Luminant

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April 24, 2024

Illinois Environmental Protection Agency
DWPC – Permits MC #15
Attn: Part 845 Coal Combustion Residual Rule Submittal
1021 N. Grand Avenue East
Springfield, IL 62794-9276

Re: Dynegy Midwest Generation, LLC – Baldwin Power Plant (ID No. W1578510001-01-02-03)

Dynegy Midwest Generation, LLC (DMG) is hereby submitting this assessment of groundwater corrective measures for Baldwin Power Plant Fly Ash Pond System to satisfy the following provisions:

- 35 I.A.C. 845.660 (Assessment of Corrective Measures), and
- 35 I.A.C. 845.650(d) (Characterization of Nature and Extent)

Along with this letter, these plans will be posted to Luminant's publicly accessible internet site: www.luminant.com/ccr/illinois-ccr/.

If you have any questions regarding this submittal, please contact Phil Morris at 618-343-7799 or phil.morris@vistracorp.com.

Sincerely,

Phil Morris
Sr. Director Environmental
Illinois Power Generating Company

Enclosure

Intended for
Dynegy Midwest Generation, LLC

Date
April 24, 2024

Project No.
1940103584-001

35 I.A.C. § 845 CORRECTIVE MEASURES ASSESSMENT

FLY ASH POND SYSTEM

BALDWIN POWER PLANT

BALDWIN, ILLINOIS

IEPA ID: W1578510001-01/02/03

RAMBOLL Bright ideas. Sustainable change.

35 I.A.C. § 845 CORRECTIVE MEASURES ASSESSMENT BALDWIN POWER PLANT FLY ASH POND SYSTEM

Project name	**Baldwin Power Plant Fly Ash Pond System**
Project no.	**1940103584-001**
Recipient	**Dynegy Midwest Generation, LLC**
Document type	**35 I.A.C. § 845 Corrective Measures Assessment**
Revision	**FINAL**
Date	**April 24, 2024**
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ACRONYMS AND ABBREVIATIONS

35 I.A.C.	Title 35 of the Illinois Administrative Code
40 C.F.R.	Title 40 of the Code of Federal Regulations
ASD	Alternative Source Demonstration
BPP	Baldwin Power Plant
BAP	Bottom Ash Pond
CAAA	Corrective Action Alternatives Analysis
CAP	Corrective Action Plan
CCR	coal combustion residuals
CIP	closure-in-place
CMA	assessment of groundwater corrective measures
cm/s	centimeters per second
CSM	conceptual site model
DMG	Dynegy Midwest Generation, LLC
E001	Event 1; quarter 2, 2023
E002	Event 2; quarter 3, 2023
E003	Event 3; quarter 4, 2023
EPRI	Electric Power Research Institute
FAPS	Fly Ash Pond System
GMP	groundwater monitoring plan
GWPS	groundwater protection standard(s)
HCR	Hydrogeologic Site Characterization Report
ID	identification
IDNR	Illinois Department of Natural Resources
IEPA	Illinois Environmental Protection Agency
ITRC	National Research Council, Interstate Technology & Regulatory Council
IX	Ion Exchange
NID	National Inventory of Dams
No.	number
NPDES	National Pollutant Discharge Elimination System
NRT	Natural Resource Technology
NRT/OBG	Natural Resource Technology, an OBG Company
PMP	Potential Migration Pathway
PRB	permeable reactive barrier
Ramboll	Ramboll Americas Engineering Solutions, Inc.
SI	surface impoundment
UA	uppermost aquifer
UU	Upper Unit
USEPA	United States Environmental Protection Agency
ZVI	zero-valent iron

1. INTRODUCTION

Ramboll Americas Engineering Solutions, Inc. (Ramboll) has developed this assessment of groundwater corrective measures (CMA) on behalf of the Baldwin Power Plant (BPP), owned by Dynegy Midwest Generation, LLC (DMG), to assist in the compliance with the requirements of Title 35 of the Illinois Administrative Code (35 I.A.C.) § 845. This assessment applies specifically to the coal combustion residuals (CCR) surface impoundment (SI) referred to as the Fly Ash Pond System (FAPS), also referred to as Vistra Identification (ID) Number (No.) 605, Illinois Environmental Protection Agency (IEPA) ID Nos. W1578510001-01, W1578510001-02, and W1578510001-03, and National Inventory of Dams (NID) No. IL50721. This report addresses content requirements specific to 35 I.A.C. § 845.660 (Assessment of Corrective Measures) for exceedances of boron and sulfate at the FAPS.

1.1 Source Control and Residual Plume Management

DMG completed significant source control and residual plume management efforts in 2020 as part of final closure of the FAPS (DMG, 2020). The final closure was performed in accordance with the Closure and Post-Closure Care Plan (AECOM, 2016) that was developed in accordance with Title 40 of the Code of Federal Regulations (40 C.F.R.) § 257 and submitted to IEPA for review. IEPA found "*…that the plan…represent an appropriate means by which to close the Baldwin Fly Ash Pond System which is comprised of the East Fly Ash Pond, the Old East Fly Ash Pond and the West Fly Ash Pond*" (IEPA, 2016). The final closure was addressed in accordance with the IEPA Water Pollution Control permit 2020-EA-65016.

The FAPS closure construction included closure-in-place (CIP) of the entire FAPS. This was accomplished by removing impounded water and constructing a final cover system in accordance with 40 C.F.R. § 257.102 to minimize water infiltration into the closed FAPS and improve surface water drainage off the cover system, thus reducing generation of potentially impacted water and ultimately reducing the extent of CCR impacts to groundwater. The source control was predicted to lower water levels, decrease the potential transport of CCR constituents off-site and prevent groundwater protection standards (GWPS) from being exceeded in any water supply wells (Natural Resource Technology [NRT], 2014a). These source control activities will serve as the primary groundwater corrective measure at the FAPS. The potentially feasible corrective measures presented herein are intended to be supplementary to the primary source control and are intended to serve as management measures to address any residual plume that may remain after completion of source control.

1.2 Adaptive Site Management

Adaptive site management strategies will be employed as an integral part of ongoing corrective action at the FAPS. The adaptive site management approach will allow timely incorporation of new site information over the closure and post-closure life cycle of the FAPS to ensure the achievement of the GWPS. The adaptive site management approach is proposed to expedite progress toward meeting the GWPS while acknowledging uncertainties, such as the persistence of current groundwater flow directions and flux quantities and potential related changes in geochemical conditions. A structured decision-making process and explicitly planned iterations between the implemented corrective measures and monitoring results will ensure that active remediation is occurring. System performance and the condition of the residual plume will be monitored as the corrective measure(s) selected through the 35 I.A.C. § 845.710 Corrective

Action Plan (CAP) process are implemented to supplement the source control measures described above. If the groundwater concentrations do not decrease consistent with modeling predictions, the adaptive site management approach will facilitate timely modifications or enhancements to the corrective measure(s), as needed, in accordance with 35 I.A.C. § 845.680(b). this approach will be employed to provide continuous improvement to the FAPS groundwater remediation in response to new site information and/or the performance of the selected corrective measure(s).

