.6	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	230		15	5.1	mg/L	5		9056A	Total/NA
Sulfate	340		25	5.2	mg/L	5		9056A	Total/NA
Total Dissolved Solids (TDS)	1000		20	9.4	mg/L	1		SM 2540C	Total/NA

Client Sample ID: PNMW-21

Lab Sample ID: 280-155951-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.10		0.10	0.057	mg/L	1		6010C	Total Recoverable
Calcium	170		1.0	0.58	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.4	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	220		15	5.1	mg/L	5		9056A	Total/NA
Fluoride	0.20	J	0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	470		25	5.2	mg/L	5		9056A	Total/NA
Total Dissolved Solids (TDS)	1300		20	9.4	mg/L	1		SM 2540C	Total/NA

Client Sample ID: PNMW-22

Lab Sample ID: 280-155951-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.11		0.10	0.057	mg/L	1		6010C	Total Recoverable
Calcium	270		1.0	0.58	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.7	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.4	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	240		15	5.1	mg/L	5		9056A	Total/NA
Fluoride	0.27	J	0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	980		25	5.2	mg/L	5		9056A	Total/NA
Total Dissolved Solids (TDS)	1900		20	9.4	mg/L	1		SM 2540C	Total/NA

Client Sample ID: PNMW-23

Lab Sample ID: 280-155951-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.088	J	0.10	0.057	mg/L	1		6010C	Total Recoverable
Calcium	250		1.0	0.58	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.7	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.2	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	120		3.0	1.0	mg/L	1		9056A	Total/NA
Sulfate	1100		50	10	mg/L	10		9056A	Total/NA
Total Dissolved Solids (TDS)	2100		20	9.4	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Method Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155951-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CAN
6020A	6020 – Metals (ICP/MS) – Aqueous Matrix	SW846	TAL CAN
9040B	pH	SW846	TAL DEN
9056A	Anions, Ion Chromatography	SW846	TAL DEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL DEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Sample Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155951-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-155951-1	PNMW-17	Water	11/17/21 13:30	11/19/21 11:34
280-155951-2	PNMW-21	Water	11/17/21 14:30	11/19/21 11:34
280-155951-3	PNMW-22	Water	11/18/21 18:25	11/19/21 11:34
280-155951-4	PNMW-23	Water	11/16/21 16:10	11/19/21 11:34

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155951-1

Method: 6010C - Metals (ICP) - Total Recoverable

Client Sample ID: PNMW-17
Date Collected: 11/17/21 13:30
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155951-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.12		0.10	0.057	mg/L		11/24/21 14:00	11/30/21 16:56	1

Client Sample ID: PNMW-21
Date Collected: 11/17/21 14:30
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155951-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.10		0.10	0.057	mg/L		11/24/21 14:00	11/30/21 17:00	1

Client Sample ID: PNMW-22
Date Collected: 11/18/21 18:25
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155951-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.11		0.10	0.057	mg/L		11/24/21 14:00	11/30/21 17:05	1

Client Sample ID: PNMW-23
Date Collected: 11/16/21 16:10
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155951-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.088	J	0.10	0.057	mg/L		11/24/21 14:00	11/30/21 17:09	1

Method: 6020A - 6020 – Metals (ICP/MS) – Aqueous Matrix - Total Recoverable

Client Sample ID: PNMW-17
Date Collected: 11/17/21 13:30
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155951-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	170		1.0	0.58	mg/L		11/24/21 14:00	11/29/21 16:44	1

Client Sample ID: PNMW-21
Date Collected: 11/17/21 14:30
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155951-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	170		1.0	0.58	mg/L		11/24/21 14:00	11/29/21 16:47	1

Client Sample ID: PNMW-22
Date Collected: 11/18/21 18:25
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155951-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	270		1.0	0.58	mg/L		11/24/21 14:00	11/29/21 16:49	1

Client Sample ID: PNMW-23
Date Collected: 11/16/21 16:10
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155951-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	250		1.0	0.58	mg/L		11/24/21 14:00	11/29/21 16:57	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155951-1

General Chemistry

Client Sample ID: PNMW-17
Date Collected: 11/17/21 13:30
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155951-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	8.0	HF	0.1	0.1	SU			12/06/21 14:08	1
Temperature	20.6	HF	1.0	1.0	Degrees C			12/06/21 14:08	1
Chloride	230		15	5.1	mg/L			12/13/21 17:26	5
Fluoride	ND		0.50	0.17	mg/L			12/14/21 20:36	1
Sulfate	340		25	5.2	mg/L			12/13/21 17:26	5
Total Dissolved Solids (TDS)	1000		20	9.4	mg/L			11/23/21 09:49	1

Client Sample ID: PNMW-21
Date Collected: 11/17/21 14:30
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155951-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU			12/03/21 13:27	1
Temperature	20.4	HF	1.0	1.0	Degrees C			12/03/21 13:27	1
Chloride	220		15	5.1	mg/L			12/13/21 17:56	5
Fluoride	0.20	J	0.50	0.17	mg/L			12/14/21 20:53	1
Sulfate	470		25	5.2	mg/L			12/14/21 21:09	5
Total Dissolved Solids (TDS)	1300		20	9.4	mg/L			11/23/21 09:49	1

Client Sample ID: PNMW-22
Date Collected: 11/18/21 18:25
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155951-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.7	HF	0.1	0.1	SU			12/03/21 13:08	1
Temperature	20.4	HF	1.0	1.0	Degrees C			12/03/21 13:08	1
Chloride	240		15	5.1	mg/L			12/13/21 19:10	5
Fluoride	0.27	J	0.50	0.17	mg/L			12/14/21 21:25	1
Sulfate	980		25	5.2	mg/L			12/13/21 19:10	5
Total Dissolved Solids (TDS)	1900		20	9.4	mg/L			11/24/21 09:11	1

Client Sample ID: PNMW-23
Date Collected: 11/16/21 16:10
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155951-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.7	HF	0.1	0.1	SU			12/03/21 13:12	1
Temperature	21.2	HF	1.0	1.0	Degrees C			12/03/21 13:12	1
Chloride	120		3.0	1.0	mg/L			12/13/21 19:25	1
Fluoride	ND		0.50	0.17	mg/L			12/14/21 19:31	1
Sulfate	1100		50	10	mg/L			12/13/21 19:40	10
Total Dissolved Solids (TDS)	2100		20	9.4	mg/L			11/22/21 09:42	1

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155951-1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 240-514527/1-A
Matrix: Water
Analysis Batch: 515113

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 514527

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.057	mg/L		11/24/21 14:00	11/30/21 16:01	1

Lab Sample ID: LCS 240-514527/2-A
Matrix: Water
Analysis Batch: 515113

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 514527

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.993		mg/L		99	80 - 120

Method: 6020A - 6020 - Metals (ICP/MS) - Aqueous Matrix

Lab Sample ID: MB 240-514527/1-A
Matrix: Water
Analysis Batch: 515043

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 514527

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	ND		1.0	0.58	mg/L		11/24/21 14:00	11/29/21 16:02	1

Lab Sample ID: LCS 240-514527/3-A
Matrix: Water
Analysis Batch: 515043

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 514527

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	25.0	24.2		mg/L		97	80 - 120

Method: 9040B - pH

Lab Sample ID: LCS 280-559562/28
Matrix: Water
Analysis Batch: 559562

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH adj. to 25 deg C	7.00	7.1		SU		101	99 - 101

Lab Sample ID: LCSD 280-559562/5
Matrix: Water
Analysis Batch: 559562

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
pH adj. to 25 deg C	7.00	7.0		SU		100	99 - 101	0	5

Lab Sample ID: LCS 280-559796/4
Matrix: Water
Analysis Batch: 559796

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH adj. to 25 deg C	7.00	7.0		SU		100	99 - 101

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QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155951-1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 280-560474/6

Matrix: Water

Analysis Batch: 560474

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			12/13/21 15:11	1
Sulfate	ND		5.0	1.0	mg/L			12/13/21 15:11	1

Lab Sample ID: LCS 280-560474/4

Matrix: Water

Analysis Batch: 560474

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	96.6		mg/L		97	90 - 110
Sulfate	100	97.2		mg/L		97	90 - 110

Lab Sample ID: LCSD 280-560474/5

Matrix: Water

Analysis Batch: 560474

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	102		mg/L		102	90 - 110	5	10
Sulfate	100	99.0		mg/L		99	90 - 110	2	10

Lab Sample ID: MRL 280-560474/3

Matrix: Water

Analysis Batch: 560474

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	3.98		mg/L		80	50 - 150
Sulfate	5.00	4.17	J	mg/L		83	50 - 150

Lab Sample ID: MB 280-560637/13

Matrix: Water

Analysis Batch: 560637

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.50	0.17	mg/L			12/14/21 19:14	1
Sulfate	ND		5.0	1.0	mg/L			12/14/21 19:14	1

Lab Sample ID: LCS 280-560637/11

Matrix: Water

Analysis Batch: 560637

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	5.00	4.63		mg/L		93	90 - 110
Sulfate	100	95.5		mg/L		96	90 - 110

Lab Sample ID: LCSD 280-560637/12

Matrix: Water

Analysis Batch: 560637

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	5.00	4.64		mg/L		93	90 - 110	0	10
Sulfate	100	95.5		mg/L		95	90 - 110	0	10

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QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155951-1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MRL 280-560637/10

Matrix: Water

Analysis Batch: 560637

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.500	0.563		mg/L		113	50 - 150
Sulfate	5.00	4.26	J	mg/L		85	50 - 150

Lab Sample ID: 280-155951-4 MS

Matrix: Water

Analysis Batch: 560637

Client Sample ID: PNMW-23

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	ND		5.00	4.88		mg/L		98	80 - 120

Lab Sample ID: 280-155951-4 MSD

Matrix: Water

Analysis Batch: 560637

Client Sample ID: PNMW-23

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	ND		5.00	4.96		mg/L		99	80 - 120	2	20

Lab Sample ID: 280-155951-4 DU

Matrix: Water

Analysis Batch: 560637

Client Sample ID: PNMW-23

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Fluoride	ND		ND		mg/L		NC	15

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 280-558321/1

Matrix: Water

Analysis Batch: 558321

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			11/22/21 08:42	1

Lab Sample ID: LCS 280-558321/2

Matrix: Water

Analysis Batch: 558321

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids (TDS)	501	501		mg/L		100	88 - 114

Lab Sample ID: MB 280-558481/1

Matrix: Water

Analysis Batch: 558481

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			11/23/21 08:49	1

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QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155951-1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 280-558481/2

Matrix: Water

Analysis Batch: 558481

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids (TDS)	501	496		mg/L		99	88 - 114

Lab Sample ID: MB 280-558625/1

Matrix: Water

Analysis Batch: 558625

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			11/24/21 08:11	1

Lab Sample ID: LCS 280-558625/2

Matrix: Water

Analysis Batch: 558625

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids (TDS)	501	572		mg/L		114	88 - 114

Lab Sample ID: LCSD 280-558625/3

Matrix: Water

Analysis Batch: 558625

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids (TDS)	501	517		mg/L		103	88 - 114	10	20

QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155951-1

Metals

Prep Batch: 514527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155951-1	PNMW-17	Total Recoverable	Water	3005A	
280-155951-2	PNMW-21	Total Recoverable	Water	3005A	
280-155951-3	PNMW-22	Total Recoverable	Water	3005A	
280-155951-4	PNMW-23	Total Recoverable	Water	3005A	
MB 240-514527/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-514527/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-514527/3-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 515043

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155951-1	PNMW-17	Total Recoverable	Water	6020A	514527
280-155951-2	PNMW-21	Total Recoverable	Water	6020A	514527
280-155951-3	PNMW-22	Total Recoverable	Water	6020A	514527
280-155951-4	PNMW-23	Total Recoverable	Water	6020A	514527
MB 240-514527/1-A	Method Blank	Total Recoverable	Water	6020A	514527
LCS 240-514527/3-A	Lab Control Sample	Total Recoverable	Water	6020A	514527

Analysis Batch: 515113

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155951-1	PNMW-17	Total Recoverable	Water	6010C	514527
280-155951-2	PNMW-21	Total Recoverable	Water	6010C	514527
280-155951-3	PNMW-22	Total Recoverable	Water	6010C	514527
280-155951-4	PNMW-23	Total Recoverable	Water	6010C	514527
MB 240-514527/1-A	Method Blank	Total Recoverable	Water	6010C	514527
LCS 240-514527/2-A	Lab Control Sample	Total Recoverable	Water	6010C	514527

General Chemistry

Analysis Batch: 558321

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155951-4	PNMW-23	Total/NA	Water	SM 2540C	
MB 280-558321/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-558321/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 558481

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155951-1	PNMW-17	Total/NA	Water	SM 2540C	
280-155951-2	PNMW-21	Total/NA	Water	SM 2540C	
MB 280-558481/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-558481/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 558625

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155951-3	PNMW-22	Total/NA	Water	SM 2540C	
MB 280-558625/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-558625/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 280-558625/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	

Analysis Batch: 559562

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155951-2	PNMW-21	Total/NA	Water	9040B	

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QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155951-1

General Chemistry (Continued)

Analysis Batch: 559562 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155951-3	PNMW-22	Total/NA	Water	9040B	
280-155951-4	PNMW-23	Total/NA	Water	9040B	
LCS 280-559562/28	Lab Control Sample	Total/NA	Water	9040B	
LCSD 280-559562/5	Lab Control Sample Dup	Total/NA	Water	9040B	

Analysis Batch: 559796

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155951-1	PNMW-17	Total/NA	Water	9040B	
LCS 280-559796/4	Lab Control Sample	Total/NA	Water	9040B	

Analysis Batch: 560474

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155951-1	PNMW-17	Total/NA	Water	9056A	
280-155951-2	PNMW-21	Total/NA	Water	9056A	
280-155951-3	PNMW-22	Total/NA	Water	9056A	
280-155951-4	PNMW-23	Total/NA	Water	9056A	
280-155951-4	PNMW-23	Total/NA	Water	9056A	
MB 280-560474/6	Method Blank	Total/NA	Water	9056A	
LCS 280-560474/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-560474/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-560474/3	Lab Control Sample	Total/NA	Water	9056A	

Analysis Batch: 560637

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155951-1	PNMW-17	Total/NA	Water	9056A	
280-155951-2	PNMW-21	Total/NA	Water	9056A	
280-155951-2	PNMW-21	Total/NA	Water	9056A	
280-155951-3	PNMW-22	Total/NA	Water	9056A	
280-155951-4	PNMW-23	Total/NA	Water	9056A	
MB 280-560637/13	Method Blank	Total/NA	Water	9056A	
LCS 280-560637/11	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-560637/12	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-560637/10	Lab Control Sample	Total/NA	Water	9056A	
280-155951-4 MS	PNMW-23	Total/NA	Water	9056A	
280-155951-4 MSD	PNMW-23	Total/NA	Water	9056A	
280-155951-4 DU	PNMW-23	Total/NA	Water	9056A	

Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155951-1

Client Sample ID: PNMW-17

Lab Sample ID: 280-155951-1

Date Collected: 11/17/21 13:30

Matrix: Water

Date Received: 11/19/21 11:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	514527	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			515113	11/30/21 16:56	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	514527	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			515043	11/29/21 16:44	AJC	TAL CAN
Total/NA	Analysis	9040B		1			559796	12/06/21 14:08	SPG	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	560637	12/14/21 20:36	SPG	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	560474	12/13/21 17:26	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	558481	11/23/21 09:49	ABW	TAL DEN

Client Sample ID: PNMW-21

Lab Sample ID: 280-155951-2

Date Collected: 11/17/21 14:30

Matrix: Water

Date Received: 11/19/21 11:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	514527	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			515113	11/30/21 17:00	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	514527	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			515043	11/29/21 16:47	AJC	TAL CAN
Total/NA	Analysis	9040B		1			559562	12/03/21 13:27	ECC	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	560637	12/14/21 20:53	SPG	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	560637	12/14/21 21:09	SPG	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	560474	12/13/21 17:56	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	558481	11/23/21 09:49	ABW	TAL DEN

Client Sample ID: PNMW-22

Lab Sample ID: 280-155951-3

Date Collected: 11/18/21 18:25

Matrix: Water

Date Received: 11/19/21 11:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	514527	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			515113	11/30/21 17:05	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	514527	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			515043	11/29/21 16:49	AJC	TAL CAN
Total/NA	Analysis	9040B		1			559562	12/03/21 13:08	ECC	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	560637	12/14/21 21:25	SPG	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	560474	12/13/21 19:10	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	558625	11/24/21 09:11	ABW	TAL DEN

Eurofins TestAmerica, Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155951-1

Client Sample ID: PNMW-23

Lab Sample ID: 280-155951-4

Date Collected: 11/16/21 16:10

Matrix: Water

Date Received: 11/19/21 11:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	514527	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			515113	11/30/21 17:09	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	514527	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			515043	11/29/21 16:57	AJC	TAL CAN
Total/NA	Analysis	9040B		1			559562	12/03/21 13:12	ECC	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	560637	12/14/21 19:31	SPG	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	560474	12/13/21 19:25	SPG	TAL DEN
Total/NA	Analysis	9056A		10	5 mL	5 mL	560474	12/13/21 19:40	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	558321	11/22/21 09:42	ABW	TAL DEN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Accreditation/Certification Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155951-1

Laboratory: Eurofins TestAmerica, Denver

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

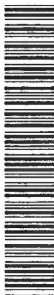
Analysis Method	Prep Method	Matrix	Analyte
9040B		Water	Temperature

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-22
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-22
Georgia	State	4062	02-23-22
Illinois	NELAP	200004	07-31-22
Iowa	State	421	06-01-23
Kansas	NELAP	E-10336	04-30-22
Kentucky (UST)	State	112225	02-23-22
Kentucky (WW)	State	KY98016	12-31-21
Minnesota	NELAP	OH00048	12-31-21
Minnesota (Petrofund)	State	3506	08-01-23
New Jersey	NELAP	OH001	06-30-22
New York	NELAP	10975	03-31-22
Ohio VAP	State	CL0024	12-21-23
Oregon	NELAP	4062	02-23-22
Pennsylvania	NELAP	68-00340	08-31-22
Texas	NELAP	T104704517-18-10	08-31-22
Virginia	NELAP	11570	09-14-22
Washington	State	C971	01-12-22
West Virginia DEP	State	210	12-31-21

Client Information Client Contact: Molly Reeves Company: HDR Inc				Lab PM: Harrington, Danielle M E-Mail: Danielle.Harrington@Eurofinset.com				Carrier Tracking No(s): Page 1 of 1 Job #:				COC No: 280-103358-30221.1			
Analysis Requested															
Due Date Requested: TAT Requested (days): PO #: DEN-019 WO #: Project #: 28014378 SOW#:				Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) 6010C, 6020A Total Metals to Canton (App III) 9040B pH, 9056A, 28D Chloride, Fluoride, Sulfate 2540C TDS				Total Number of Containers				Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Anchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)			
Sample Identification				Sample Date Sample Time Sample Type (C=Comp, G=grab) Matrix (W=water, S=solid, O=soil, BT=Tissue, A=Air) Preservation Code:				Special Instructions/Note:							
PMW-17 PMW-21 PMW-22 PMW-23				11-17-24 1330 G W 11-17-24 1430 G W 11-18-24 1825 G W 11-16-24 1610 G W				3 3 3 3				App III Analysis			
 280-155951 Chain of Custody															
Possible Hazard Identification ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological															
Deliverable Requested: I, II, III, IV, Other (specify)															
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months															
Special Instructions/QC Requirements:															
Empty Kit Relinquished by:															
Relinquished by: Tava Kent Relinquished by: Relinquished by:				Date/Time: 11-11-2024 1134 Date/Time: Date/Time:				Method of Shipment: Date/Time: 11/11/2024 1134 Date/Time: Date/Time:							
Relinquished by:				Date/Time:				Company:							
Relinquished by:				Date/Time:				Company:							
Relinquished by:				Date/Time:				Company:							
Custody Seals Intact: ☒ Yes ☐ No				Custody Seal No.:				Cooler Temperature(s) °C and Other Remarks: 4.3 12/1/20							



Chain of Custody Record

Client Information (Sub Contract Lab)		Sampler:		Lab PM:	Carrier Tracking Note(s)		COC No:
Client Contact:		Phone:		Harrington, Danielle M	State of Origin:		280-594955.1
Shipping/Receiving				Danielle Harrington@Eurofinset.com	Colorado		Page 1 of 1
Company:		Address:		Accreditations Required (See note):		Job #	280-155951-1
TestAmerica Laboratories, Inc.		4101 Shuffel Street NW,		DoD - A2LA		Preservation Codes:	
City:		State, Zip:		Due Date Requested:		Analysis Requested:	
North Canton		OH, 44720		12/21/2021		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
Phone:		PO #:		TAT Requested (days):		Total Number of containers	
330-497-9396(Tel) 330-497-0772(Fax)						1	
Email:		WO #:		Field Filtered Sample (Yes or No)		Special Instructions/Note:	
				6010C/3005A Boron		549	
Project Name:		Project #:		Perform MS/MSD (Yes or No)			
Xcel Energy GW CCR Monitoring - Pawnee		28014378		6020A/3005A Calcium			
Site:		SSOW#:		Field Filtered Sample (Yes or No)			
Xcel Energy - Pawnee				6010C/3005A Boron			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=other)	Preservation Code:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010C/3005A Boron	6020A/3005A Calcium	Total Number of containers	Special Instructions/Note:
PNMW-17 (280-155951-1)	11/17/21	13:30 Mountain		Water		X	X	X	X	1	
PNMW-21 (280-155951-2)	11/17/21	14:30 Mountain		Water		X	X	X	X	1	
PNMW-22 (280-155951-3)	11/18/21	18:25 Mountain		Water		X	X	X	X	1	
PNMW-23 (280-155951-4)	11/16/21	16:10 Mountain		Water		X	X	X	X	1	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica

Possible Hazard Identification		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
Unconfirmed		Return To Client ☐ Disposal By Lab ☐ Archive For ☐ Months	
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:	
Primary Deliverable Rank: 4		Method of Shipment:	
Date:		Time:	
Relinquished by:		Received by:	
Relinquished by:		Received by:	
Relinquished by:		Received by:	
Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:	

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Cooler Description (Circle)				IR Gun # (Circle)		Observed Temp °C	Corrected Temp °C	Coolant (Circle)		
TA	Client	Box	Other	IR-14	IR-15	3.6	3.7	Wet Ice	Blue Ice	Dry Ice
								Water	None	
TA	Client	Box	Other	IR-14	IR-15	1.4	1.5	Wet Ice	Blue Ice	Dry Ice
								Water	None	
TA	Client	Box	Other	IR-14	IR-15			Wet Ice	Blue Ice	Dry Ice
								Water	None	
TA	Client	Box	Other	IR-14	IR-15			Wet Ice	Blue Ice	Dry Ice
								Water	None	
TA	Client	Box	Other	IR-14	IR-15			Wet Ice	Blue Ice	Dry Ice
								Water	None	
TA	Client	Box	Other	IR-14	IR-15			Wet Ice	Blue Ice	Dry Ice
								Water	None	
TA	Client	Box	Other	IR-14	IR-15			Wet Ice	Blue Ice	Dry Ice
								Water	None	
TA	Client	Box	Other	IR-14	IR-15			Wet Ice	Blue Ice	Dry Ice
								Water	None	
TA	Client	Box	Other	IR-14	IR-15			Wet Ice	Blue Ice	Dry Ice
								Water	None	
TA	Client	Box	Other	IR-14	IR-15			Wet Ice	Blue Ice	Dry Ice
								Water	None	
TA	Client	Box	Other	IR-14	IR-15			Wet Ice	Blue Ice	Dry Ice
								Water	None	
TA	Client	Box	Other	IR-14	IR-15			Wet Ice	Blue Ice	Dry Ice
								Water	None	
TA	Client	Box	Other	IR-14	IR-15			Wet Ice	Blue Ice	Dry Ice
								Water	None	
TA	Client	Box	Other	IR-14	IR-15			Wet Ice	Blue Ice	Dry Ice
								Water	None	
TA	Client	Box	Other	IR-14	IR-15			Wet Ice	Blue Ice	Dry Ice
								Water	None	
TA	Client	Box	Other	IR-14	IR-15			Wet Ice	Blue Ice	Dry Ice
								Water	None	
TA	Client	Box	Other	IR-14	IR-15			Wet Ice	Blue Ice	Dry Ice
								Water	None	
TA	Client	Box	Other	IR-14	IR-15			Wet Ice	Blue Ice	Dry Ice
								Water	None	
TA	Client	Box	Other	IR-14	IR-15			Wet Ice	Blue Ice	Dry Ice
								Water	None	
TA	Client	Box	Other	IR-14	IR-15			Wet Ice	Blue Ice	Dry Ice
								Water	None	
TA	Client	Box	Other	IR-14	IR-15			Wet Ice	Blue Ice	Dry Ice
								Water	None	
TA	Client	Box	Other	IR-14	IR-15			Wet Ice	Blue Ice	Dry Ice
								Water	None	
TA	Client	Box	Other	IR-14	IR-15			Wet Ice	Blue Ice	Dry Ice
								Water	None	
TA	Client	Box	Other	IR-14	IR-15			Wet Ice	Blue Ice	Dry Ice
								Water	None	
TA	Client	Box	Other	IR-14	IR-15			Wet Ice	Blue Ice	Dry Ice
								Water	None	
TA	Client	Box	Other	IR-14	IR-15			Wet		

WI-NC-099 Cooler Receipt Form Page 2 – Multiple Coolers

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-155951-1

Login Number: 155951

List Source: Eurofins TestAmerica, Denver

List Number: 1

Creator: Roehsner, Karen P

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	Limited volume received.
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

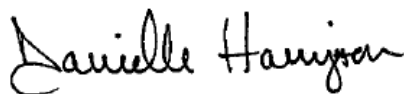
Laboratory Job ID: 280-155952-1

Client Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

For:

HDR Inc
1670 Broadway
Suite 3400
Denver, Colorado 80202

Attn: Molly Reeves



Authorized for release by:
1/3/2022 10:02:12 AM

Danielle Harrington, Project Manager II
(303)736-0176
Danielle.Harrington@Eurofinset.com

LINKS

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results through
TotalAccess

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page	1
Table of Contents	2
Definitions	3
Case Narrative	4
Detection Summary	6
Method Summary	10
Sample Summary	11
Client Sample Results	12
QC Sample Results	26
QC Association	36
Chronicle	41
Certification Summary	46
Chain of Custody	48
Receipt Checklists	53
Tracer Carrier Summary	55



Definitions/Glossary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Job ID: 280-155952-1

Laboratory: Eurofins TestAmerica, Denver

Narrative

CASE NARRATIVE

Client: HDR Inc

Project: Xcel Energy GW CCR Monitoring - Pawnee

Report Number: 280-155952-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 11/19/2021; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt were 4.6°C, 4.9°C and 5.6°C.

DISSOLVED METALS- Method 6010C/6020A

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL RECOVERABLE METALS- 6010C/6020A

The accuracy and precision of the Calcium MS/MSD performed on a sample PNMW-18 and a laboratory generated sample could not be reliably evaluated, as the concentrations present in the parent sample were 4 times greater than the matrix spike concentration. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

DISSOLVED MERCURY

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL MERCURY

Mercury was detected in method blank MB 240-514864/1-A at a level exceeding the reporting limit. This is an indicator that data may be biased high. As no detectable concentrations of Mercury are present in the associated samples, corrective action is deemed unnecessary.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GENERAL CHEMISTRY- VARIOUS

Several samples required dilution prior to analysis for various methods. The reporting limits have been adjusted accordingly.