The planned adaptive site management strategies are generally consistent with National Research Council, Interstate Technology & Regulatory Council (ITRC) and United States Environmental Protection Agency (USEPA) methodologies developed to address sites with long remediation times and high levels of uncertainty regarding the remedial actions necessary to achieve final and protective remediation goals (USEPA, 2022). The elements of the proposed adaptive site management strategy at the FAPS will be responsive to the changing conditions associated with pond closure and performance of the selected corrective measure(s) and will include the following:

1. Implementing the groundwater corrective measure(s) selected as part of the CAP for the current conditions at the FAPS. The selected corrective measures may include a combination of the technologies presented in this CMA.
2. Establishing both the absolute remedial objective and functional (interim) goals to monitor progress toward the remedial objective. Achieving the GWPS for 35 I.A.C. § 845.600 constituents at the downgradient waste boundary is the remedial objective for the FAPS. Specific functional goals will be developed as part of the CAP process. The functional goals will be measurable thresholds for future action and may include short-term or technology-specific objectives and triggers. Functional goals may vary for different locations, CCR constituents or other site-specific considerations (ITRC, 2017) and will serve as benchmarks for comparison to ongoing groundwater monitoring at the FAPS.
3. Ongoing groundwater monitoring at the FAPS will continue throughout the implementation of source control and residual plume management activities. Post-closure monitoring will continue for a period of at least 30 years, in accordance with 35 I.A.C. § 845.780. A comprehensive groundwater monitoring plan (GMP) will be developed as part of the CAP process in accordance with 35 I.A.C. § 845.670 and 35 I.A.C. § 845.220(c)(4). The GMP will include the functional goals and proposed action levels.
4. Groundwater monitoring information will be used to guide decisions regarding whether progress toward the remedial goal is advancing as expected and/or whether additional actions may be needed to achieve the remedial objective, in conjunction with IEPA, as required by 35 I.A.C. § 845.680(b).

2. SITE INFORMATION

The BPP is located in southwest Illinois in Randolph and St. Clair Counties. The FAPS is approximately one-half mile west-northwest of the Village of Baldwin (**Figure 2-1**). The FAPS is a closed CCR SI consisting of three closed, unlined CCR sub-units identified as follows: Old East Fly Ash Pond (IEPA Unit ID W1578510001-01), the East Fly Ash Pond (IEPA Unit ID W1578510001-02), and West Fly Ash Pond (IEPA Unit ID W1578510001-03). The three sub-units comprise the FAPS and are surrounded by a continuous earthen embankment. Prior to closure, the sub-units were divided utilizing internal splitter dikes to support plant operations. The combined surface area of the FAPS is approximately 232 acres (**Figure 2-2**).

A Closure and Post-Closure Care Plan (AECOM, 2016), which included a groundwater monitoring program sufficient for long-term, post-closure monitoring, was developed and approved by IEPA in a letter to DMG dated August 16, 2016 (IEPA, 2016). Closure activities, which included constructing a final cover system to control the potential for water infiltration into the closed CCR unit, were completed by November 17, 2020 (IEPA, 2016).

2.1 Conceptual Site Model

Significant site investigation has been completed at the BPP to characterize the geology, hydrogeology, and groundwater quality. Based on the extensive investigation and monitoring, the FAPS has been well characterized, as detailed in the Hydrogeologic Site Characterization Report (HCR; Ramboll, 2021) and HCR Revision 1 (Ramboll, 2023a), prepared to comply with the requirements specified in 35 I.A.C. § 845.620. The HCR and revised HCR expand upon the Hydrogeologic Monitoring Plan (Natural Resource Technology, an OBG Company [NRT/OBG], 2017). The conceptual site model (CSM) is presented below.

The following two distinct hydrostratigraphic units have been identified beneath the FAPS, based on stratigraphic relationships and common hydrogeologic characteristics:

- **Upper Unit (UU)/Potential Migration Pathway (PMP):** Predominantly clay with some silt and minor sand, silt layers, and occasional sand lenses. This unit is composed of unlithified natural geologic materials and extends from the upper saturated materials to the bedrock. Thin sand seams and the interface (*i.e.,* contact) between the UU and bedrock have been identified as PMPs. No continuous sand seams were observed within or immediately adjacent to the FAPS; however, the sand seams may act as a PMP due to relatively higher hydraulic conductivities.
- **Bedrock Unit:** This unit is considered the uppermost aquifer (UA) and is composed of interbedded shale and limestone bedrock, which underlies and is continuous across the entire Site.

Lateral groundwater flow in the shallow unlithified materials and bedrock is generally to the west and southwest across the Site toward the Kaskaskia River. Groundwater flow in bedrock is toward the northwest in the east and central areas of the FAPS, and southwest to northwest on the east area of the FAPS. Once groundwater reaches the bedrock valley feature underlying the Secondary and Tertiary Ponds (non-CCR units), located west of the Bottom Ash Pond (BAP) and FAPS, the flow direction veers towards this bedrock surface low. Groundwater elevations and contours for the May 15-17, 2023 monitoring event (Event 1 [E001]) are presented in **Figure 2-3**.

2.2 Groundwater Quality

Groundwater monitoring in accordance with the proposed GMP and sampling methodologies provided in the operating permit application for the FAPS began in the second quarter of 2023.The 35 I.A.C. § 845 groundwater monitoring system is displayed on **Figure 2-4** and consists of two background monitoring wells screened in the bedrock (*i.e.,* UA), nine compliance wells installed in the bedrock (*i.e.,* UA), and six compliance wells installed within the unlithified UU/PMP. The groundwater samples collected from the 17 wells are used to monitor and evaluate groundwater quality and demonstrate compliance with the groundwater quality standards listed in 35 I.A.C. § 845.600(a). The monitoring wells yield groundwater samples that represent the quality of downgradient groundwater at the CCR boundary (as required in 35 I.A.C. § 845.630(a)(2)).

The E001 sampling event was completed on May 23, 2023. In accordance with 35 I.A.C. § 845.610(b)(3)(C), statistically derived values were compared with the GWPSs summarized in 35 I.A.C. § 845.600 to determine exceedances of the GWPS (Ramboll, 2023b). The statistical determination identified the following GWPS exceedances at compliance groundwater monitoring wells:

- Boron at PMP well MW-150 and UA well MW-391;
- Sulfate at PMP well MW-150;

Subsequent compliance sampling events for Quarter 3 and Quarter 4 2023 (Event 2 [E002] and Event 3 [E003]) were completed in August and November 2023 and groundwater samples were evaluated for exceedances of the GWPS as described in 35 I.A.C. § 845.600 (Ramboll, 2023c; Ramboll, 2024). Additional exceedances were identified during the E002 and E003 monitoring events:

- Boron at PMP well MW-152
- pH at PMP well MW-253

An alternative source determination (ASD), as allowed by 35 I.A.C. § 845.650(e), was completed for the pH exceedance at well MW-253 (Geosyntec Consultants, Inc., 2024) and received concurrence in a letter from the IEPA dated March 7, 2024 (IEPA, 2024). Therefore, this CMA will address identified GWPS exceedances, exclusive of pH exceedance at MW-253, in accordance with 35 I.A.C. § 845.660.

3. CORRECTIVE MEASURES ASSESSMENT METHODOLOGY

This section describes the CMA methodology initiated in response to the identification of exceedances of the GWPSs for 35 I.A.C. § 845.600 constituents at the downgradient waste boundary of the FAPS during the E001 groundwater monitoring event (Ramboll, 2023b). The CMA was initiated on November 26, 2023, within 90 days after the detection of boron and sulfate exceedance(s) of GWPS. Under 35 I.A.C. § 845, owners and operators of existing CCR SIs must initiate the CMA in accordance with 35 I.A.C. § 845.660 if one or more constituents are detected, and confirmed by an immediate resample, to be in exceedance of a GWPS in 35 I.A.C. § 845.600, and the owner or operator has not demonstrated that: a source other than the CCR SI caused the exceedance, or that the exceedance of the GWPS resulted from error in sampling, analysis, statistical evaluation, natural variation in groundwater quality or a change in the potentiometric surface and groundwater flow direction (*i.e.,* ASD).

The CMA is the first step in developing a long-term CAP to address the GWPS exceedances at CCR SIs. The process provides a systematic, rational method for evaluating potential corrective measures by first identifying potentially viable technologies and assessing them using qualitative information to eliminate from consideration infeasible or otherwise unacceptable remedial technologies (*i.e.,* the 35 I.A.C. § 845.660 CMA). The remaining technologies will be evaluated individually, or assembled into combined alternatives, and further evaluated under the 35 I.A.C. § 845.670 CAP process.

This CMA identified applicable corrective measure technologies and evaluated them for viability, given the site-specific conditions and considerations at the FAPS, by addressing the following 35 I.A.C. § 845.660 evaluation criteria:

- Performance, reliability, ease of implementation and potential impacts of appropriate potential remedies, including safety impacts, cross-media impacts, and control of exposure to any residual contamination;
- Time required to begin and complete the CAP; and
- Institutional requirements, such as State or local permit requirements or other environmental or public health requirements, that may substantially affect implementation of the CAP.