The accuracy and precision of the Sulfate MS/MSD performed on a laboratory generated sample could not be reliably evaluated, as the concentrations present in the parent sample were 4 times greater than the matrix spike concentration. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

Case Narrative

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Job ID: 280-155952-1 (Continued)

Laboratory: Eurofins TestAmerica, Denver (Continued)

Sample results for Total Dissolved Solids for sample PNMW-22 was outside historical data range in the initial result. Reanalysis of the following sample was performed outside of the analytical holding time to confirm. Both results are reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

RADIUM-226 (GFPC)- Method 9315

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

RADIUM-228- Method 9320

Radium-228 was detected in method blank MB 160-542866/23-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. Because the concentration in the method blank is not present at a level greater than the reporting limit, corrective action is deemed unnecessary.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

RADIUM-226/RADIUM-228 (GFPC)

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Client Sample ID: PNMW-17

Lab Sample ID: 280-155952-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.13		0.10	0.057	mg/L	1		6010C	Total Recoverable
Barium	0.073		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	180		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cobalt	0.00040	J	0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Chromium	0.0026		0.0025	0.0025	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0013	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	0.011		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Thallium	0.00031	J	0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Lithium	0.038		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.9	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.8	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	230		15	5.1	mg/L	5		9056A	Total/NA
Sulfate	330		25	5.2	mg/L	5		9056A	Total/NA
Total Dissolved Solids (TDS)	1100		20	9.4	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	18		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: PNMW-18

Lab Sample ID: 280-155952-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.068	J	0.10	0.057	mg/L	1		6010C	Total Recoverable
Barium	0.095		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	240		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cobalt	0.00028	J	0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0012	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	0.0024	J	0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Lithium	0.036		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	19.4	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	360		30	10	mg/L	10		9056A	Total/NA
Fluoride	0.19	J	0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	470		50	10	mg/L	10		9056A	Total/NA
Total Dissolved Solids (TDS)	1700		20	9.4	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	15		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: PNMW-19

Lab Sample ID: 280-155952-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.25		0.0050	0.0022	mg/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Detection Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Client Sample ID: PNMW-19 (Continued)

Lab Sample ID: 280-155952-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	68		1.0	0.58	mg/L	1		6020A	Total
Cobalt	0.00019	J	0.0010	0.00019	mg/L	1		6020A	Recoverable Total
Molybdenum	0.0018	J	0.010	0.0011	mg/L	1		6020A	Recoverable Total
Selenium	0.0022	J	0.0050	0.00089	mg/L	1		6020A	Recoverable Total
Thallium	0.00067	J	0.0010	0.00020	mg/L	1		6020A	Recoverable Total
Lithium	0.026		0.0080	0.0017	mg/L	1		6020A	Recoverable Total
pH adj. to 25 deg C	7.2	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.8	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	20		3.0	1.0	mg/L	1		9056A	Total/NA
Sulfate	29		5.0	1.0	mg/L	1		9056A	Total/NA
Total Dissolved Solids (TDS)	350		10	4.7	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	1.6	J	4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: PNMW-20

Lab Sample ID: 280-155952-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.4		0.10	0.057	mg/L	1		6010C	Total
Arsenic	0.00085	J	0.0050	0.00075	mg/L	1		6020A	Recoverable Total
Barium	0.020		0.0050	0.0022	mg/L	1		6020A	Recoverable Total
Calcium	410		1.0	0.58	mg/L	1		6020A	Recoverable Total
Cadmium	0.0013		0.0010	0.00020	mg/L	1		6020A	Recoverable Total
Cobalt	0.00040	J	0.0010	0.00019	mg/L	1		6020A	Recoverable Total
Lead	0.0045		0.0010	0.00045	mg/L	1		6020A	Recoverable Total
Selenium	0.0086		0.0050	0.00089	mg/L	1		6020A	Recoverable Total
Lithium	0.069		0.0080	0.0017	mg/L	1		6020A	Recoverable Total
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	19.7	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	1100		150	51	mg/L	50		9056A	Total/NA
Sulfate	3100		250	52	mg/L	50		9056A	Total/NA
Total Dissolved Solids (TDS)	7300		100	47	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	7.2		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: PNMW-21

Lab Sample ID: 280-155952-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.096	J	0.10	0.057	mg/L	1		6010C	Total
Barium	0.058		0.0050	0.0022	mg/L	1		6020A	Recoverable Total
Calcium	170		1.0	0.58	mg/L	1		6020A	Recoverable Total

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Detection Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Client Sample ID: PNMW-21 (Continued)

Lab Sample ID: 280-155952-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Molybdenum	0.0044	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	0.0027	J	0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Lithium	0.051		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.3	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	220		15	5.1	mg/L	5		9056A	Total/NA
Fluoride	0.36	J	0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	470		25	5.2	mg/L	5		9056A	Total/NA
Total Dissolved Solids (TDS)	1200		20	9.4	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	4.4		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: PNMW-22

Lab Sample ID: 280-155952-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.11		0.10	0.057	mg/L	1		6010C	Total Recoverable
Boron	0.11		0.10	0.057	mg/L	1		6010C	Dissolved
Arsenic	0.00091	J	0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.058		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	280		1.0	0.58	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0032	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	0.0048	J	0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Lithium	0.053		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
Barium	0.047		0.0050	0.0022	mg/L	1		6020A	Dissolved
Calcium	270		1.0	0.58	mg/L	1		6020A	Dissolved
Molybdenum	0.0030	J	0.010	0.0011	mg/L	1		6020A	Dissolved
Selenium	0.0042	J	0.0050	0.00089	mg/L	1		6020A	Dissolved
Lithium	0.055		0.0080	0.0017	mg/L	1		6020A	Dissolved
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.1	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	230		15	5.1	mg/L	5		9056A	Total/NA
Fluoride	0.30	J	0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	920		25	5.2	mg/L	5		9056A	Total/NA
Total Dissolved Solids (TDS)	940		20	9.4	mg/L	1		SM 2540C	Total/NA
Total Dissolved Solids (TDS)	1900	H	20	9.4	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	7.6		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: PNMW-23

Lab Sample ID: 280-155952-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.086	J	0.10	0.057	mg/L	1		6010C	Total Recoverable
Arsenic	0.00076	J	0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.027		0.0050	0.0022	mg/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Detection Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Client Sample ID: PNMW-23 (Continued)

Lab Sample ID: 280-155952-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	260		1.0	0.58	mg/L	1		6020A	Total
									Recoverable
Selenium	0.0021	J	0.0050	0.00089	mg/L	1		6020A	Total
									Recoverable
Lithium	0.037		0.0080	0.0017	mg/L	1		6020A	Total
									Recoverable
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.4	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	120		3.0	1.0	mg/L	1		9056A	Total/NA
Sulfate	1200		50	10	mg/L	10		9056A	Total/NA
Total Dissolved Solids (TDS)	2000		20	9.4	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	3.2	J	4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: PNMW-21DUP

Lab Sample ID: 280-155952-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.096	J	0.10	0.057	mg/L	1		6010C	Total
									Recoverable
Barium	0.060		0.0050	0.0022	mg/L	1		6020A	Total
									Recoverable
Calcium	170		1.0	0.58	mg/L	1		6020A	Total
									Recoverable
Molybdenum	0.0045	J	0.010	0.0011	mg/L	1		6020A	Total
									Recoverable
Selenium	0.0025	J	0.0050	0.00089	mg/L	1		6020A	Total
									Recoverable
Lithium	0.050		0.0080	0.0017	mg/L	1		6020A	Total
									Recoverable
pH adj. to 25 deg C	7.8	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	19.8	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	220		15	5.1	mg/L	5		9056A	Total/NA
Fluoride	0.30	J	0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	460		25	5.2	mg/L	5		9056A	Total/NA
Total Dissolved Solids (TDS)	1300		20	9.4	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	5.6		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: PNMW-22EB

Lab Sample ID: 280-155952-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH adj. to 25 deg C	8.5	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.7	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Total Dissolved Solids (TDS)	5.0	J	10	4.7	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Method Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CAN
6020A	Metals (ICP/MS)	SW846	TAL CAN
7470A	Mercury (CVAA)	SW846	TAL CAN
9040B	pH	SW846	TAL DEN
9056A	Anions, Ion Chromatography	SW846	TAL DEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL DEN
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL DEN
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN
7470A	Preparation, Mercury	SW846	TAL CAN
FILTRATION	Sample Filtration	None	TAL CAN
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL CAN = Eurofins North Central, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: HDR Inc

Job ID: 280-155952-1

Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-155952-1	PNMW-17	Water	11/17/21 13:30	11/19/21 11:34
280-155952-2	PNMW-18	Water	11/18/21 14:40	11/19/21 11:34
280-155952-3	PNMW-19	Water	11/18/21 13:30	11/19/21 11:34
280-155952-4	PNMW-20	Water	11/17/21 19:10	11/19/21 11:34
280-155952-5	PNMW-21	Water	11/17/21 14:30	11/19/21 11:34
280-155952-6	PNMW-22	Water	11/18/21 18:25	11/19/21 11:34
280-155952-7	PNMW-23	Water	11/16/21 16:10	11/19/21 11:34
280-155952-8	PNMW-21DUP	Water	11/17/21 14:30	11/19/21 11:34
280-155952-9	PNMW-22EB	Water	11/18/21 19:20	11/19/21 11:34

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Method: 6010C - Metals (ICP) - Total Recoverable

Client Sample ID: PNMW-17
Date Collected: 11/17/21 13:30
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.13		0.10	0.057	mg/L		11/24/21 14:00	11/30/21 17:22	1

Client Sample ID: PNMW-18
Date Collected: 11/18/21 14:40
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.068	J	0.10	0.057	mg/L		11/24/21 14:00	11/30/21 17:48	1

Client Sample ID: PNMW-19
Date Collected: 11/18/21 13:30
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.057	mg/L		11/24/21 14:00	11/30/21 17:53	1

Client Sample ID: PNMW-20
Date Collected: 11/17/21 19:10
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.4		0.10	0.057	mg/L		11/24/21 14:00	11/30/21 17:57	1

Client Sample ID: PNMW-21
Date Collected: 11/17/21 14:30
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.096	J	0.10	0.057	mg/L		11/24/21 14:00	11/30/21 18:02	1

Client Sample ID: PNMW-22
Date Collected: 11/18/21 18:25
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.11		0.10	0.057	mg/L		11/24/21 14:00	11/30/21 18:07	1

Client Sample ID: PNMW-23
Date Collected: 11/16/21 16:10
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.086	J	0.10	0.057	mg/L		11/24/21 14:00	11/30/21 18:11	1

Client Sample ID: PNMW-21DUP
Date Collected: 11/17/21 14:30
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.096	J	0.10	0.057	mg/L		11/24/21 14:00	11/30/21 18:16	1

Client Sample ID: PNMW-22EB
Date Collected: 11/18/21 19:20
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.057	mg/L		11/24/21 14:00	11/30/21 18:20	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Method: 6010C - Metals (ICP) - Dissolved

Client Sample ID: PNMW-22
Date Collected: 11/18/21 18:25
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.11		0.10	0.057	mg/L		11/29/21 14:00	11/30/21 14:41	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: PNMW-17
Date Collected: 11/17/21 13:30
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/24/21 14:00	11/29/21 12:53	1
Arsenic	ND		0.0050	0.00075	mg/L		11/24/21 14:00	11/29/21 12:53	1
Barium	0.073		0.0050	0.0022	mg/L		11/24/21 14:00	11/29/21 12:53	1
Beryllium	ND		0.0010	0.00062	mg/L		11/24/21 14:00	11/29/21 12:53	1
Calcium	180		1.0	0.58	mg/L		11/24/21 14:00	11/29/21 12:53	1
Cadmium	ND		0.0010	0.00020	mg/L		11/24/21 14:00	11/29/21 12:53	1
Cobalt	0.00040	J	0.0010	0.00019	mg/L		11/24/21 14:00	11/29/21 12:53	1
Chromium	0.0026		0.0025	0.0025	mg/L		11/24/21 14:00	11/29/21 12:53	1
Molybdenum	0.0013	J	0.010	0.0011	mg/L		11/24/21 14:00	11/29/21 12:53	1
Lead	ND		0.0010	0.00045	mg/L		11/24/21 14:00	11/29/21 12:53	1
Selenium	0.011		0.0050	0.00089	mg/L		11/24/21 14:00	11/29/21 12:53	1
Thallium	0.00031	J	0.0010	0.00020	mg/L		11/24/21 14:00	11/29/21 12:53	1
Lithium	0.038		0.0080	0.0017	mg/L		11/24/21 14:00	11/29/21 12:53	1

Client Sample ID: PNMW-18
Date Collected: 11/18/21 14:40
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/24/21 14:00	11/29/21 12:56	1
Arsenic	ND		0.0050	0.00075	mg/L		11/24/21 14:00	11/29/21 12:56	1
Barium	0.095		0.0050	0.0022	mg/L		11/24/21 14:00	11/29/21 12:56	1
Beryllium	ND		0.0010	0.00062	mg/L		11/24/21 14:00	11/29/21 12:56	1
Calcium	240		1.0	0.58	mg/L		11/24/21 14:00	11/29/21 12:56	1
Cadmium	ND		0.0010	0.00020	mg/L		11/24/21 14:00	11/29/21 12:56	1
Cobalt	0.00028	J	0.0010	0.00019	mg/L		11/24/21 14:00	11/29/21 12:56	1
Chromium	ND		0.0025	0.0025	mg/L		11/24/21 14:00	11/29/21 12:56	1
Molybdenum	0.0012	J	0.010	0.0011	mg/L		11/24/21 14:00	11/29/21 12:56	1
Lead	ND		0.0010	0.00045	mg/L		11/24/21 14:00	11/29/21 12:56	1
Selenium	0.0024	J	0.0050	0.00089	mg/L		11/24/21 14:00	11/29/21 12:56	1
Thallium	ND		0.0010	0.00020	mg/L		11/24/21 14:00	11/29/21 12:56	1
Lithium	0.036		0.0080	0.0017	mg/L		11/24/21 14:00	11/29/21 12:56	1

Client Sample ID: PNMW-19
Date Collected: 11/18/21 13:30
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/24/21 14:00	11/29/21 13:13	1
Arsenic	ND		0.0050	0.00075	mg/L		11/24/21 14:00	11/29/21 13:13	1
Barium	0.25		0.0050	0.0022	mg/L		11/24/21 14:00	11/29/21 13:13	1
Beryllium	ND		0.0010	0.00062	mg/L		11/24/21 14:00	11/29/21 13:13	1
Calcium	68		1.0	0.58	mg/L		11/24/21 14:00	11/29/21 13:13	1
Cadmium	ND		0.0010	0.00020	mg/L		11/24/21 14:00	11/29/21 13:13	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Method: 6020A - Metals (ICP/MS) - Total Recoverable (Continued)

Client Sample ID: PNMW-19
Date Collected: 11/18/21 13:30
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.00019	J	0.0010	0.00019	mg/L		11/24/21 14:00	11/29/21 13:13	1
Chromium	ND		0.0025	0.0025	mg/L		11/24/21 14:00	11/29/21 13:13	1
Molybdenum	0.0018	J	0.010	0.0011	mg/L		11/24/21 14:00	11/29/21 13:13	1
Lead	ND		0.0010	0.00045	mg/L		11/24/21 14:00	11/29/21 13:13	1
Selenium	0.0022	J	0.0050	0.00089	mg/L		11/24/21 14:00	11/29/21 13:13	1
Thallium	0.00067	J	0.0010	0.00020	mg/L		11/24/21 14:00	11/29/21 13:13	1
Lithium	0.026		0.0080	0.0017	mg/L		11/24/21 14:00	11/29/21 13:13	1

Client Sample ID: PNMW-20
Date Collected: 11/17/21 19:10
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/24/21 14:00	11/29/21 13:15	1
Arsenic	0.00085	J	0.0050	0.00075	mg/L		11/24/21 14:00	11/29/21 13:15	1
Barium	0.020		0.0050	0.0022	mg/L		11/24/21 14:00	11/29/21 13:15	1
Beryllium	ND		0.0010	0.00062	mg/L		11/24/21 14:00	11/29/21 13:15	1
Calcium	410		1.0	0.58	mg/L		11/24/21 14:00	11/29/21 13:15	1
Cadmium	0.0013		0.0010	0.00020	mg/L		11/24/21 14:00	11/29/21 13:15	1
Cobalt	0.00040	J	0.0010	0.00019	mg/L		11/24/21 14:00	11/29/21 13:15	1
Chromium	ND		0.0025	0.0025	mg/L		11/24/21 14:00	11/29/21 13:15	1
Molybdenum	ND		0.010	0.0011	mg/L		11/24/21 14:00	11/29/21 13:15	1
Lead	0.0045		0.0010	0.00045	mg/L		11/24/21 14:00	11/29/21 13:15	1
Selenium	0.0086		0.0050	0.00089	mg/L		11/24/21 14:00	11/29/21 13:15	1
Thallium	ND		0.0010	0.00020	mg/L		11/24/21 14:00	11/29/21 13:15	1
Lithium	0.069		0.0080	0.0017	mg/L		11/24/21 14:00	11/29/21 13:15	1