The evaluation included qualitative and/or semi-quantitative screening of the potential corrective measures (technologies) relative to their general performance, reliability, and ease of implementation characteristics and their potential impacts, timeframes, and institutional requirements to assess the viability of each technology to address the GWPS exceedances at the FAPS. This approach provided a reasoned set of corrective measures that could be used, either individually or in combination, to supplement the completed source control measures described in **Section 1.1**. This set of corrective measures will be further evaluated through the CAP process.

4. DESCRIPTION OF POTENTIAL CORRECTIVE MEASURE TECHNOLOGIES

The potential groundwater corrective measures summarized below are applicable to the FAPS and were included in the CMA development and analysis. Site-specific considerations provided in **Section 2** were used to evaluate potential groundwater corrective measures. Each of the corrective measures evaluated may be capable of satisfying the requirements and objectives, listed in **Section 3**, to varying degrees of effectiveness. The corrective measure review process was intended to yield a set of applicable corrective measures that could be used to supplement the primary corrective action, namely the completed source control activities described in **Section 1.1** (CIP with final cover system). The completed source control has significantly reduced infiltration rates relative to pre-closure conditions. Ongoing monitoring will be an integral part of all corrective measures to verify and document the remedial process. The corrective measures ultimately advanced to the Corrective Action Alternatives Analysis (CAAA) and selected in the CAP will be used to enhance the effectiveness of the completed source control and may be used independently or combined into specific remedial alternatives to leverage the advantages of multiple corrective measures to attain GWPSs.

Source control measures were completed in 2020 at the FAPS, as described in **Section 1.1**; all of the evaluated corrective measure technologies are proposed to be supplemental and complementary to source control activities. The following potential corrective measures, commonly used to mitigate groundwater impacts, were considered as a part of the CMA process:

- Source Control with Groundwater Polishing;
- Source Control with Groundwater Extraction (groundwater pumping wells or collection trenches);
- Source Control with a Cutoff Wall; and
- Source Control with In-Situ Treatment (Permeable Reactive Barrier [PRB] or In-Situ Chemical Treatment).

4.1 Source Control with Groundwater Polishing

Both federal and state regulators have long recognized that natural geochemical processes can be an acceptable component of a remedial action when it can achieve remedial action objectives in a reasonable timeframe. In 1999, USEPA published a final policy directive for groundwater remediation and described the process as follows:

- *"The reliance on natural attenuation processes (within the context of a carefully controlled and monitored site cleanup approach) to achieve site-specific remediation objectives within a time frame that is reasonable compared to that offered by other more active methods. The 'natural attenuation processes' that are at work in such a remediation approach include a variety of physical, chemical, or biological processes that, under favorable conditions, act without human intervention to reduce the mass, toxicity, mobility, volume, or concentration of contaminants in soil or groundwater. These in-situ processes include biodegradation; dispersion; dilution; sorption; volatilization; radioactive decay; and chemical or biological stabilization, transformation, or destruction of contaminants."* (USEPA, 1999).

The USEPA has stated that source control is the most effective means of ensuring the timely attainment of remediation objectives (USEPA, 1999). Natural geochemical processes may be appropriate as a "finishing step" after effective source control implementation (*i.e.*, groundwater polishing), to reduce the residual mass remaining in the groundwater after closure, if there are no risks to receptors and/or the contaminant plume is not expanding. Thus, groundwater polishing would be used in conjunction with the significant planned source control effort at the site, which consisted of a hybrid consolidate-and-cap approach with a final cover system described in **Section 1.1**.

In 2015, USEPA addressed remediation of inorganic compounds in groundwater and noted that the use of natural geochemical processes to address inorganic contaminants: (1) is not intended to constitute a treatment process for inorganic contaminants; (2) when appropriately implemented, can help to restore an aquifer to beneficial uses by immobilizing contaminants onto aquifer solids and providing the primary means for attenuation of contaminants in groundwater; and (3) is not intended to be a "do nothing" response (USEPA, 2015). Rather, documenting the applicability of natural geochemical processes for groundwater remediation should be thoroughly and adequately supported with site-specific characterization data and analysis (USEPA, 1999; USEPA, 2007; USEPA, 2015).

Both physical and chemical processes can contribute to the reduction in mass, toxicity, mobility, volume, or concentration of contaminants in groundwater. Physical processes applicable to CCR include dilution, dispersion, and flushing. Chemical processes applicable to CCR constituents in groundwater include precipitation and coprecipitation (*e.g.,* incorporation into sulfide minerals), sorption (*e.g.,* to iron, manganese, aluminum; to other metal oxides or oxyhydroxides; or to sulfide minerals or organic matter), and ion exchange.

All inorganic compounds are subject to physical processes, and under typical environmental conditions the physical mechanisms most often exert the dominant control on the CCR constituents of interest, such as sulfate and chloride, and lithium to a more variable degree. Chemical mechanisms are also likely to be active, though not often dominant, such as adsorption, ion exchange, and organic complexation. In combination with source control, these natural controls can provide an effective means to polish residual loading and achieve the GWPS in a reasonable timeframe. Additional data collection and analysis may be required to support the USEPA's evaluation framework (USEPA, 2015) and obtain regulatory approval.

4.2 Source Control with Groundwater Extraction

Groundwater extraction is one of the most widely used groundwater corrective technologies and has a long history of performance. This corrective measure includes installation of one or more groundwater pumping wells or an extraction trench to control and extract impacted groundwater. Groundwater extraction captures and contains impacted groundwater and can limit plume expansion and/or off-site migration. Construction of a groundwater extraction system typically includes, but is not limited to, the following primary components:

- Designing and constructing a groundwater extraction system consisting of one or more extraction wells or trenches and operating at a rate to allow capture of CCR impacted groundwater within the UA and or the UD/PMP.
- Management of extracted groundwater, which may include modification to the existing National Pollutant Discharge Elimination System (NPDES) permit.

- Ongoing inspection and maintenance of the groundwater extraction system.

Remediation of inorganics by groundwater extraction can be effective, but systems do not always perform as expected. A combination of factors, including geologic heterogeneities, difficulty in flushing low-permeability zones, and rates of contaminant desorption from aquifer solids can limit effectiveness. Groundwater extraction systems require ongoing operation and maintenance to address issues such as iron bacteria and well fouling and to ensure optimal performance. The extracted groundwater must be managed, either by ex-situ treatment or disposal.

Groundwater extraction may reduce the timeframe to achieve GWPS and contain the groundwater constituents that exceed the GWPS. Extraction could be accomplished using a groundwater pumping well system or an extraction trench.

4.3 Source Control with a Cutoff Wall

Since the late 1970s and early 1980s, vertical cutoff walls have been used to control and/or isolate impacted groundwater. Low-permeability cutoff walls can be used to prevent horizontal off-site migration of potentially impacted groundwater. Cutoff walls act as barriers to lateral transport of impacted groundwater and can isolate soils that have been impacted by CCR to prevent mixing with unimpacted groundwater. Cutoff walls are often used in conjunction with an interior pumping system to establish an inward gradient within the cutoff wall. The gradient imparted by the pumping system maintains an inward flow through the wall, keeping it from acting as a groundwater dam and controlling potential end-around or breakout flow of contaminated groundwater. Constructing the cutoff wall such that it intersects a low-permeability material at its base, referred to as "keying", greatly increases its effectiveness.

A commonly used cutoff wall construction technology is the slurry trench method, which consists of excavating a trench and backfilling it with a soil-bentonite mixture, often created with the excavated soils, or, for deeper walls, a cement-bentonite mixture that is produced at an onsite batch plant. The trench is temporarily supported with bentonite slurry pumped into the trench during excavation (D'Appolonia and Ryan, 1979). Cutoff wall excavation uses conventional hydraulic excavators, hydraulic excavators equipped with specialized booms to extend their reach (*i.e.,* long-stick excavators), clamshells, or more specialized equipment such as hydromills or secant-pile drill rigs, depending upon trench depth, material excavated, and type of material that the wall is keyed into.