Client Sample ID: PNMW-21
Date Collected: 11/17/21 14:30
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/24/21 14:00	11/29/21 13:18	1
Arsenic	ND		0.0050	0.00075	mg/L		11/24/21 14:00	11/29/21 13:18	1
Barium	0.058		0.0050	0.0022	mg/L		11/24/21 14:00	11/29/21 13:18	1
Beryllium	ND		0.0010	0.00062	mg/L		11/24/21 14:00	11/29/21 13:18	1
Calcium	170		1.0	0.58	mg/L		11/24/21 14:00	11/29/21 13:18	1
Cadmium	ND		0.0010	0.00020	mg/L		11/24/21 14:00	11/29/21 13:18	1
Cobalt	ND		0.0010	0.00019	mg/L		11/24/21 14:00	11/29/21 13:18	1
Chromium	ND		0.0025	0.0025	mg/L		11/24/21 14:00	11/29/21 13:18	1
Molybdenum	0.0044	J	0.010	0.0011	mg/L		11/24/21 14:00	11/29/21 13:18	1
Lead	ND		0.0010	0.00045	mg/L		11/24/21 14:00	11/29/21 13:18	1
Selenium	0.0027	J	0.0050	0.00089	mg/L		11/24/21 14:00	11/29/21 13:18	1
Thallium	ND		0.0010	0.00020	mg/L		11/24/21 14:00	11/29/21 13:18	1
Lithium	0.051		0.0080	0.0017	mg/L		11/24/21 14:00	11/29/21 13:18	1

Client Sample ID: PNMW-22
Date Collected: 11/18/21 18:25
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/24/21 14:00	11/29/21 13:20	1
Arsenic	0.00091	J	0.0050	0.00075	mg/L		11/24/21 14:00	11/29/21 13:20	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Method: 6020A - Metals (ICP/MS) - Total Recoverable (Continued)

Client Sample ID: PNMW-22
Date Collected: 11/18/21 18:25
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.058		0.0050	0.0022	mg/L		11/24/21 14:00	11/29/21 13:20	1
Beryllium	ND		0.0010	0.00062	mg/L		11/24/21 14:00	11/29/21 13:20	1
Calcium	280		1.0	0.58	mg/L		11/24/21 14:00	11/29/21 13:20	1
Cadmium	ND		0.0010	0.00020	mg/L		11/24/21 14:00	11/29/21 13:20	1
Cobalt	ND		0.0010	0.00019	mg/L		11/24/21 14:00	11/29/21 13:20	1
Chromium	ND		0.0025	0.0025	mg/L		11/24/21 14:00	11/29/21 13:20	1
Molybdenum	0.0032	J	0.010	0.0011	mg/L		11/24/21 14:00	11/29/21 13:20	1
Lead	ND		0.0010	0.00045	mg/L		11/24/21 14:00	11/29/21 13:20	1
Selenium	0.0048	J	0.0050	0.00089	mg/L		11/24/21 14:00	11/29/21 13:20	1
Thallium	ND		0.0010	0.00020	mg/L		11/24/21 14:00	11/29/21 13:20	1
Lithium	0.053		0.0080	0.0017	mg/L		11/24/21 14:00	11/29/21 13:20	1

Client Sample ID: PNMW-23
Date Collected: 11/16/21 16:10
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/24/21 14:00	11/29/21 13:23	1
Arsenic	0.00076	J	0.0050	0.00075	mg/L		11/24/21 14:00	11/29/21 13:23	1
Barium	0.027		0.0050	0.0022	mg/L		11/24/21 14:00	11/29/21 13:23	1
Beryllium	ND		0.0010	0.00062	mg/L		11/24/21 14:00	11/29/21 13:23	1
Calcium	260		1.0	0.58	mg/L		11/24/21 14:00	11/29/21 13:23	1
Cadmium	ND		0.0010	0.00020	mg/L		11/24/21 14:00	11/29/21 13:23	1
Cobalt	ND		0.0010	0.00019	mg/L		11/24/21 14:00	11/29/21 13:23	1
Chromium	ND		0.0025	0.0025	mg/L		11/24/21 14:00	11/29/21 13:23	1
Molybdenum	ND		0.010	0.0011	mg/L		11/24/21 14:00	11/29/21 13:23	1
Lead	ND		0.0010	0.00045	mg/L		11/24/21 14:00	11/29/21 13:23	1
Selenium	0.0021	J	0.0050	0.00089	mg/L		11/24/21 14:00	11/29/21 13:23	1
Thallium	ND		0.0010	0.00020	mg/L		11/24/21 14:00	11/29/21 13:23	1
Lithium	0.037		0.0080	0.0017	mg/L		11/24/21 14:00	11/29/21 13:23	1

Client Sample ID: PNMW-21DUP
Date Collected: 11/17/21 14:30
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/24/21 14:00	11/29/21 13:25	1
Arsenic	ND		0.0050	0.00075	mg/L		11/24/21 14:00	11/29/21 13:25	1
Barium	0.060		0.0050	0.0022	mg/L		11/24/21 14:00	11/29/21 13:25	1
Beryllium	ND		0.0010	0.00062	mg/L		11/24/21 14:00	11/29/21 13:25	1
Calcium	170		1.0	0.58	mg/L		11/24/21 14:00	11/29/21 13:25	1
Cadmium	ND		0.0010	0.00020	mg/L		11/24/21 14:00	11/29/21 13:25	1
Cobalt	ND		0.0010	0.00019	mg/L		11/24/21 14:00	11/29/21 13:25	1
Chromium	ND		0.0025	0.0025	mg/L		11/24/21 14:00	11/29/21 13:25	1
Molybdenum	0.0045	J	0.010	0.0011	mg/L		11/24/21 14:00	11/29/21 13:25	1
Lead	ND		0.0010	0.00045	mg/L		11/24/21 14:00	11/29/21 13:25	1
Selenium	0.0025	J	0.0050	0.00089	mg/L		11/24/21 14:00	11/29/21 13:25	1
Thallium	ND		0.0010	0.00020	mg/L		11/24/21 14:00	11/29/21 13:25	1
Lithium	0.050		0.0080	0.0017	mg/L		11/24/21 14:00	11/29/21 13:25	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: PNMW-22EB
Date Collected: 11/18/21 19:20
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/24/21 14:00	11/29/21 13:28	1
Arsenic	ND		0.0050	0.00075	mg/L		11/24/21 14:00	11/29/21 13:28	1
Barium	ND		0.0050	0.0022	mg/L		11/24/21 14:00	11/29/21 13:28	1
Beryllium	ND		0.0010	0.00062	mg/L		11/24/21 14:00	11/29/21 13:28	1
Calcium	ND		1.0	0.58	mg/L		11/24/21 14:00	11/29/21 13:28	1
Cadmium	ND		0.0010	0.00020	mg/L		11/24/21 14:00	11/29/21 13:28	1
Cobalt	ND		0.0010	0.00019	mg/L		11/24/21 14:00	11/29/21 13:28	1
Chromium	ND		0.0025	0.0025	mg/L		11/24/21 14:00	11/29/21 13:28	1
Molybdenum	ND		0.010	0.0011	mg/L		11/24/21 14:00	11/29/21 13:28	1
Lead	ND		0.0010	0.00045	mg/L		11/24/21 14:00	11/29/21 13:28	1
Selenium	ND		0.0050	0.00089	mg/L		11/24/21 14:00	11/29/21 13:28	1
Thallium	ND		0.0010	0.00020	mg/L		11/24/21 14:00	11/29/21 13:28	1
Lithium	ND		0.0080	0.0017	mg/L		11/24/21 14:00	11/29/21 13:28	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Client Sample ID: PNMW-22
Date Collected: 11/18/21 18:25
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.00075	mg/L		11/29/21 14:00	11/30/21 15:28	1
Barium	0.047		0.0050	0.0022	mg/L		11/29/21 14:00	11/30/21 15:28	1
Beryllium	ND		0.0010	0.00062	mg/L		11/29/21 14:00	11/30/21 15:28	1
Calcium	270		1.0	0.58	mg/L		11/29/21 14:00	11/30/21 15:28	1
Cadmium	ND		0.0010	0.00020	mg/L		11/29/21 14:00	11/30/21 15:28	1
Cobalt	ND		0.0010	0.00019	mg/L		11/29/21 14:00	11/30/21 15:28	1
Chromium	ND		0.0025	0.0025	mg/L		11/29/21 14:00	11/30/21 15:28	1
Molybdenum	0.0030	J	0.010	0.0011	mg/L		11/29/21 14:00	11/30/21 15:28	1
Lead	ND		0.0010	0.00045	mg/L		11/29/21 14:00	11/30/21 15:28	1
Antimony	ND		0.0020	0.00057	mg/L		11/29/21 14:00	11/30/21 15:28	1
Selenium	0.0042	J	0.0050	0.00089	mg/L		11/29/21 14:00	11/30/21 15:28	1
Lithium	0.055		0.0080	0.0017	mg/L		11/29/21 14:00	11/30/21 15:28	1
Thallium	ND		0.0010	0.00020	mg/L		11/29/21 14:00	11/30/21 15:28	1

Method: 7470A - Mercury (CVAA)

Client Sample ID: PNMW-17
Date Collected: 11/17/21 13:30
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		11/24/21 14:00	11/29/21 12:47	1

Client Sample ID: PNMW-18
Date Collected: 11/18/21 14:40
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		11/24/21 14:00	11/29/21 12:53	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Method: 7470A - Mercury (CVAA)

Client Sample ID: PNMW-19
Date Collected: 11/18/21 13:30
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		11/24/21 14:00	11/29/21 12:55	1

Client Sample ID: PNMW-20
Date Collected: 11/17/21 19:10
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		11/24/21 14:00	11/29/21 12:57	1

Client Sample ID: PNMW-21
Date Collected: 11/17/21 14:30
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		11/24/21 14:00	11/29/21 12:59	1

Client Sample ID: PNMW-22
Date Collected: 11/18/21 18:25
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		11/24/21 14:00	11/29/21 13:02	1

Client Sample ID: PNMW-23
Date Collected: 11/16/21 16:10
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		11/24/21 14:00	11/29/21 13:08	1

Client Sample ID: PNMW-21DUP
Date Collected: 11/17/21 14:30
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		11/24/21 14:00	11/29/21 13:10	1

Client Sample ID: PNMW-22EB
Date Collected: 11/18/21 19:20
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		11/24/21 14:00	11/29/21 13:12	1

Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: PNMW-22
Date Collected: 11/18/21 18:25
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		11/29/21 14:00	11/30/21 11:44	1

Eurofins TestAmerica, Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

General Chemistry

Client Sample ID: PNMW-17
Date Collected: 11/17/21 13:30
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.9	HF	0.1	0.1	SU			12/03/21 12:12	1
Temperature	20.8	HF	1.0	1.0	Degrees C			12/03/21 12:12	1
Chloride	230		15	5.1	mg/L			12/13/21 20:10	5
Fluoride	ND		0.50	0.17	mg/L			12/14/21 23:37	1
Sulfate	330		25	5.2	mg/L			12/13/21 20:10	5
Total Dissolved Solids (TDS)	1100		20	9.4	mg/L			11/23/21 09:49	1
Total Suspended Solids	18		4.0	1.1	mg/L			11/23/21 19:36	1

Client Sample ID: PNMW-18
Date Collected: 11/18/21 14:40
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU			12/03/21 12:05	1
Temperature	19.4	HF	1.0	1.0	Degrees C			12/03/21 12:05	1
Chloride	360		30	10	mg/L			12/13/21 20:40	10
Fluoride	0.19	J	0.50	0.17	mg/L			12/14/21 23:53	1
Sulfate	470		50	10	mg/L			12/13/21 20:40	10
Total Dissolved Solids (TDS)	1700		20	9.4	mg/L			11/24/21 09:11	1
Total Suspended Solids	15		4.0	1.1	mg/L			11/24/21 16:20	1

Client Sample ID: PNMW-19
Date Collected: 11/18/21 13:30
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.2	HF	0.1	0.1	SU			12/03/21 11:40	1
Temperature	21.8	HF	1.0	1.0	Degrees C			12/03/21 11:40	1
Chloride	20		3.0	1.0	mg/L			12/13/21 18:11	1
Fluoride	ND		0.50	0.17	mg/L			12/15/21 00:10	1
Sulfate	29		5.0	1.0	mg/L			12/13/21 18:11	1
Total Dissolved Solids (TDS)	350		10	4.7	mg/L			11/24/21 09:11	1
Total Suspended Solids	1.6	J	4.0	1.1	mg/L			11/24/21 16:20	1

Client Sample ID: PNMW-20
Date Collected: 11/17/21 19:10
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU			12/03/21 12:01	1
Temperature	19.7	HF	1.0	1.0	Degrees C			12/03/21 12:01	1
Chloride	1100		150	51	mg/L			12/13/21 21:10	50
Fluoride	ND		0.50	0.17	mg/L			12/15/21 00:26	1
Sulfate	3100		250	52	mg/L			12/13/21 21:10	50
Total Dissolved Solids (TDS)	7300		100	47	mg/L			11/23/21 09:49	1
Total Suspended Solids	7.2		4.0	1.1	mg/L			11/24/21 16:20	1

Client Sample ID: PNMW-21
Date Collected: 11/17/21 14:30
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU			12/03/21 11:57	1
Temperature	20.3	HF	1.0	1.0	Degrees C			12/03/21 11:57	1

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Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

General Chemistry (Continued)

Client Sample ID: PNMW-21
Date Collected: 11/17/21 14:30
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	220		15	5.1	mg/L			12/15/21 00:42	5
Fluoride	0.36	J	0.50	0.17	mg/L			12/13/21 22:54	1
Sulfate	470		25	5.2	mg/L			12/15/21 00:42	5
Total Dissolved Solids (TDS)	1200		20	9.4	mg/L			11/23/21 09:49	1
Total Suspended Solids	4.4		4.0	1.1	mg/L			11/24/21 16:20	1

Client Sample ID: PNMW-22
Date Collected: 11/18/21 18:25
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU			12/03/21 11:44	1
Temperature	21.1	HF	1.0	1.0	Degrees C			12/03/21 11:44	1
Chloride	230		15	5.1	mg/L			12/13/21 23:39	5
Fluoride	0.30	J	0.50	0.17	mg/L			12/15/21 01:15	1
Sulfate	920		25	5.2	mg/L			12/13/21 23:39	5
Total Dissolved Solids (TDS)	940		20	9.4	mg/L			11/24/21 09:11	1
Total Dissolved Solids (TDS)	1900	H	20	9.4	mg/L			11/29/21 11:22	1
Total Suspended Solids	7.6		4.0	1.1	mg/L			11/24/21 16:20	1

Client Sample ID: PNMW-23
Date Collected: 11/16/21 16:10
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU			12/03/21 13:23	1
Temperature	21.4	HF	1.0	1.0	Degrees C			12/03/21 13:23	1
Chloride	120		3.0	1.0	mg/L			12/13/21 23:54	1
Fluoride	ND		0.50	0.17	mg/L			12/13/21 23:54	1
Sulfate	1200		50	10	mg/L			12/14/21 00:09	10
Total Dissolved Solids (TDS)	2000		20	9.4	mg/L			11/22/21 09:42	1
Total Suspended Solids	3.2	J	4.0	1.1	mg/L			11/23/21 19:36	1

Client Sample ID: PNMW-21DUP
Date Collected: 11/17/21 14:30
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.8	HF	0.1	0.1	SU			12/03/21 12:09	1
Temperature	19.8	HF	1.0	1.0	Degrees C			12/03/21 12:09	1
Chloride	220		15	5.1	mg/L			12/15/21 02:05	5
Fluoride	0.30	J	0.50	0.17	mg/L			12/14/21 00:53	1
Sulfate	460		25	5.2	mg/L			12/15/21 02:05	5
Total Dissolved Solids (TDS)	1300		20	9.4	mg/L			11/23/21 09:49	1
Total Suspended Solids	5.6		4.0	1.1	mg/L			11/23/21 19:36	1

Client Sample ID: PNMW-22EB
Date Collected: 11/18/21 19:20
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	8.5	HF	0.1	0.1	SU			12/03/21 11:50	1
Temperature	20.7	HF	1.0	1.0	Degrees C			12/03/21 11:50	1
Chloride	ND		3.0	1.0	mg/L			12/13/21 21:54	1

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Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

General Chemistry (Continued)

Client Sample ID: PNMW-22EB
Date Collected: 11/18/21 19:20
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.50	0.17	mg/L			12/13/21 21:54	1
Sulfate	ND		5.0	1.0	mg/L			12/13/21 21:54	1
Total Dissolved Solids (TDS)	5.0	J	10	4.7	mg/L			11/23/21 09:49	1
Total Suspended Solids	ND		4.0	1.1	mg/L			11/24/21 16:20	1

Method: 9315 - Radium-226 (GFPC)

Client Sample ID: PNMW-17
Date Collected: 11/17/21 13:30
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.803		0.385	0.392	1.00	0.475	pCi/L	11/26/21 08:23	12/20/21 18:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	48.3		40 - 110					11/26/21 08:23	12/20/21 18:15	1

Client Sample ID: PNMW-18
Date Collected: 11/18/21 14:40
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-2
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.595		0.219	0.226	1.00	0.228	pCi/L	11/26/21 08:23	12/20/21 18:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	65.4		40 - 110					11/26/21 08:23	12/20/21 18:15	1

Client Sample ID: PNMW-19
Date Collected: 11/18/21 13:30
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-3
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.461		0.196	0.200	1.00	0.238	pCi/L	11/26/21 08:23	12/20/21 18:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	77.6		40 - 110					11/26/21 08:23	12/20/21 18:15	1

Client Sample ID: PNMW-20
Date Collected: 11/17/21 19:10
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-4
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.215	U	0.150	0.151	1.00	0.217	pCi/L	11/26/21 08:23	12/20/21 18:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.3		40 - 110					11/26/21 08:23	12/20/21 18:16	1

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Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Method: 9315 - Radium-226 (GFPC)

Client Sample ID: PNMW-21
Date Collected: 11/17/21 14:30
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-5
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.172	U	0.135	0.135	1.00	0.195	pCi/L	11/26/21 08:23	12/20/21 18:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	72.6		40 - 110					11/26/21 08:23	12/20/21 18:16	1

Client Sample ID: PNMW-22
Date Collected: 11/18/21 18:25
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-6
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.420		0.184	0.188	1.00	0.204	pCi/L	11/26/21 08:23	12/20/21 18:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	65.9		40 - 110					11/26/21 08:23	12/20/21 18:16	1

Client Sample ID: PNMW-23
Date Collected: 11/16/21 16:10
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-7
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.298		0.174	0.176	1.00	0.225	pCi/L	11/26/21 08:23	12/20/21 18:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	63.2		40 - 110					11/26/21 08:23	12/20/21 18:17	1

Client Sample ID: PNMW-21DUP
Date Collected: 11/17/21 14:30
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-8
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.176	U	0.151	0.152	1.00	0.229	pCi/L	11/26/21 08:23	12/20/21 18:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	67.9		40 - 110					11/26/21 08:23	12/20/21 18:17	1

Client Sample ID: PNMW-22EB
Date Collected: 11/18/21 19:20
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-9
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0470	U	0.118	0.118	1.00	0.215	pCi/L	11/26/21 08:23	12/20/21 18:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.1		40 - 110					11/26/21 08:23	12/20/21 18:17	1

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Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Method: 9320 - Radium-228 (GFPC)

Client Sample ID: PNMW-17
Date Collected: 11/17/21 13:30
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.49		0.637	0.652	1.00	0.882	pCi/L	12/20/21 09:01	12/28/21 13:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	70.9		40 - 110					12/20/21 09:01	12/28/21 13:11	1
Y Carrier	84.5		40 - 110					12/20/21 09:01	12/28/21 13:11	1

Client Sample ID: PNMW-18
Date Collected: 11/18/21 14:40
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-2
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.117	U	0.273	0.274	1.00	0.517	pCi/L	12/20/21 09:01	12/28/21 13:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.8		40 - 110					12/20/21 09:01	12/28/21 13:11	1
Y Carrier	84.1		40 - 110					12/20/21 09:01	12/28/21 13:11	1

Client Sample ID: PNMW-19
Date Collected: 11/18/21 13:30
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-3
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.416	U	0.342	0.345	1.00	0.545	pCi/L	12/20/21 09:01	12/28/21 13:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.5		40 - 110					12/20/21 09:01	12/28/21 13:11	1
Y Carrier	84.1		40 - 110					12/20/21 09:01	12/28/21 13:11	1

Client Sample ID: PNMW-20
Date Collected: 11/17/21 19:10
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-4
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.707		0.332	0.338	1.00	0.471	pCi/L	12/20/21 09:01	12/28/21 13:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.3		40 - 110					12/20/21 09:01	12/28/21 13:11	1
Y Carrier	84.9		40 - 110					12/20/21 09:01	12/28/21 13:11	1

Client Sample ID: PNMW-21
Date Collected: 11/17/21 14:30
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-5
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.869		0.343	0.352	1.00	0.465	pCi/L	12/20/21 09:01	12/28/21 13:11	1

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Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Method: 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	90.5		40 - 110	12/20/21 09:01	12/28/21 13:11	1
Y Carrier	83.4		40 - 110	12/20/21 09:01	12/28/21 13:11	1

Client Sample ID: PNMW-22
Date Collected: 11/18/21 18:25
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-6
Matrix: Water

			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.190	U	0.332	0.332	1.00	0.562	pCi/L	12/20/21 09:01	12/28/21 13:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.1		40 - 110					12/20/21 09:01	12/28/21 13:11	1
Y Carrier	80.7		40 - 110					12/20/21 09:01	12/28/21 13:11	1

Client Sample ID: PNMW-23
Date Collected: 11/16/21 16:10
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-7
Matrix: Water

			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.540	U	0.371	0.374	1.00	0.577	pCi/L	12/20/21 09:01	12/28/21 13:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.1		40 - 110					12/20/21 09:01	12/28/21 13:11	1
Y Carrier	83.7		40 - 110					12/20/21 09:01	12/28/21 13:11	1

Client Sample ID: PNMW-21DUP
Date Collected: 11/17/21 14:30
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-8
Matrix: Water

			Count Uncert.	Total Uncert.						
Analyte	Result	Qualifier	(2σ+/-)	(2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.413	U	0.509	0.510	1.00	0.842	pCi/L	12/20/21 09:01	12/28/21 13:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	63.2		40 - 110					12/20/21 09:01	12/28/21 13:11	1
Y Carrier	83.7		40 - 110					12/20/21 09:01	12/28/21 13:11	1

Client Sample ID: PNMW-22EB
Date Collected: 11/18/21 19:20
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-9
Matrix: Water

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-228	0.0915	U	0.260	0.260	1.00	0.450	pCi/L	12/20/21 09:01	12/28/21 13:12	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.3		40 - 110					12/20/21 09:01	12/28/21 13:12	1
Y Carrier	82.6		40 - 110					12/20/21 09:01	12/28/21 13:12	1

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Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Client Sample ID: PNMW-17
Date Collected: 11/17/21 13:30
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.29		0.744	0.761	5.00	0.882	pCi/L		12/29/21 17:20	1

Client Sample ID: PNMW-18
Date Collected: 11/18/21 14:40
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-2
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.478	U	0.350	0.355	5.00	0.517	pCi/L		12/29/21 17:20	1

Client Sample ID: PNMW-19
Date Collected: 11/18/21 13:30
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-3
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.877		0.394	0.399	5.00	0.545	pCi/L		12/29/21 17:20	1

Client Sample ID: PNMW-20
Date Collected: 11/17/21 19:10
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-4
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.922		0.364	0.370	5.00	0.471	pCi/L		12/29/21 17:20	1

Client Sample ID: PNMW-21
Date Collected: 11/17/21 14:30
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-5
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.04		0.369	0.377	5.00	0.465	pCi/L		12/29/21 17:20	1

Client Sample ID: PNMW-22
Date Collected: 11/18/21 18:25
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-6
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.610		0.380	0.382	5.00	0.562	pCi/L		12/29/21 17:20	1

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Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Client Sample ID: PNMW-23
Date Collected: 11/16/21 16:10
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-7
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.839		0.410	0.413	5.00	0.577	pCi/L		12/29/21 17:20	1

Client Sample ID: PNMW-21DUP
Date Collected: 11/17/21 14:30
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-8
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.589	U	0.531	0.532	5.00	0.842	pCi/L		12/29/21 17:20	1

Client Sample ID: PNMW-22EB
Date Collected: 11/18/21 19:20
Date Received: 11/19/21 11:34

Lab Sample ID: 280-155952-9
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.139	U	0.286	0.286	5.00	0.450	pCi/L		12/29/21 17:20	1

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 240-514504/1-A
Matrix: Water
Analysis Batch: 515113

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 514504

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.057	mg/L		11/24/21 14:00	11/30/21 17:14	1

Lab Sample ID: LCS 240-514504/2-A
Matrix: Water
Analysis Batch: 515113

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 514504

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.07		mg/L		107	80 - 120

Lab Sample ID: 280-155952-1 MS
Matrix: Water
Analysis Batch: 515113

Client Sample ID: PNMW-17
Prep Type: Total Recoverable
Prep Batch: 514504

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.13		1.00	1.18		mg/L		105	75 - 125

Lab Sample ID: 280-155952-1 MSD
Matrix: Water
Analysis Batch: 515113

Client Sample ID: PNMW-17
Prep Type: Total Recoverable
Prep Batch: 514504

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.13		1.00	1.25		mg/L		113	75 - 125	6	20

Lab Sample ID: MB 240-514863/1-A
Matrix: Water
Analysis Batch: 515113

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 514863

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.057	mg/L		11/29/21 14:00	11/30/21 13:18	1

Lab Sample ID: LCS 240-514863/2-A
Matrix: Water
Analysis Batch: 515113

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 514863

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.02		mg/L		102	80 - 120

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 240-514504/1-A
Matrix: Water
Analysis Batch: 514898

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 514504

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.00075	mg/L		11/24/21 14:00	11/29/21 12:48	1
Barium	ND		0.0050	0.0022	mg/L		11/24/21 14:00	11/29/21 12:48	1
Beryllium	ND		0.0010	0.00062	mg/L		11/24/21 14:00	11/29/21 12:48	1
Calcium	ND		1.0	0.58	mg/L		11/24/21 14:00	11/29/21 12:48	1
Cadmium	ND		0.0010	0.00020	mg/L		11/24/21 14:00	11/29/21 12:48	1
Cobalt	ND		0.0010	0.00019	mg/L		11/24/21 14:00	11/29/21 12:48	1

Eurofins TestAmerica, Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 240-514504/1-A

Matrix: Water

Analysis Batch: 514898

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 514504

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND		0.0025	0.0025	mg/L		11/24/21 14:00	11/29/21 12:48	1
Molybdenum	ND		0.010	0.0011	mg/L		11/24/21 14:00	11/29/21 12:48	1
Antimony	ND		0.0020	0.00057	mg/L		11/24/21 14:00	11/29/21 12:48	1
Lead	ND		0.0010	0.00045	mg/L		11/24/21 14:00	11/29/21 12:48	1
Selenium	ND		0.0050	0.00089	mg/L		11/24/21 14:00	11/29/21 12:48	1
Lithium	ND		0.0080	0.0017	mg/L		11/24/21 14:00	11/29/21 12:48	1
Thallium	ND		0.0010	0.00020	mg/L		11/24/21 14:00	11/29/21 12:48	1

Lab Sample ID: LCS 240-514504/3-A

Matrix: Water

Analysis Batch: 514898

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 514504

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	1.02		mg/L		102	80 - 120
Barium	1.00	0.953		mg/L		95	80 - 120
Beryllium	0.500	0.508		mg/L		102	80 - 120
Calcium	25.0	25.1		mg/L		100	80 - 120
Cadmium	0.500	0.494		mg/L		99	80 - 120
Cobalt	0.500	0.515		mg/L		103	80 - 120
Chromium	0.500	0.495		mg/L		99	80 - 120
Molybdenum	0.500	0.491		mg/L		98	80 - 120
Antimony	0.100	0.102		mg/L		102	80 - 120
Lead	0.500	0.509		mg/L		102	80 - 120
Selenium	1.00	0.950		mg/L		95	80 - 120
Lithium	0.500	0.485		mg/L		97	80 - 120
Thallium	1.00	0.992		mg/L		99	80 - 120

Lab Sample ID: 280-155952-2 MS

Matrix: Water

Analysis Batch: 514898

Client Sample ID: PNMW-18

Prep Type: Total Recoverable

Prep Batch: 514504

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		1.00	1.11		mg/L		111	75 - 125
Barium	0.095		1.00	1.10		mg/L		100	75 - 125
Beryllium	ND		0.500	0.523		mg/L		105	75 - 125
Calcium	240		25.0	272	4	mg/L		120	75 - 125
Cadmium	ND		0.500	0.508		mg/L		102	75 - 125
Cobalt	0.00028	J	0.500	0.547		mg/L		109	75 - 125
Chromium	ND		0.500	0.509		mg/L		102	75 - 125
Molybdenum	0.0012	J	0.500	0.528		mg/L		105	75 - 125
Antimony	ND		0.100	0.108		mg/L		108	75 - 125
Lead	ND		0.500	0.518		mg/L		104	75 - 125
Selenium	0.0024	J	1.00	0.991		mg/L		99	75 - 125
Lithium	0.036		0.500	0.535		mg/L		100	75 - 125
Thallium	ND		1.00	1.01		mg/L		101	75 - 125

Eurofins TestAmerica, Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 280-155952-2 MSD