Cutoff walls are a widely accepted technology for containing impacted groundwater. Combining groundwater polishing with a limited cutoff wall and groundwater extraction in specific areas may provide advantages over independent use of these potential corrective technologies. Cutoff walls can be used in combination with groundwater extraction or as part of a PRB system (as the "funnel" in a funnel-and-gate system; **Section 3.4**).

4.4 Source Control with In-Situ Chemical Treatment

The use of in-situ treatment, either by injection or PRBs, is a widely used technology for treating impacted groundwater. However, in-situ treatment techniques for boron and sulfate are not well established; therefore, performance is unknown.

Chemical treatment could consist of injection of reactive materials into the subsurface to treat contaminants at specific, targeted locations. Alternatively, treatment could be accomplished via PRB, where subsurface barriers (*i.e.,* cutoff walls) are placed at locations designed to direct the

contaminant plume along a flow path through the reactive media. In either system, the contaminants are transformed or otherwise rendered into environmentally acceptable forms to attain remediation concentration goals downgradient of the barrier (Electric Power Research Institute [EPRI], 2006).

As groundwater passes through the PRB under natural gradients, dissolved constituents in the groundwater react with the reactive media and are transformed or immobilized. A variety of media have been used or proposed for use in PRBs. Zero-valent iron (ZVI) has been shown to effectively immobilize some CCR constituents, including arsenic, chromium, cobalt, molybdenum, selenium, and sulfate. Use of a combination media consisting of ZVI and a boron-selective ion exchange resin to treat boron has been documented in a pilot-scale test (EPRI, 2006).

System configurations include continuous PRBs, in which the reactive media extends across the entire path of the contaminant plume; and funnel-and-gate systems, where low-permeability barriers are installed to control groundwater flow through a permeable gate containing the reactive media. Continuous PRBs intersect the entire contaminant plume and do not materially impact the groundwater flow system. Design may or may not include keying the PRB into a low-permeability unit at depth. Funnel-and-gate systems utilize a system of barriers to groundwater flow (funnels) to direct the contaminant plume through the reactive gate. The barriers, typically some form of cutoff wall, are keyed into a low-permeability unit at depth to prevent short circuiting of the plume. Funnel-and-gate design must consider the residence time to allow chemical reactions to occur. Directing the contaminant plume through the reactive gate can significantly increase the flow velocity, thus reducing residence time.

Design of in-situ treatment systems requires rigorous site investigation to characterize the site hydrogeology and to delineate the contaminant plume. A thorough understanding of the geochemical and redox characteristics of the plume is critical to assess the feasibility of the process and select appropriate reactive media. Laboratory studies, including batch studies and column studies using samples of site groundwater, are needed to determine the effectiveness of the selected reactive media at the site (EPRI, 2006). The main considerations in selecting reactive media are as follows (Gavaskar et al., 1998 as cited by EPRI, 2006):

- Reactivity - The media should be of adequate reactivity to immobilize a contaminant within the residence time of the design.
- Hydraulic performance - The media should provide adequate flow through the PRB, meaning a greater particle size than the surrounding aquifer materials. Alternatively, gravel beds have been emplaced in front of barriers to direct flow through the barrier.
- Stability - The media should remain reactive for an amount of time that makes its use economically advantageous over other technologies.
- Environmentally compatible by-products - Any by-products of media reaction should be environmentally acceptable. For example, iron released by zero-valent iron corrosion should not occur at levels exceeding regulatory acceptance levels.

Availability and price: The media should be easy to obtain in large quantities at a price that does not negate the economic feasibility of using a PRB.

5. ASSESSMENT OF CORRECTIVE MEASURE TECHNOLOGIES

This CMA was initiated to address exceedances of the 35 I.A.C. § 845.600 GWPS at the downgradient waste boundary of the FAPS (**Section 2.2**).

5.1 Requirements

The potential groundwater corrective technologies described in the previous section were evaluated relative to the requirements presented in **Section 1.1** and reiterated below:

- Performance, reliability, ease of implementation and potential impacts of appropriate potential remedies, including safety impacts, cross-media impacts, and control of exposure to any residual contamination;
- Time required to begin and complete the CAP; and
- Institutional requirements, such as State or local permit requirement or other environmental or public health requirements that may substantially affect implementation of the CAP.

Table 5-1 presents the qualitative CMA evaluation of each corrective technology relative to these requirements, as well as their ability to address boron and sulfate GWPS exceedances. The following sections provide a summary of these evaluations and a discussion of the potential groundwater corrective measure technologies that may be viable, either independently or in combination, to address GWPS exceedances. This section also provides a summary of corrective measure technologies that have been retained and advanced for evaluation as part of the CAAA process for selecting the final remedy for the FAPS per 35 I.A.C. § 845.670.

5.2 Groundwater Corrective Technology Assessment

Source control, consisting of CIP and capping with a final cover system, is the primary groundwater corrective measure for the FAPS and was completed in 2020. Each of the potential groundwater corrective measure technologies would supplement the positive impact of prior closure activities. The following sections evaluate groundwater corrective measure technologies that, when combined with the completed source control, may be viable to address the boron and sulfate GWPS exceedances. Technologies that are not viable for addressing exceedances of GWPS at the FAPS will be eliminated from further evaluation and viable technologies will be advanced for further evaluation as part of the CAAA process per 35 I.A.C. § 845.600.

5.2.1 Source Control with Groundwater Polishing

Completed source control corrective measures (**Section 1.1**) have reduced the mass loading to the groundwater system. Performance of groundwater polishing, which may be currently ongoing at the site, may be limited in the low permeability UU. The time estimated for plume contraction at the FAPS is relatively long, based on previous groundwater modeling (NRT, 2014a; NRT, 2014b). Groundwater polishing may not significantly reduce the time required to attain the GWPS in either the UA or the overlying UU/PMP due to the low permeability of both these hydrostratigraphic units.

Groundwater polishing by natural geochemical processes is a widely accepted component of groundwater remediation and is routinely approved by the USEPA when paired with source

control. The performance of groundwater polishing as a groundwater corrective measure varies based on site-specific conditions and additional data collection may be needed to support the design and achieve regulatory approval. The low permeability of the UU and bedrock UA suggests performance by physical processes may be limited in addressing the boron in the UA. The chemical processes in the fine-grained UU require further evaluation.

Naturally occurring geochemical process are currently ongoing at the post-closure FAPS and will continue to affect post-closure groundwater constituent concentrations. Ongoing monitoring of groundwater conditions is needed to better understand the mechanisms and efficacy of the groundwater polishing process and to confirm the effectiveness over time. Thus, additional groundwater sample collection and analyses would be required to characterize potential mechanisms, as discussed above, and to provide long term monitoring of the remedial progress. Enhancements to the groundwater monitoring system may be required to ensure that groundwater polishing is occurring as predicted, consistent with the adaptive site management approach. The reliability of groundwater polishing as a groundwater corrective measure is high because operation and maintenance requirements are limited. However, the reliability can also vary based on site-specific hydrogeologic and geochemical conditions.

Following characterization and approval of the CAP, monitoring of the groundwater polishing processes and comparison to functional goals established to monitor progress toward the remedial objective could begin as quickly as within a few months of CAP approval.

No potential safety impacts or exposure to human health or environmental receptors are expected to result from implementing the groundwater polishing processes. Timeframes to achieve GWPS are dependent on site-specific conditions, which require detailed technical analysis which are ongoing and will be evaluated in connection with the CAAA. Selecting groundwater polishing as a corrective measure for the FAPS will require CAP permit by the IEPA.

Monitoring the groundwater polishing to track progress toward achievement of the GWPS, in conjunction with source control at the FAPS, would require long-term maintenance and monitoring of the groundwater monitoring system to confirm source control and verify the effectiveness in reducing groundwater concentrations to levels below the GWPS. Monitoring activities could be initiated immediately after approval of the CAP permit.