Matrix: Water

Analysis Batch: 514898

Client Sample ID: PNMW-18

Prep Type: Total Recoverable

Prep Batch: 514504

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		1.00	1.07		mg/L		107	75 - 125	4	20
Barium	0.095		1.00	1.07		mg/L		97	75 - 125	2	20
Beryllium	ND		0.500	0.504		mg/L		101	75 - 125	4	20
Calcium	240		25.0	267	4	mg/L		102	75 - 125	2	20
Cadmium	ND		0.500	0.494		mg/L		99	75 - 125	3	20
Cobalt	0.00028	J	0.500	0.524		mg/L		105	75 - 125	4	20
Chromium	ND		0.500	0.494		mg/L		99	75 - 125	3	20
Molybdenum	0.0012	J	0.500	0.510		mg/L		102	75 - 125	4	20
Antimony	ND		0.100	0.105		mg/L		105	75 - 125	3	20
Lead	ND		0.500	0.508		mg/L		102	75 - 125	2	20
Selenium	0.0024	J	1.00	0.959		mg/L		96	75 - 125	3	20
Lithium	0.036		0.500	0.517		mg/L		96	75 - 125	4	20
Thallium	ND		1.00	0.986		mg/L		99	75 - 125	3	20

Lab Sample ID: MB 240-514863/1-A

Matrix: Water

Analysis Batch: 515177

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 514863

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.00075	mg/L		11/29/21 14:00	11/30/21 14:34	1
Barium	ND		0.0050	0.0022	mg/L		11/29/21 14:00	11/30/21 14:34	1
Beryllium	ND		0.0010	0.00062	mg/L		11/29/21 14:00	11/30/21 14:34	1
Calcium	ND		1.0	0.58	mg/L		11/29/21 14:00	11/30/21 14:34	1
Cadmium	ND		0.0010	0.00020	mg/L		11/29/21 14:00	11/30/21 14:34	1
Cobalt	ND		0.0010	0.00019	mg/L		11/29/21 14:00	11/30/21 14:34	1
Chromium	ND		0.0025	0.0025	mg/L		11/29/21 14:00	11/30/21 14:34	1
Molybdenum	ND		0.010	0.0011	mg/L		11/29/21 14:00	11/30/21 14:34	1
Antimony	ND		0.0020	0.00057	mg/L		11/29/21 14:00	11/30/21 14:34	1
Lead	ND		0.0010	0.00045	mg/L		11/29/21 14:00	11/30/21 14:34	1
Selenium	ND		0.0050	0.00089	mg/L		11/29/21 14:00	11/30/21 14:34	1
Lithium	ND		0.0080	0.0017	mg/L		11/29/21 14:00	11/30/21 14:34	1
Thallium	ND		0.0010	0.00020	mg/L		11/29/21 14:00	11/30/21 14:34	1

Lab Sample ID: LCS 240-514863/3-A

Matrix: Water

Analysis Batch: 515177

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 514863

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.967		mg/L		97	80 - 120
Barium	1.00	0.947		mg/L		95	80 - 120
Beryllium	0.500	0.496		mg/L		99	80 - 120
Calcium	25.0	24.9		mg/L		100	80 - 120
Cadmium	0.500	0.489		mg/L		98	80 - 120
Cobalt	0.500	0.495		mg/L		99	80 - 120
Chromium	0.500	0.502		mg/L		100	80 - 120
Molybdenum	0.500	0.471		mg/L		94	80 - 120
Antimony	0.100	0.100		mg/L		100	80 - 120
Lead	0.500	0.509		mg/L		102	80 - 120
Selenium	1.00	0.934		mg/L		93	80 - 120

Eurofins TestAmerica, Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 240-514863/3-A

Matrix: Water

Analysis Batch: 515177

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 514863

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.500	0.489		mg/L		98	80 - 120
Thallium	1.00	1.01		mg/L		101	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-514511/1-A

Matrix: Water

Analysis Batch: 514899

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 514511

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		11/24/21 14:00	11/29/21 12:43	1

Lab Sample ID: LCS 240-514511/2-A

Matrix: Water

Analysis Batch: 514899

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 514511

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	5.00	4.45		ug/L		89	80 - 120

Lab Sample ID: 280-155952-1 MS

Matrix: Water

Analysis Batch: 514899

Client Sample ID: PNMW-17

Prep Type: Total/NA

Prep Batch: 514511

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		1.00	1.07		ug/L		107	80 - 120

Lab Sample ID: 280-155952-1 MSD

Matrix: Water

Analysis Batch: 514899

Client Sample ID: PNMW-17

Prep Type: Total/NA

Prep Batch: 514511

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		1.00	1.05		ug/L		105	80 - 120	3	20

Lab Sample ID: MB 240-514864/1-A

Matrix: Water

Analysis Batch: 515204

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 514864

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000263		0.00020	0.00013	mg/L		11/29/21 14:00	11/30/21 11:25	1

Lab Sample ID: LCS 240-514864/2-A

Matrix: Water

Analysis Batch: 515204

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 514864

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00524		mg/L		105	80 - 120

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QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: MB 240-515249/1-A
Matrix: Water
Analysis Batch: 515411

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 515249

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		12/01/21 14:00	12/02/21 12:11	1

Lab Sample ID: LCS 240-515249/2-A
Matrix: Water
Analysis Batch: 515411

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 515249

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	5.00	5.11		ug/L		102	80 - 120

Method: 9040B - pH

Lab Sample ID: LCS 280-559562/28
Matrix: Water
Analysis Batch: 559562

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH adj. to 25 deg C	7.00	7.1		SU		101	99 - 101

Lab Sample ID: LCS 280-559562/4
Matrix: Water
Analysis Batch: 559562

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH adj. to 25 deg C	7.00	7.1		SU		101	99 - 101

Lab Sample ID: LCSD 280-559562/5
Matrix: Water
Analysis Batch: 559562

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
pH adj. to 25 deg C	7.00	7.0		SU		100	99 - 101	0	5

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 280-560474/6
Matrix: Water
Analysis Batch: 560474

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			12/13/21 15:11	1
Sulfate	ND		5.0	1.0	mg/L			12/13/21 15:11	1

Lab Sample ID: LCS 280-560474/4
Matrix: Water
Analysis Batch: 560474

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	96.6		mg/L		97	90 - 110
Sulfate	100	97.2		mg/L		97	90 - 110

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QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 280-560474/5

Matrix: Water

Analysis Batch: 560474

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	102		mg/L		102	90 - 110	5	10
Sulfate	100	99.0		mg/L		99	90 - 110	2	10

Lab Sample ID: MRL 280-560474/3

Matrix: Water

Analysis Batch: 560474

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	5.00	3.98		mg/L		80	50 - 150		
Sulfate	5.00	4.17	J	mg/L		83	50 - 150		

Lab Sample ID: 280-155952-9 MS

Matrix: Water

Analysis Batch: 560474

Client Sample ID: PNMW-22EB

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	ND		50.0	47.6		mg/L		95	80 - 120		
Fluoride	ND		5.00	4.46		mg/L		89	80 - 120		
Sulfate	ND		50.0	46.7		mg/L		93	80 - 120		

Lab Sample ID: 280-155952-9 MSD

Matrix: Water

Analysis Batch: 560474

Client Sample ID: PNMW-22EB

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	ND		50.0	46.9		mg/L		94	80 - 120	1	20
Fluoride	ND		5.00	4.41		mg/L		88	80 - 120	1	20
Sulfate	ND		50.0	46.2		mg/L		92	80 - 120	1	20

Lab Sample ID: 280-155952-9 DU

Matrix: Water

Analysis Batch: 560474

Client Sample ID: PNMW-22EB

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	ND		ND		mg/L				NC	15
Fluoride	ND		ND		mg/L				NC	15
Sulfate	ND		ND		mg/L				NC	15

Lab Sample ID: MB 280-560637/13

Matrix: Water

Analysis Batch: 560637

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			12/14/21 19:14	1
Fluoride	ND		0.50	0.17	mg/L			12/14/21 19:14	1
Sulfate	ND		5.0	1.0	mg/L			12/14/21 19:14	1

Eurofins TestAmerica, Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 280-560637/11

Matrix: Water

Analysis Batch: 560637

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	98.0		mg/L		98	90 - 110
Fluoride	5.00	4.63		mg/L		93	90 - 110
Sulfate	100	95.5		mg/L		96	90 - 110

Lab Sample ID: LCSD 280-560637/12

Matrix: Water

Analysis Batch: 560637

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	97.9		mg/L		98	90 - 110	0	10
Fluoride	5.00	4.64		mg/L		93	90 - 110	0	10
Sulfate	100	95.5		mg/L		95	90 - 110	0	10

Lab Sample ID: MRL 280-560637/10

Matrix: Water

Analysis Batch: 560637

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	4.09		mg/L		82	50 - 150
Fluoride	0.500	0.563		mg/L		113	50 - 150
Sulfate	5.00	4.26	J	mg/L		85	50 - 150

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 280-558321/1

Matrix: Water

Analysis Batch: 558321

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			11/22/21 08:42	1

Lab Sample ID: LCS 280-558321/2

Matrix: Water

Analysis Batch: 558321

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids (TDS)	501	501		mg/L		100	88 - 114

Lab Sample ID: MB 280-558481/1

Matrix: Water

Analysis Batch: 558481

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			11/23/21 08:49	1

Eurofins TestAmerica, Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 280-558481/2
Matrix: Water
Analysis Batch: 558481

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids (TDS)	501	496		mg/L		99	88 - 114

Lab Sample ID: MB 280-558625/1
Matrix: Water
Analysis Batch: 558625

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			11/24/21 08:11	1

Lab Sample ID: LCS 280-558625/2
Matrix: Water
Analysis Batch: 558625

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids (TDS)	501	572		mg/L		114	88 - 114

Lab Sample ID: LCSD 280-558625/3
Matrix: Water
Analysis Batch: 558625

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids (TDS)	501	517		mg/L		103	88 - 114	10	20

Lab Sample ID: MB 280-558963/1
Matrix: Water
Analysis Batch: 558963

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			11/29/21 10:22	1

Lab Sample ID: LCS 280-558963/2
Matrix: Water
Analysis Batch: 558963

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids (TDS)	503	502		mg/L		100	88 - 114

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 280-558579/1
Matrix: Water
Analysis Batch: 558579

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			11/23/21 19:36	1

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QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: LCS 280-558579/2
Matrix: Water
Analysis Batch: 558579

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	100	98.0		mg/L		98	79 - 114

Lab Sample ID: 280-155952-8 DU
Matrix: Water
Analysis Batch: 558579

Client Sample ID: PNMW-21DUP
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	5.6		6.00		mg/L		7	10

Lab Sample ID: MB 280-558704/1
Matrix: Water
Analysis Batch: 558704

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			11/24/21 16:20	1

Lab Sample ID: LCS 280-558704/2
Matrix: Water
Analysis Batch: 558704

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	100	97.2		mg/L		97	79 - 114

Lab Sample ID: 280-155952-9 DU
Matrix: Water
Analysis Batch: 558704

Client Sample ID: PNMW-22EB
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	ND		ND		mg/L		NC	10

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-538650/23-A
Matrix: Water
Analysis Batch: 543038

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 538650

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.1352	U	0.102	0.102	1.00	0.140	pCi/L	11/26/21 08:23	12/20/21 20:29	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.1		40 - 110					11/26/21 08:23	12/20/21 20:29	1

Lab Sample ID: LCS 160-538650/1-A
Matrix: Water
Analysis Batch: 543041

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 538650

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	15.1	15.23		1.61	1.00	0.179	pCi/L	101	75 - 125

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QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Method: 9315 - Radium-226 (GFPC) (Continued)

LCS LCS			
Carrier	%Yield	Qualifier	Limits
Ba Carrier	87.3		40 - 110

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-542866/23-A							Client Sample ID: Method Blank			
Matrix: Water							Prep Type: Total/NA			
Analysis Batch: 543786							Prep Batch: 542866			
	MB	MB	Count	Total						
	Result	Qualifier	Uncert.	Uncert.	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Analyte			(2σ+/-)	(2σ+/-)						
Radium-228	0.7219		0.343	0.350	1.00	0.492	pCi/L	12/20/21 09:01	12/28/21 13:19	1
	MB	MB								
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.6		40 - 110					12/20/21 09:01	12/28/21 13:19	1
Y Carrier	86.0		40 - 110					12/20/21 09:01	12/28/21 13:19	1

Lab Sample ID: LCS 160-542866/1-A							Client Sample ID: Lab Control Sample					
Matrix: Water							Prep Type: Total/NA					
Analysis Batch: 543883							Prep Batch: 542866					
Analyte	Spike		LCS	LCS	Total	RL	MDC	Unit	%Rec	%Rec.		
	Added	Result	Qual	Uncert.	Limits							
Radium-228		12.0	11.34		1.35	1.00	0.504	pCi/L	94	75 - 125		
LCS		LCS										
Carrier	%Yield	Qualifier	Limits									
Ba Carrier	93.0		40 - 110									
Y Carrier	82.6		40 - 110									

QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Metals

Prep Batch: 514504

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155952-1	PNMW-17	Total Recoverable	Water	3005A	
280-155952-2	PNMW-18	Total Recoverable	Water	3005A	
280-155952-3	PNMW-19	Total Recoverable	Water	3005A	
280-155952-4	PNMW-20	Total Recoverable	Water	3005A	
280-155952-5	PNMW-21	Total Recoverable	Water	3005A	
280-155952-6	PNMW-22	Total Recoverable	Water	3005A	
280-155952-7	PNMW-23	Total Recoverable	Water	3005A	
280-155952-8	PNMW-21DUP	Total Recoverable	Water	3005A	
280-155952-9	PNMW-22EB	Total Recoverable	Water	3005A	
MB 240-514504/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-514504/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-514504/3-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-155952-1 MS	PNMW-17	Total Recoverable	Water	3005A	
280-155952-1 MSD	PNMW-17	Total Recoverable	Water	3005A	
280-155952-2 MS	PNMW-18	Total Recoverable	Water	3005A	
280-155952-2 MSD	PNMW-18	Total Recoverable	Water	3005A	

Prep Batch: 514511

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155952-1	PNMW-17	Total/NA	Water	7470A	
280-155952-2	PNMW-18	Total/NA	Water	7470A	
280-155952-3	PNMW-19	Total/NA	Water	7470A	
280-155952-4	PNMW-20	Total/NA	Water	7470A	
280-155952-5	PNMW-21	Total/NA	Water	7470A	
280-155952-6	PNMW-22	Total/NA	Water	7470A	
280-155952-7	PNMW-23	Total/NA	Water	7470A	
280-155952-8	PNMW-21DUP	Total/NA	Water	7470A	
280-155952-9	PNMW-22EB	Total/NA	Water	7470A	
MB 240-514511/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-514511/2-A	Lab Control Sample	Total/NA	Water	7470A	
280-155952-1 MS	PNMW-17	Total/NA	Water	7470A	
280-155952-1 MSD	PNMW-17	Total/NA	Water	7470A	