Groundwater polishing processes will continue to occur naturally at the FAPS. It may be a viable corrective measure for the boron and sulfate exceedances at the FAPS. Therefore, it is being advanced to the CAAA for further evaluation.

5.2.2 Source Control with Groundwater Extraction

Source control will reduce the mass loading to the groundwater system and implementing a groundwater extraction system may reduce the time required to attain the GWPS in the UA and reduce the potential for off-site migration. However, the groundwater impacts already present in the low permeability UU may limit the reduction in time to attain the GWPS that can be achieved by a groundwater extraction system. A groundwater collection trench may be feasible to mitigate potential plume migration to the south and west.

Groundwater extraction is a widely accepted corrective measure with a long track record of performance and reliability. It is routinely approved by the IEPA. For a corrective measure using groundwater extraction to effectively control off-site flow and/or to remove potentially

contaminated groundwater, horizontal and vertical capture zone(s) must be created. However, the low permeability UU and UA may restrict the ability to pump at rates high enough to establish the required capture zone(s) or would require a high density of wells. Alternatively, a groundwater collection trench could be utilized. Other means to enhance the effects of groundwater extraction could also be used, such as maintaining lower water levels in the downgradient Tertiary and Secondary Ponds, thereby increasing hydraulic gradients, and potentially accelerating the time to attain GWPS. However, performance of groundwater extraction in the UA may not address CCR constituents in the UU due to the UU's low permeability.

Implementation of a groundwater extraction system presents design challenges due to the hydraulic conditions of the UU and the UA and the plume configuration. Extracted groundwater would need to be managed, which may include modification of the existing NPDES permit and treatment prior to discharge, if necessary. Specialized treatment equipment may be required, and ongoing operations and maintenance activities would be necessary.

There could be some impacts associated with constructing and operating a groundwater extraction system, including some limited exposure to extracted groundwater. Additional data collection and analyses would be required to design an extraction system. Construction could be completed within 1 to 3 years. Time of implementation is approximately 3 to 4 years after approval of the CAP permit, including characterization, design, permitting, and construction. Timeframes to achieve GWPS are dependent on site-specific conditions. An extraction system may reduce the post-closure time to attain GWPS in the UA. However, accelerated attainment of the GWPS is expected to be limited in the UU. The model-predicted times to achieve the GWPS in the UU, potentially hundreds of years, may result in a correspondingly long operations and maintenance program for any groundwater extraction system.

Implementing a groundwater extraction system at the FAPS would require IEPA approval of the CAP permit, and discharge of extracted groundwater would require a modification to the NPDES permit. Depending upon the location of the extraction system, an Illinois Department of Natural Resources (IDNR) dam safety modification permit may also be required to construct the system.

The viability of groundwater extraction in combination with other corrective measure(s) will be further evaluated as part of the CAAA, potentially using groundwater fate and transport modeling. Therefore, the groundwater extraction is being advanced to the CAAA for further evaluation.

5.2.3 Source Control with Groundwater Cutoff Wall

Source control will reduce the mass loading to the groundwater system and implementing additional groundwater corrective measures may reduce the time required to attain the GWPS in the UA. However, the groundwater impacts already present in the low permeability UU may limit the reduction in time to attain the GWPS. Groundwater cutoff walls are a widely accepted corrective measure used to control and/or isolate impacted groundwater and are routinely approved by the IEPA. Cutoff walls have a long history of reliable performance as hydraulic barriers, provided they are properly designed and constructed. However, if not coupled with a groundwater extraction system, a cutoff wall will provide directional groundwater control only and may result in redistribution of contaminants and potentially GWPS exceedances at new locations.

The effectiveness of a cutoff wall as a hydraulic barrier relies on the contrast between the hydraulic conductivity of the native geologic materials (*i.e.,* the UU and/or UA) and the cutoff wall. The most effective barriers have hydraulic conductivity values that are several orders of magnitude lower than the geologic materials they are in contact with. The effectiveness of a cutoff wall, typically designed with hydraulic conductivity of 1×10^{-7} centimeters per second (cm/s), constructed in the low permeability UU and/or UA, would be limited. Construction of a cutoff wall extending into the bedrock UA would likely require specialized equipment and may prove difficult, potentially requiring several years of continuous construction.

Cutoff walls are designed to act as hydraulic barriers; as a result, cutoff walls inherently alter the existing groundwater flow system. Changes to the existing groundwater flow system may need to be controlled to maximize the effectiveness of the remedy by, for example, combining a cutoff wall with groundwater extraction to control build-up of hydraulic head upgradient and around the cutoff walls. Additional data collection and analyses would be required to design a cutoff wall. Construction of only the cutoff wall could be completed within 2 to 3 years. Constructing a cutoff wall at the FAPS would require IEPA approval of the CAP permit and, depending on the location, an IDNR dam safety modification permit may be required.

To attain GWPS, cutoff walls require a separate groundwater corrective measure to operate in concert with the cutoff wall(s). A cutoff wall at the FAPS alone would not be a viable corrective measure for the boron and sulfate exceedances. Cutoff walls are commonly coupled with groundwater polishing and/or groundwater extraction, possibly with treatment of extracted groundwater, to attain GWPS. Use of a cutoff wall coupled with groundwater extraction/treatment to supplement the ongoing groundwater polishing may provide improvement over source control in accelerating the time to attain GWPS. Time of implementation for the cutoff wall, hydraulic head control (*i.e.,* groundwater extraction), and any necessary treatment is approximately 5 to 8 years, including characterization, design, permitting, and construction. The viability of a cutoff wall in combination of other corrective measure(s) will be further evaluated as part of the CAAA, potentially using groundwater fate and transport modeling. Therefore, the cutoff wall is being advanced to the CAAA for further evaluation.

5.2.4 Source Control with In-Situ Chemical Treatment

Source control will reduce the mass loading to the groundwater system and implementing additional groundwater corrective measures may reduce the time required to attain the GWPS in the UA. Use of in-situ treatment, either through targeted injection of reactive media or in PRB systems, to transform contaminants into environmentally acceptable forms to attain the GWPS was considered.

In-situ treatment using ion exchange to address boron and sulfate exceedances in groundwater is not an established or widely accepted groundwater corrective measure; therefore, its performance and reliability are unknown. Regulatory acceptance of this innovative approach to achieving the GWPS is uncertain.

In-situ treatment presents design and construction challenges, including targeted reactive media delivery via injection to the UU and/or UA. Construction of a PRB system would have the same limitations as a cutoff wall due to the similarity between the low hydraulic conductivity of the PRB and the UU. Injection or a PRB may not be feasible in the bedrock UA. Depending upon the

location of the PRB system, construction may affect the FAPS embankment and/or final cover system and periodic change-outs of ion exchange (IX) resin media may be required.

Additional data collection and analyses would be required to design an in-situ treatment system and bench scale and/or pilot scale testing may be required to demonstrate performance and reliability. Time of implementation is approximately 4 to 6 years after approval of the CAP permit, including characterization, design, permitting, and construction. Timeframes to achieve GWPS are dependent on demonstrations of performance and reliability along with regulatory acceptance. It is not known whether in-situ treatment would reduce the time to attain GWPS in the UA relative to the expected long post-closure timeframe predicted by the groundwater modeling.

Due to the uncertain performance, reliability and potential for regulatory hurdles, in-situ chemical treatment is not a viable corrective measure for the boron and sulfate exceedances at the FAPS and is not being advanced to the CAAA for further evaluation.

5.3 Technologies Advanced to CAAA

Based on the evaluations presented above, the following potential corrective technologies are being advanced to the CAAA for more detailed evaluations, individually or in combination, and cost estimation:

- Source control with groundwater polishing;
- Source control with groundwater extraction; and
- Source control with a groundwater cutoff wall.