Prep Batch: 514863

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155952-6	PNMW-22	Dissolved	Water	3005A	514880
MB 240-514863/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-514863/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-514863/3-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 514864

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155952-6	PNMW-22	Dissolved	Water	7470A	514880
MB 240-514864/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-514864/2-A	Lab Control Sample	Total/NA	Water	7470A	

Filtration Batch: 514880

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155952-6	PNMW-22	Dissolved	Water	FILTRATION	

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QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Metals

Analysis Batch: 514898

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155952-1	PNMW-17	Total Recoverable	Water	6020A	514504
280-155952-2	PNMW-18	Total Recoverable	Water	6020A	514504
280-155952-3	PNMW-19	Total Recoverable	Water	6020A	514504
280-155952-4	PNMW-20	Total Recoverable	Water	6020A	514504
280-155952-5	PNMW-21	Total Recoverable	Water	6020A	514504
280-155952-6	PNMW-22	Total Recoverable	Water	6020A	514504
280-155952-7	PNMW-23	Total Recoverable	Water	6020A	514504
280-155952-8	PNMW-21DUP	Total Recoverable	Water	6020A	514504
280-155952-9	PNMW-22EB	Total Recoverable	Water	6020A	514504
MB 240-514504/1-A	Method Blank	Total Recoverable	Water	6020A	514504
LCS 240-514504/3-A	Lab Control Sample	Total Recoverable	Water	6020A	514504
280-155952-2 MS	PNMW-18	Total Recoverable	Water	6020A	514504
280-155952-2 MSD	PNMW-18	Total Recoverable	Water	6020A	514504

Analysis Batch: 514899

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155952-1	PNMW-17	Total/NA	Water	7470A	514511
280-155952-2	PNMW-18	Total/NA	Water	7470A	514511
280-155952-3	PNMW-19	Total/NA	Water	7470A	514511
280-155952-4	PNMW-20	Total/NA	Water	7470A	514511
280-155952-5	PNMW-21	Total/NA	Water	7470A	514511
280-155952-6	PNMW-22	Total/NA	Water	7470A	514511
280-155952-7	PNMW-23	Total/NA	Water	7470A	514511
280-155952-8	PNMW-21DUP	Total/NA	Water	7470A	514511
280-155952-9	PNMW-22EB	Total/NA	Water	7470A	514511
MB 240-514511/1-A	Method Blank	Total/NA	Water	7470A	514511
LCS 240-514511/2-A	Lab Control Sample	Total/NA	Water	7470A	514511
280-155952-1 MS	PNMW-17	Total/NA	Water	7470A	514511
280-155952-1 MSD	PNMW-17	Total/NA	Water	7470A	514511

Analysis Batch: 515113

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155952-1	PNMW-17	Total Recoverable	Water	6010C	514504
280-155952-2	PNMW-18	Total Recoverable	Water	6010C	514504
280-155952-3	PNMW-19	Total Recoverable	Water	6010C	514504
280-155952-4	PNMW-20	Total Recoverable	Water	6010C	514504
280-155952-5	PNMW-21	Total Recoverable	Water	6010C	514504
280-155952-6	PNMW-22	Dissolved	Water	6010C	514863
280-155952-6	PNMW-22	Total Recoverable	Water	6010C	514504
280-155952-7	PNMW-23	Total Recoverable	Water	6010C	514504
280-155952-8	PNMW-21DUP	Total Recoverable	Water	6010C	514504
280-155952-9	PNMW-22EB	Total Recoverable	Water	6010C	514504
MB 240-514504/1-A	Method Blank	Total Recoverable	Water	6010C	514504
MB 240-514863/1-A	Method Blank	Total Recoverable	Water	6010C	514863
LCS 240-514504/2-A	Lab Control Sample	Total Recoverable	Water	6010C	514504
LCS 240-514863/2-A	Lab Control Sample	Total Recoverable	Water	6010C	514863
280-155952-1 MS	PNMW-17	Total Recoverable	Water	6010C	514504
280-155952-1 MSD	PNMW-17	Total Recoverable	Water	6010C	514504

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QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Metals

Analysis Batch: 515177

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155952-6	PNMW-22	Dissolved	Water	6020A	514863
MB 240-514863/1-A	Method Blank	Total Recoverable	Water	6020A	514863
LCS 240-514863/3-A	Lab Control Sample	Total Recoverable	Water	6020A	514863

Analysis Batch: 515204

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155952-6	PNMW-22	Dissolved	Water	7470A	514864
MB 240-514864/1-A	Method Blank	Total/NA	Water	7470A	514864
LCS 240-514864/2-A	Lab Control Sample	Total/NA	Water	7470A	514864

Prep Batch: 515249

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-515249/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-515249/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 515411

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-515249/1-A	Method Blank	Total/NA	Water	7470A	515249
LCS 240-515249/2-A	Lab Control Sample	Total/NA	Water	7470A	515249

General Chemistry

Analysis Batch: 558321

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155952-7	PNMW-23	Total/NA	Water	SM 2540C	
MB 280-558321/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-558321/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 558481

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155952-1	PNMW-17	Total/NA	Water	SM 2540C	
280-155952-4	PNMW-20	Total/NA	Water	SM 2540C	
280-155952-5	PNMW-21	Total/NA	Water	SM 2540C	
280-155952-8	PNMW-21DUP	Total/NA	Water	SM 2540C	
280-155952-9	PNMW-22EB	Total/NA	Water	SM 2540C	
MB 280-558481/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-558481/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 558579

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155952-1	PNMW-17	Total/NA	Water	SM 2540D	
280-155952-7	PNMW-23	Total/NA	Water	SM 2540D	
280-155952-8	PNMW-21DUP	Total/NA	Water	SM 2540D	
MB 280-558579/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-558579/2	Lab Control Sample	Total/NA	Water	SM 2540D	
280-155952-8 DU	PNMW-21DUP	Total/NA	Water	SM 2540D	

Analysis Batch: 558625

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155952-2	PNMW-18	Total/NA	Water	SM 2540C	
280-155952-3	PNMW-19	Total/NA	Water	SM 2540C	

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QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

General Chemistry (Continued)

Analysis Batch: 558625 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155952-6	PNMW-22	Total/NA	Water	SM 2540C	
MB 280-558625/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-558625/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 280-558625/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	

Analysis Batch: 558704

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155952-2	PNMW-18	Total/NA	Water	SM 2540D	
280-155952-3	PNMW-19	Total/NA	Water	SM 2540D	
280-155952-4	PNMW-20	Total/NA	Water	SM 2540D	
280-155952-5	PNMW-21	Total/NA	Water	SM 2540D	
280-155952-6	PNMW-22	Total/NA	Water	SM 2540D	
280-155952-9	PNMW-22EB	Total/NA	Water	SM 2540D	
MB 280-558704/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-558704/2	Lab Control Sample	Total/NA	Water	SM 2540D	
280-155952-9 DU	PNMW-22EB	Total/NA	Water	SM 2540D	

Analysis Batch: 558963

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155952-6	PNMW-22	Total/NA	Water	SM 2540C	
MB 280-558963/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-558963/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 559562

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155952-1	PNMW-17	Total/NA	Water	9040B	
280-155952-2	PNMW-18	Total/NA	Water	9040B	
280-155952-3	PNMW-19	Total/NA	Water	9040B	
280-155952-4	PNMW-20	Total/NA	Water	9040B	
280-155952-5	PNMW-21	Total/NA	Water	9040B	
280-155952-6	PNMW-22	Total/NA	Water	9040B	
280-155952-7	PNMW-23	Total/NA	Water	9040B	
280-155952-8	PNMW-21DUP	Total/NA	Water	9040B	
280-155952-9	PNMW-22EB	Total/NA	Water	9040B	
LCS 280-559562/28	Lab Control Sample	Total/NA	Water	9040B	
LCS 280-559562/4	Lab Control Sample	Total/NA	Water	9040B	
LCSD 280-559562/5	Lab Control Sample Dup	Total/NA	Water	9040B	

Analysis Batch: 560474

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155952-1	PNMW-17	Total/NA	Water	9056A	
280-155952-2	PNMW-18	Total/NA	Water	9056A	
280-155952-3	PNMW-19	Total/NA	Water	9056A	
280-155952-4	PNMW-20	Total/NA	Water	9056A	
280-155952-5	PNMW-21	Total/NA	Water	9056A	
280-155952-6	PNMW-22	Total/NA	Water	9056A	
280-155952-7	PNMW-23	Total/NA	Water	9056A	
280-155952-7	PNMW-23	Total/NA	Water	9056A	
280-155952-8	PNMW-21DUP	Total/NA	Water	9056A	
280-155952-9	PNMW-22EB	Total/NA	Water	9056A	
MB 280-560474/6	Method Blank	Total/NA	Water	9056A	

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QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

General Chemistry (Continued)

Analysis Batch: 560474 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 280-560474/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-560474/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-560474/3	Lab Control Sample	Total/NA	Water	9056A	
280-155952-9 MS	PNMW-22EB	Total/NA	Water	9056A	
280-155952-9 MSD	PNMW-22EB	Total/NA	Water	9056A	
280-155952-9 DU	PNMW-22EB	Total/NA	Water	9056A	

Analysis Batch: 560637

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155952-1	PNMW-17	Total/NA	Water	9056A	
280-155952-2	PNMW-18	Total/NA	Water	9056A	
280-155952-3	PNMW-19	Total/NA	Water	9056A	
280-155952-4	PNMW-20	Total/NA	Water	9056A	
280-155952-5	PNMW-21	Total/NA	Water	9056A	
280-155952-6	PNMW-22	Total/NA	Water	9056A	
280-155952-8	PNMW-21DUP	Total/NA	Water	9056A	
MB 280-560637/13	Method Blank	Total/NA	Water	9056A	
LCS 280-560637/11	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-560637/12	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-560637/10	Lab Control Sample	Total/NA	Water	9056A	

Rad

Prep Batch: 538650

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155952-1	PNMW-17	Total/NA	Water	PrecSep-21	
280-155952-2	PNMW-18	Total/NA	Water	PrecSep-21	
280-155952-3	PNMW-19	Total/NA	Water	PrecSep-21	
280-155952-4	PNMW-20	Total/NA	Water	PrecSep-21	
280-155952-5	PNMW-21	Total/NA	Water	PrecSep-21	
280-155952-6	PNMW-22	Total/NA	Water	PrecSep-21	
280-155952-7	PNMW-23	Total/NA	Water	PrecSep-21	
280-155952-8	PNMW-21DUP	Total/NA	Water	PrecSep-21	
280-155952-9	PNMW-22EB	Total/NA	Water	PrecSep-21	
MB 160-538650/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-538650/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 542866

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155952-1	PNMW-17	Total/NA	Water	PrecSep_0	
280-155952-2	PNMW-18	Total/NA	Water	PrecSep_0	
280-155952-3	PNMW-19	Total/NA	Water	PrecSep_0	
280-155952-4	PNMW-20	Total/NA	Water	PrecSep_0	
280-155952-5	PNMW-21	Total/NA	Water	PrecSep_0	
280-155952-6	PNMW-22	Total/NA	Water	PrecSep_0	
280-155952-7	PNMW-23	Total/NA	Water	PrecSep_0	
280-155952-8	PNMW-21DUP	Total/NA	Water	PrecSep_0	
280-155952-9	PNMW-22EB	Total/NA	Water	PrecSep_0	
MB 160-542866/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-542866/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

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Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Client Sample ID: PNMW-17

Lab Sample ID: 280-155952-1

Date Collected: 11/17/21 13:30

Matrix: Water

Date Received: 11/19/21 11:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	514504	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			515113	11/30/21 17:22	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	514504	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			514898	11/29/21 12:53	AJC	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	514511	11/24/21 14:00	SHB	TAL CAN
Total/NA	Analysis	7470A		1			514899	11/29/21 12:47	MRL	TAL CAN
Total/NA	Analysis	9040B		1			559562	12/03/21 12:12	ECC	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	560637	12/14/21 23:37	SPG	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	560474	12/13/21 20:10	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	558481	11/23/21 09:49	ABW	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	558579	11/23/21 19:36	LRB	TAL DEN
Total/NA	Prep	PrecSep-21			500.63 mL	1.0 g	538650	11/26/21 08:23	BMP	TAL SL
Total/NA	Analysis	9315		1			543041	12/20/21 18:15	MLK	TAL SL
Total/NA	Prep	PrecSep_0			500.37 mL	1.0 g	542866	12/20/21 09:01	LPS	TAL SL
Total/NA	Analysis	9320		1			543883	12/28/21 13:11	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			544137	12/29/21 17:20	EMH	TAL SL

Client Sample ID: PNMW-18

Lab Sample ID: 280-155952-2

Date Collected: 11/18/21 14:40

Matrix: Water

Date Received: 11/19/21 11:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	514504	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			515113	11/30/21 17:48	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	514504	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			514898	11/29/21 12:56	AJC	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	514511	11/24/21 14:00	SHB	TAL CAN
Total/NA	Analysis	7470A		1			514899	11/29/21 12:53	MRL	TAL CAN
Total/NA	Analysis	9040B		1			559562	12/03/21 12:05	ECC	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	560637	12/14/21 23:53	SPG	TAL DEN
Total/NA	Analysis	9056A		10	5 mL	5 mL	560474	12/13/21 20:40	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	558625	11/24/21 09:11	ABW	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	558704	11/24/21 16:20	LRB	TAL DEN
Total/NA	Prep	PrecSep-21			750.74 mL	1.0 g	538650	11/26/21 08:23	BMP	TAL SL
Total/NA	Analysis	9315		1			543041	12/20/21 18:15	MLK	TAL SL
Total/NA	Prep	PrecSep_0			750.32 mL	1.0 g	542866	12/20/21 09:01	LPS	TAL SL
Total/NA	Analysis	9320		1			543883	12/28/21 13:11	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			544137	12/29/21 17:20	EMH	TAL SL

Eurofins TestAmerica, Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Client Sample ID: PNMW-19

Lab Sample ID: 280-155952-3

Date Collected: 11/18/21 13:30

Matrix: Water

Date Received: 11/19/21 11:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	514504	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			515113	11/30/21 17:53	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	514504	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			514898	11/29/21 13:13	AJC	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	514511	11/24/21 14:00	SHB	TAL CAN
Total/NA	Analysis	7470A		1			514899	11/29/21 12:55	MRL	TAL CAN
Total/NA	Analysis	9040B		1			559562	12/03/21 11:40	ECC	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	560637	12/15/21 00:10	SPG	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	560474	12/13/21 18:11	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	558625	11/24/21 09:11	ABW	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	558704	11/24/21 16:20	LRB	TAL DEN
Total/NA	Prep	PrecSep-21			750.26 mL	1.0 g	538650	11/26/21 08:23	BMP	TAL SL
Total/NA	Analysis	9315		1			543041	12/20/21 18:15	MLK	TAL SL
Total/NA	Prep	PrecSep_0			749.67 mL	1.0 g	542866	12/20/21 09:01	LPS	TAL SL
Total/NA	Analysis	9320		1			543883	12/28/21 13:11	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			544137	12/29/21 17:20	EMH	TAL SL