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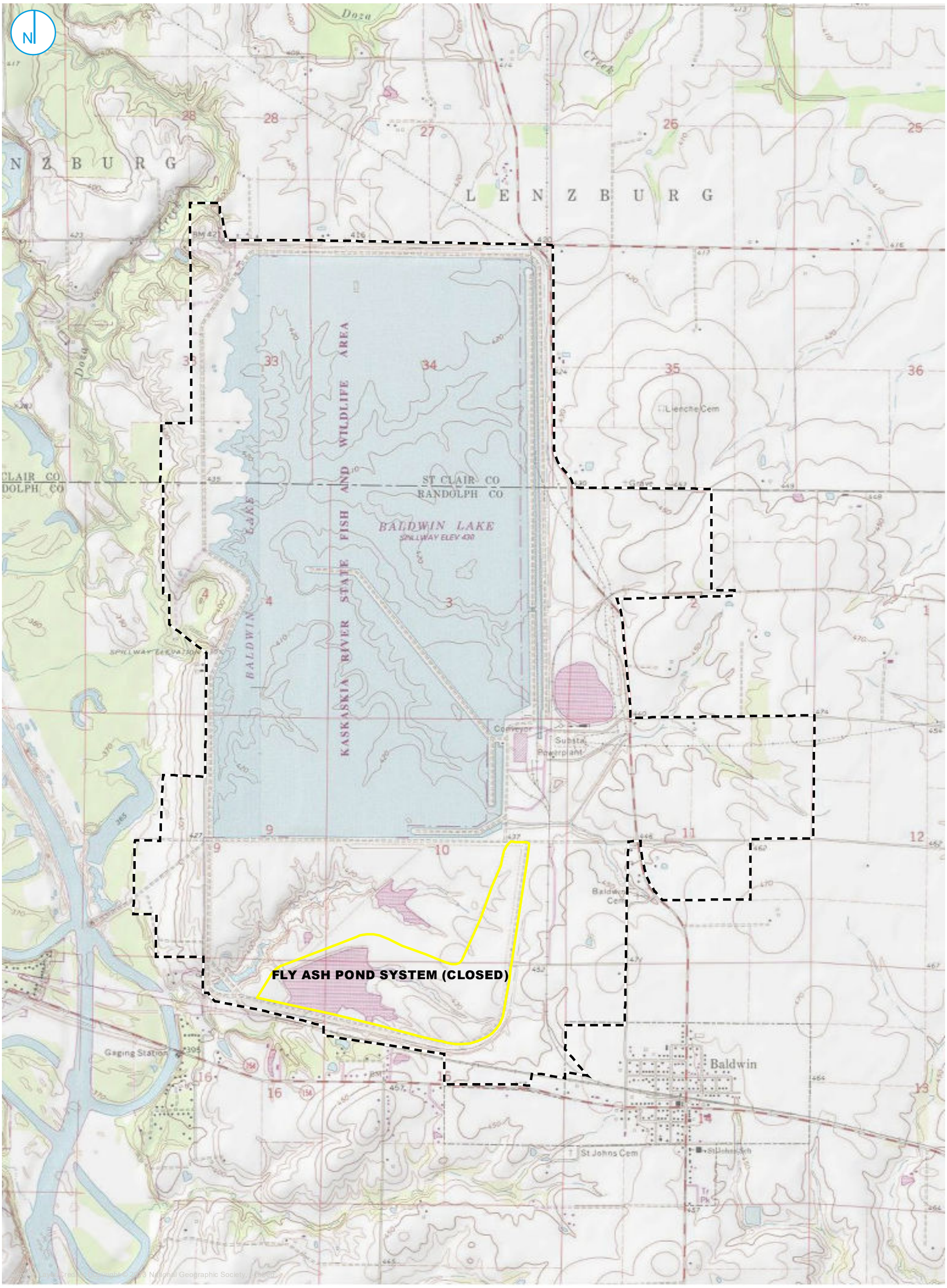
TABLES

TABLE 5-1.
35 I.A.C. PART 845 CORRECTIVE MEASURES ASSESSMENT MATRIX
FLY ASH POND SYSTEM
BALDWIN POWER PLANT
BALDWIN, ILLINOIS

Remedy	Evaluation Factors						
	Performance	**Reliability**	**Ease of Implementation**	**Potential Impacts of Remedy (safety impacts, cross-media impacts, control of exposure to any residual contamination)**	**Time Required to Begin and Implement Remedy[1]**	**Time to Attain Groundwater Protection Standards**	**Institutional Requirements (state/local permit requirements, environmental/public health requirements that affect implementation of remedy)**
Source Control with Groundwater Polishing	Performs best paired with source control, which was completed at the site using a clay cap in 2020. Sequential extraction data will be obtained as part of the ongoing evaluation. Limited potential for physical processes in the low permeability uppermost aquifer (UA).	Ongoing analysis will evaluate whether the geochemical mechanisms have low reversibility, the aquifer has sufficient capacity, and the hydrogeology is favorable for physical processes.	Evaluation is underway and is expected to be completed in 2024. Long-term monitoring would be required. Implementing would not require extensive specialized equipment or contractors.	None identified.	Approximately 90 days after Corrective Action Plan (CAP) permit approval.	Dependent on site-specific conditions including source decay rate. Attainment of groundwater protection standards (GWPS) will be limited by the low permeability UU and bedrock UA. Hence timeframes for groundwater polishing and other measures may be similar.	Illinois Environmental Protection Agency (IEPA) approval of the CAP is required.
Source Control with Groundwater Extraction	Widely accepted, routinely approved; variable performance based on site-specific conditions. May be limited by low permeability upper unit (UU) and bedrock UA. A groundwater collection trench may be feasible to mitigate plume migration near the southern site boundary.	Reliable if properly designed, constructed, and maintained. Groundwater treatment prior to discharge can be considered if indicated by performance monitoring.	Specialized contractors may be necessary for construction of the groundwater extraction system. Design challenges due to hydraulic conditions of UU and bedrock UA and the plume configuration. Extracted groundwater would require management. Groundwater treatment, if needed, may require specialized equipment/contractors.	Alters groundwater flow system. Potential for some limited exposure to extracted groundwater. Groundwater extraction may induce settlement, which could cause structural impacts to the embankments, existing final cover system, and/or adjacent structures.	Design, permitting and construction is expected to take 3 to 4 years after CAP permit approval.	Dependent on site-specific conditions. Attainment of GWPS will be limited by the low permeability UU and bedrock UA.	IEPA approval of the CAP is required. Extracted groundwater discharge may require a National Pollution Discharge Elimination System (NPDES) permit modification. A Illinois Department of Natural Resources (IDNR) dam safety modification permit might also be required, depending on location of wells and settlement potential. Cutoff wall may also require an evaluation and/or permitting of wetlands and/or Waters of the US impacts, if determined to be necessary.
Source Control with Groundwater Cutoff Wall	Widely accepted, routinely approved, good performance if properly designed and constructed, however may not be feasible for the UU and bedrock UA.	Reliable for groundwater flow directional control if properly designed and constructed.	Widely used, established technology. If feasible to construct a cutoff wall in the bedrock of the UA, construction would likely require specialized equipment and delay implementation (compared to groundwater extraction only).	Alters groundwater flow system but does not provide any treatment. Can result in unintended consequences resulting from redirecting contaminants to areas where they are not currently present. May cause structural impacts to the embankment or existing final cover system, depending on the location of the wall.	Design, permitting and construction are expected to take 5 to 8 years after CAP permit approval.	Provides groundwater directional control only. Combination with another groundwater corrective measure, such as groundwater extraction or a permeable reactive barrier, would reduce time to achieve and maintain GWPS.	IEPA approval of the CAP is required. An IDNR dam safety permit may also be required depending on the location of the cutoff wall. Cutoff wall may also require an evaluation and/or permitting of wetlands and/or Waters of the US impacts, if determined to be necessary.
Source Control with In-Situ Treatment (Permeable Reactive Barrier or In-situ Chemical Treatment)	In-Situ treatment using ion exchange (IX) resins not well established for boron or sulfate, therefore performance is unknown.	Variable reliability based on site-specific physical and geochemical conditions. May not be feasible in bedrock UA. Unknown reliability for boron and sulfate.	Design challenges associated with groundwater hydraulics. May not be feasible in bedrock UA. Could require periodic change-outs of IX resin media.	Alters groundwater flow system. PRB may cause structural impacts to the embankment dike or existing final cover system, depending on the location of the barrier.	May require bench scale and/or pilot scale testing as part of design. Design, permitting and construction are expected to take 7 to 8 years after CAP approval.	There is uncertainty regarding whether a permeable reactive barrier would reduce sulfate and boron concentrations to achieve the GWPS. Dependent on conditions specific to the reactive media used and the site. Treatment technology not well understood. GWPS attainment will be limited by low permeability bedrock UA.	IEPA approval of the CAP permit is required. IEPA approval of this innovative and relatively unproven solution may be challenging. A IDNR dam safety permit modification may also be required, depending on the location of the permaeable reaction barrier (PRB). PRB may also require an evaluation and/or permitting of wetlands and/or waters of the US impacts, if determined to be necessary.

Notes: [1] Time required to begin and implement remedy includes design, permitting and construction.

FIGURES



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REGULATED UNIT (SUBJECT UNIT)
PROPERTY BOUNDARY

SITE LOCATION MAP

FIGURE 2-1

35 I.A.C. § 845 CORRECTIVE MEASURES ASSESSMENT
FLY ASH POND SYSTEM
BALDWIN POWER PLANT
BALDWIN, ILLINOIS

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

Y:\Mapping\Projects\222285BaldwinMXD\GMP_Addendum\FAPS\Figure 1-2_Site Map.mxd

PROJECT: 169000XXXX | DATED: 10/15/2021 | DESIGNER: HOTCALD

REGULATED UNIT (SUBJECT UNIT) FLY ASH POND SYSTEM (CLOSED)

SITE FEATURE
LIMITS OF FINAL COVER
PROPERTY BOUNDARY

0 400 800 Feet

SITE MAP

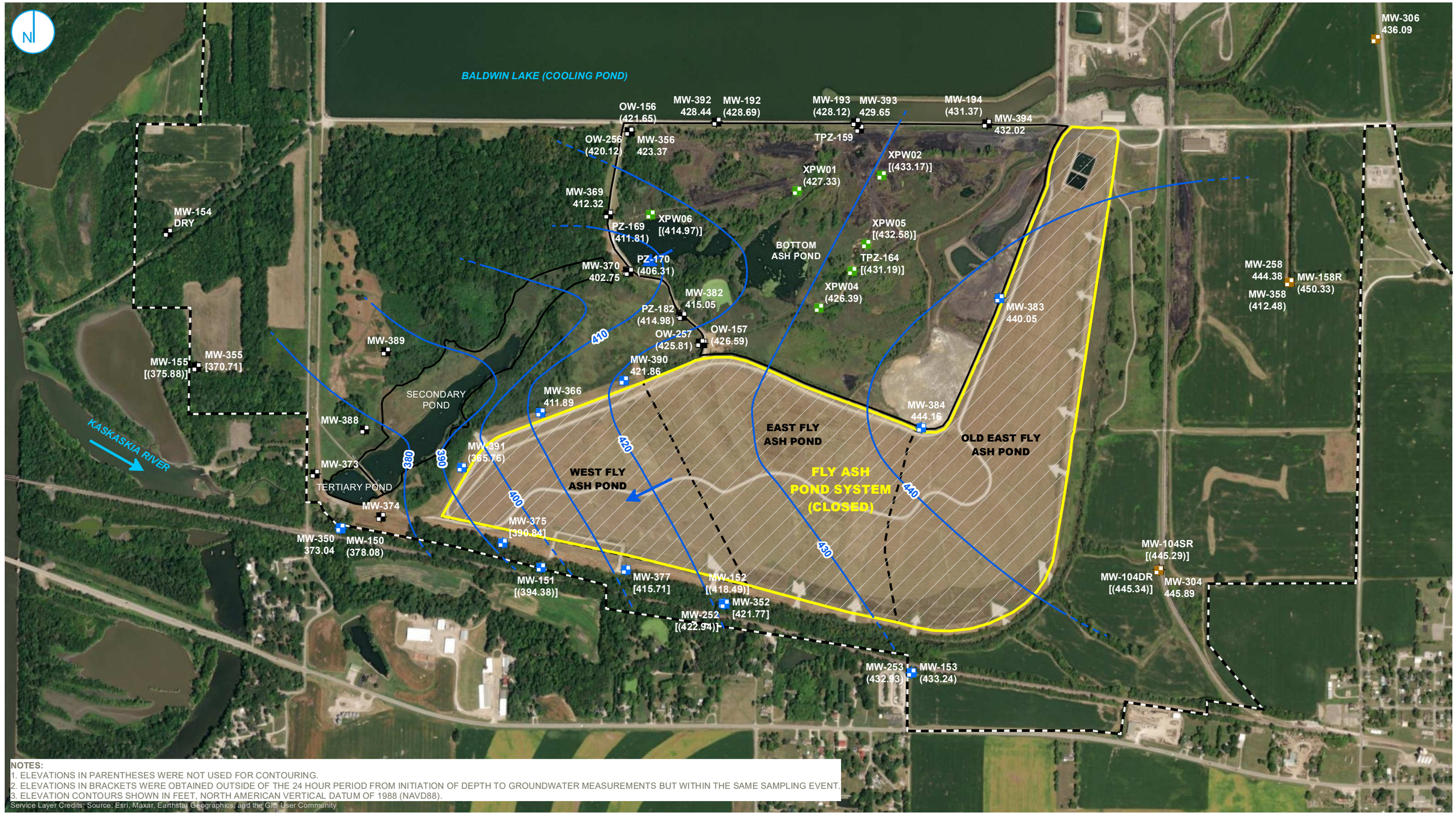
35 I.A.C. § 845 CORRECTIVE MEASURES ASSESSMENT
FLY ASH POND SYSTEM

BALDWIN POWER PLANT
BALDWIN, ILLINOIS

FIGURE 2-2

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL



NOTES:
1. ELEVATIONS IN PARENTHESES WERE NOT USED FOR CONTOURING.
2. ELEVATIONS IN BRACKETS WERE OBTAINED OUTSIDE OF THE 24 HOUR PERIOD FROM INITIATION OF DEPTH TO GROUNDWATER MEASUREMENTS BUT WITHIN THE SAME SAMPLING EVENT.
3. ELEVATION CONTOURS SHOWN IN FEET, NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

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- COMPLIANCE MONITORING WELL
- BACKGROUND MONITORING WELL
- MONITORING WELL
- PORE WATER WELL
- GROUNDWATER ELEVATION CONTOUR (10-FT CONTOUR INTERVAL, NAVD88)
- INFERRED GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER FLOW DIRECTION
- REGULATED UNIT (SUBJECT UNIT)
- SITE FEATURE
- CAPPED AREA
- PROPERTY BOUNDARY

0 400 800 Feet

POTENTIOMETRIC SURFACE MAP
MAY 15-17, 2023

2023 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

FLY ASH POND SYSTEM
BALDWIN POWER PLANT
BALDWIN, ILLINOIS

FIGURE 2-3

RAMBOLL AMERICAS
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PROJECT: 169000XXXX | DATED: 10/31/2023 | DESIGNER: GALARNMC