Client Sample ID: PNMW-20

Lab Sample ID: 280-155952-4

Date Collected: 11/17/21 19:10

Matrix: Water

Date Received: 11/19/21 11:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	514504	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			515113	11/30/21 17:57	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	514504	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			514898	11/29/21 13:15	AJC	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	514511	11/24/21 14:00	SHB	TAL CAN
Total/NA	Analysis	7470A		1			514899	11/29/21 12:57	MRL	TAL CAN
Total/NA	Analysis	9040B		1			559562	12/03/21 12:01	ECC	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	560637	12/15/21 00:26	SPG	TAL DEN
Total/NA	Analysis	9056A		50	5 mL	5 mL	560474	12/13/21 21:10	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	558481	11/23/21 09:49	ABW	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	558704	11/24/21 16:20	LRB	TAL DEN
Total/NA	Prep	PrecSep-21			750.79 mL	1.0 g	538650	11/26/21 08:23	BMP	TAL SL
Total/NA	Analysis	9315		1			543041	12/20/21 18:16	MLK	TAL SL
Total/NA	Prep	PrecSep_0			750.57 mL	1.0 g	542866	12/20/21 09:01	LPS	TAL SL
Total/NA	Analysis	9320		1			543883	12/28/21 13:11	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			544137	12/29/21 17:20	EMH	TAL SL

Eurofins TestAmerica, Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Client Sample ID: PNMW-21

Lab Sample ID: 280-155952-5

Date Collected: 11/17/21 14:30

Matrix: Water

Date Received: 11/19/21 11:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	514504	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			515113	11/30/21 18:02	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	514504	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			514898	11/29/21 13:18	AJC	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	514511	11/24/21 14:00	SHB	TAL CAN
Total/NA	Analysis	7470A		1			514899	11/29/21 12:59	MRL	TAL CAN
Total/NA	Analysis	9040B		1			559562	12/03/21 11:57	ECC	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	560637	12/15/21 00:42	SPG	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	560474	12/13/21 22:54	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	558481	11/23/21 09:49	ABW	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	558704	11/24/21 16:20	LRB	TAL DEN
Total/NA	Prep	PrecSep-21			750.22 mL	1.0 g	538650	11/26/21 08:23	BMP	TAL SL
Total/NA	Analysis	9315		1			543041	12/20/21 18:16	MLK	TAL SL
Total/NA	Prep	PrecSep_0			750.53 mL	1.0 g	542866	12/20/21 09:01	LPS	TAL SL
Total/NA	Analysis	9320		1			543883	12/28/21 13:11	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			544137	12/29/21 17:20	EMH	TAL SL

Client Sample ID: PNMW-22

Lab Sample ID: 280-155952-6

Date Collected: 11/18/21 18:25

Matrix: Water

Date Received: 11/19/21 11:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	514880	11/29/21 11:00	SHB	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	514863	11/29/21 14:00	SHB	TAL CAN
Dissolved	Analysis	6010C		1			515113	11/30/21 14:41	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	514504	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			515113	11/30/21 18:07	DSH	TAL CAN
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	514880	11/29/21 11:00	SHB	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	514863	11/29/21 14:00	SHB	TAL CAN
Dissolved	Analysis	6020A		1			515177	11/30/21 15:28	AJC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	514504	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			514898	11/29/21 13:20	AJC	TAL CAN
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	514880	11/29/21 11:00	SHB	TAL CAN
Dissolved	Prep	7470A			50 mL	50 mL	514864	11/29/21 14:00	SHB	TAL CAN
Dissolved	Analysis	7470A		1			515204	11/30/21 11:44	MRL	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	514511	11/24/21 14:00	SHB	TAL CAN
Total/NA	Analysis	7470A		1			514899	11/29/21 13:02	MRL	TAL CAN
Total/NA	Analysis	9040B		1			559562	12/03/21 11:44	ECC	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	560637	12/15/21 01:15	SPG	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	560474	12/13/21 23:39	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	558625	11/24/21 09:11	ABW	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	558963	11/29/21 11:22	ABW	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	558704	11/24/21 16:20	LRB	TAL DEN

Eurofins TestAmerica, Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Client Sample ID: PNMW-22

Lab Sample ID: 280-155952-6

Date Collected: 11/18/21 18:25

Matrix: Water

Date Received: 11/19/21 11:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.83 mL	1.0 g	538650	11/26/21 08:23	BMP	TAL SL
Total/NA	Analysis	9315		1			543041	12/20/21 18:16	MLK	TAL SL
Total/NA	Prep	PrecSep_0			750.21 mL	1.0 g	542866	12/20/21 09:01	LPS	TAL SL
Total/NA	Analysis	9320		1			543883	12/28/21 13:11	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			544137	12/29/21 17:20	EMH	TAL SL

Client Sample ID: PNMW-23

Lab Sample ID: 280-155952-7

Date Collected: 11/16/21 16:10

Matrix: Water

Date Received: 11/19/21 11:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	514504	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			515113	11/30/21 18:11	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	514504	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			514898	11/29/21 13:23	AJC	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	514511	11/24/21 14:00	SHB	TAL CAN
Total/NA	Analysis	7470A		1			514899	11/29/21 13:08	MRL	TAL CAN
Total/NA	Analysis	9040B		1			559562	12/03/21 13:23	ECC	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	560474	12/13/21 23:54	SPG	TAL DEN
Total/NA	Analysis	9056A		10	5 mL	5 mL	560474	12/14/21 00:09	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	558321	11/22/21 09:42	ABW	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	558579	11/23/21 19:36	LRB	TAL DEN
Total/NA	Prep	PrecSep-21			750.78 mL	1.0 g	538650	11/26/21 08:23	BMP	TAL SL
Total/NA	Analysis	9315		1			543041	12/20/21 18:17	MLK	TAL SL
Total/NA	Prep	PrecSep_0			750.60 mL	1.0 g	542866	12/20/21 09:01	LPS	TAL SL
Total/NA	Analysis	9320		1			543883	12/28/21 13:11	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			544137	12/29/21 17:20	EMH	TAL SL

Client Sample ID: PNMW-21DUP

Lab Sample ID: 280-155952-8

Date Collected: 11/17/21 14:30

Matrix: Water

Date Received: 11/19/21 11:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	514504	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			515113	11/30/21 18:16	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	514504	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			514898	11/29/21 13:25	AJC	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	514511	11/24/21 14:00	SHB	TAL CAN
Total/NA	Analysis	7470A		1			514899	11/29/21 13:10	MRL	TAL CAN
Total/NA	Analysis	9040B		1			559562	12/03/21 12:09	ECC	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	560637	12/15/21 02:05	SPG	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	560474	12/14/21 00:53	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	558481	11/23/21 09:49	ABW	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	558579	11/23/21 19:36	LRB	TAL DEN

Eurofins TestAmerica, Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Client Sample ID: PNMW-21DUP

Lab Sample ID: 280-155952-8

Date Collected: 11/17/21 14:30

Matrix: Water

Date Received: 11/19/21 11:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.07 mL	1.0 g	538650	11/26/21 08:23	BMP	TAL SL
Total/NA	Analysis	9315		1			543041	12/20/21 18:17	MLK	TAL SL
Total/NA	Prep	PrecSep_0			750.32 mL	1.0 g	542866	12/20/21 09:01	LPS	TAL SL
Total/NA	Analysis	9320		1			543883	12/28/21 13:11	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			544137	12/29/21 17:20	EMH	TAL SL

Client Sample ID: PNMW-22EB

Lab Sample ID: 280-155952-9

Date Collected: 11/18/21 19:20

Matrix: Water

Date Received: 11/19/21 11:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	514504	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			515113	11/30/21 18:20	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	514504	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			514898	11/29/21 13:28	AJC	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	514511	11/24/21 14:00	SHB	TAL CAN
Total/NA	Analysis	7470A		1			514899	11/29/21 13:12	MRL	TAL CAN
Total/NA	Analysis	9040B		1			559562	12/03/21 11:50	ECC	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	560474	12/13/21 21:54	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	558481	11/23/21 09:49	ABW	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	558704	11/24/21 16:20	LRB	TAL DEN
Total/NA	Prep	PrecSep-21			750.32 mL	1.0 g	538650	11/26/21 08:23	BMP	TAL SL
Total/NA	Analysis	9315		1			543041	12/20/21 18:17	MLK	TAL SL
Total/NA	Prep	PrecSep_0			1000.69 mL	1.0 g	542866	12/20/21 09:01	LPS	TAL SL
Total/NA	Analysis	9320		1	1.0 mL	1.0 mL	543883	12/28/21 13:12	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			544137	12/29/21 17:20	EMH	TAL SL

Laboratory References:

TAL CAN = Eurofins North Central, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Laboratory: Eurofins TestAmerica, Denver

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-23
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
9040B		Water	Temperature

Laboratory: Eurofins North Central, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-22
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-22
Georgia	State	4062	02-23-22
Illinois	NELAP	200004	07-31-22
Iowa	State	421	06-01-23
Kansas	NELAP	E-10336	04-30-22
Kentucky (UST)	State	112225	02-23-22
Kentucky (WW)	State	KY98016	12-31-21
Minnesota	NELAP	039-999-348	12-27-21
Minnesota (Petrofund)	State	3506	08-01-23
New Jersey	NELAP	OH001	11-06-22
New York	NELAP	10975	03-31-22
Ohio VAP	State	CL0024	12-21-23
Oregon	NELAP	4062	12-06-21
Pennsylvania	NELAP	68-00340	12-13-21
Texas	NELAP	T104704517-21-14	08-31-22
Virginia	NELAP	11570	09-14-22
Washington	State	C971	01-12-22
West Virginia DEP	State	210	12-21-21

Laboratory: Eurofins TestAmerica, St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	01-01-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Denver

Accreditation/Certification Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Laboratory: Eurofins TestAmerica, St. Louis (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-21
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-21
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

Ver: 01/16/2019

Chain of Custody Record

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Chain of Custody Record

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Eurofins TestAmerica Canton Sample Receipt Form/Narrative						Login # : _____	
Canton Facility							
Client <u>ETA, Denver</u>		Site Name _____		Cooler unpacked by: <u>Mandy Block</u>			
Cooler Received on <u>11-23-21</u>		Opened on <u>11-23-21</u>					
FedEx: 1 st Grd Exp		UPS	FAS	Clipper	Client Drop Off	TestAmerica Courier	Other
Receipt After-hours: Drop-off Date/Time				Storage Location			
TestAmerica Cooler # <u>TH</u>		Foam Box	Client Cooler	Box	Other		
Packing material used: <u>Bubble Wrap</u>		Foam	Plastic Bag	None	Other		
COOLANT: <u>Wet Ice</u>		Blue Ice	Dry Ice	Water	None		
1. Cooler temperature upon receipt				☒ See Multiple Cooler Form			
IR GUN# IR-14 (CF +0.1 °C)		Observed Cooler Temp. _____ °C		Corrected Cooler Temp. _____ °C			
IR GUN #IR-15 (CF +0.2°C)		Observed Cooler Temp. _____ °C		Corrected Cooler Temp. _____ °C			
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity _____				Yes	No		
-Were the seals on the outside of the cooler(s) signed & dated?				Yes	No	NA	
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?				Yes	No		
-Were tamper/custody seals intact and uncompromised?				Yes	No	NA	
3. Shippers' packing slip attached to the cooler(s)?				Yes	No		
4. Did custody papers accompany the sample(s)?				Yes	No		
5. Were the custody papers relinquished & signed in the appropriate place?				Yes	No		
6. Was/were the person(s) who collected the samples clearly identified on the COC?				Yes	No		
7. Did all bottles arrive in good condition (Unbroken)?				Yes	No		
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?				Yes	No		
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?				Yes	No		
10. Were correct bottle(s) used for the test(s) indicated?				Yes	No		
11. Sufficient quantity received to perform indicated analyses?				Yes	No		
12. Are these work share samples and all listed on the COC?				Yes	No		
If yes, Questions 13-17 have been checked at the originating laboratory.							
13. Were all preserved sample(s) at the correct pH upon receipt?				Yes	No	NA	pH Strip Lot# <u>HC157842</u>
14. Were VOAs on the COC?				Yes	No		
15. Were air bubbles >6 mm in any VOA vials? Larger than this.				Yes	No	NA	
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____				Yes	No		
17. Was a LL Hg or Me Hg trip blank present? _____				Yes	No		
Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other							
Concerning _____							

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES		☐ additional next page	Samples processed by: _____
19. SAMPLE CONDITION			
Sample(s) _____		were received after the recommended holding time had expired.	
Sample(s) _____		were received in a broken container.	
Sample(s) _____		were received with bubble >6 mm in diameter. (Notify PM)	
20. SAMPLE PRESERVATION			
Sample(s) _____		were further preserved in the laboratory.	
Time preserved: _____		Preservative(s) added/Lot number(s): _____	
VOA Sample Preservation - Date/Time VOAs Frozen: _____			

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WI-NC-099 Cooler Receipt Form Page 2 – Multiple Coolers

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-155952-1

Login Number: 155952

List Source: Eurofins TestAmerica, Denver

List Number: 1

Creator: Roehsner, Karen P

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-155952-1

Login Number: 155952

List Number: 3

Creator: Johnson, Autumn R

List Source: Eurofins TestAmerica, St. Louis

List Creation: 11/23/21 06:04 PM

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Tracer/Carrier Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Pawnee

Job ID: 280-155952-1

Method: 9315 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	
280-155952-1	PNMW-17	48.3	
280-155952-2	PNMW-18	65.4	
280-155952-3	PNMW-19	77.6	
280-155952-4	PNMW-20	83.3	
280-155952-5	PNMW-21	72.6	
280-155952-6	PNMW-22	65.9	
280-155952-7	PNMW-23	63.2	
280-155952-8	PNMW-21DUP	67.9	
280-155952-9	PNMW-22EB	86.1	
LCS 160-538650/1-A	Lab Control Sample	87.3	
MB 160-538650/23-A	Method Blank	86.1	
Tracer/Carrier Legend			
Ba = Ba Carrier			

Method: 9320 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
280-155952-1	PNMW-17	70.9	84.5
280-155952-2	PNMW-18	88.8	84.1
280-155952-3	PNMW-19	92.5	84.1
280-155952-4	PNMW-20	89.3	84.9
280-155952-5	PNMW-21	90.5	83.4
280-155952-6	PNMW-22	89.1	80.7
280-155952-7	PNMW-23	88.1	83.7
280-155952-8	PNMW-21DUP	63.2	83.7
280-155952-9	PNMW-22EB	89.3	82.6
LCS 160-542866/1-A	Lab Control Sample	93.0	82.6
MB 160-542866/23-A	Method Blank	87.6	86.0
Tracer/Carrier Legend			
Ba = Ba Carrier			
Y = Y Carrier			