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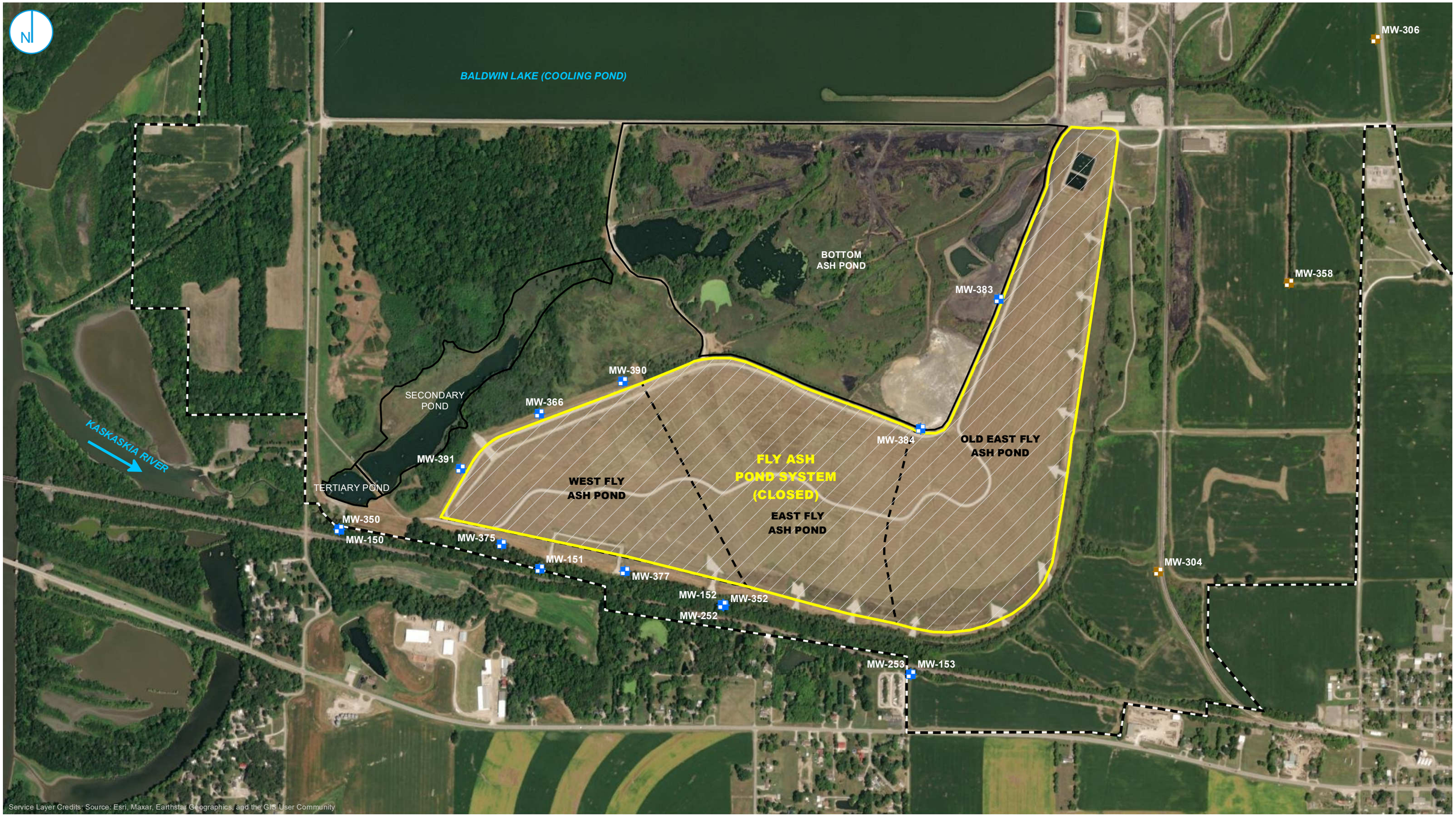
Y:\Mapping\Projects\22\2285\MXD\845_Operating_Permit\BaldwinFAPS\GMP\Figure 2-2_BAL FAPS Expanded Monitoring Well Network.mxd
PROJECT: 169000XXXX | DATED: 7/31/2023 | DESIGNER: GALARNMC



BACKGROUND MONITORING WELL
COMPLIANCE MONITORING WELL
REGULATED UNIT (SUBJECT UNIT) SITE
FEATURE
CAPPED AREA
PROPERTY BOUNDARY

0 400 800 Feet

MONITORING WELL LOCATION MAP

35 I.A.C. § 845 CORRECTIVE MEASURES ASSESSMENT
FLY ASH POND SYSTEM
BALDWIN POWER PLANT
BALDWIN, ILLINOIS

FIGURE 2-4

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

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Intended for
Dynegy Midwest Generation, LLC
10901 Baldwin Road
Baldwin, IL 62217

Date
April 24, 2024

Project No.
1940103584-001

NATURE AND EXTENT REPORT

BALDWIN POWER PLANT, FLY ASH POND SYSTEM, IEPA ID NO. W1578510001-01, W1578510001-02, AND W1578510001-03

RAMBOLL Bright ideas. Sustainable change.

NATURE AND EXTENT REPORT
BALDWIN POWER PLANT, FLY ASH POND SYSTEM, IEPA ID NO. W1578510001-01, W1578510001-02, AND W1578510001-03

Project name	**Baldwin Power Plant Fly Ash Pond System**
Project no.	**1940103584-001**
Recipient	**Dynegy Midwest Generation, LLC**
Document type	**Nature and Extent Report**
Revision	**FINAL**
Date	**April 24, 2024**
Prepared by	**Nathaniel Keller and Alison O'Connor**
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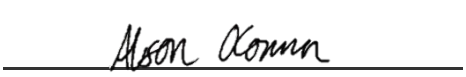

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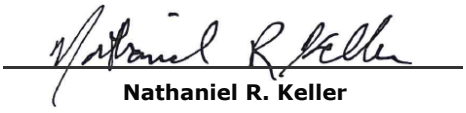

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APPENDICES

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ACRONYMS AND ABBREVIATIONS

35 I.A.C.	Title 35 of the Illinois Administrative Code
ASD	Alternative Source Demonstration
BPP	Baldwin Power Plant
CCR	coal combustion residuals
Closure Plan	Closure and Post-Closure Care Plan for the Baldwin Fly Ash Pond System
CMA	Corrective Measures Assessment
cm/s	centimeters per second
CSM	conceptual site model
E001	Event 1
E002	Event 2
E003	Event 3
FAPS	Fly Ash Pond System
GCSM	geochemical conceptual site model
GWPS	groundwater protection standard
IEPA	Illinois Environmental Protection Agency
LCL	lower confidence limit
mg/L	milligrams per liter
NAVD88	North American Vertical Datum 1988
PMP	potential migration pathway
SI	surface impoundment
UA	uppermost aquifer
UU	Upper Unit
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey

EXECUTIVE SUMMARY

Groundwater samples collected at the Baldwin Power Plant (BPP) Fly Ash Pond System (FAPS) during May 2023 for the Quarter 2, 2023 compliance sampling event (Event 1 [E001]) were evaluated for exceedances of the groundwater protection standards (GWPS) described in Title 35 of the Illinois Administrative Code (35 I.A.C.) § 845.600. Exceedances were identified in the following hydrostratigraphic units and wells:

- Detected Upper Unit (UU) and Potential Migration Pathway (PMP) Exceedances:
  - Boron and sulfate at MW-150
- Detected Uppermost Aquifer (UA) (Bedrock Unit) Exceedances:
  - Boron at MW-391

As a result of the identified E001 exceedances, a Corrective Measures Assessment (CMA) was initiated on November 26, 2023 in accordance with 35 I.A.C. § 845.660 and was submitted April 24, 2024 [1]. The subsequent compliance sampling events for the Quarter 3 and Quarter 4 2023 sampling events (Event 2 [E002] and Event 3 [E003]) were completed in August and November 2023 and groundwater samples were evaluated for exceedances of the GWPS as described in 35 I.A.C. § 845.600. In addition to the exceedances listed above, the following exceedances were identified in the following hydrostratigraphic units and wells during the E002 Event:

- Detected UU and PMP Exceedances:
  - Boron at MW-152
  - pH at MW-253

Exceedances identified during the E003 event were consistent with those listed above.

An alternative source demonstration (ASD) was completed for the pH exceedance at well MW-253 and received concurrence in a letter from the Illinois Environmental Protection Agency (IEPA) dated March 7, 2024 [2]. Therefore, the pH exceedance at well MW-253 was not incorporated into the CMA per 35 I.A.C. § 845.650(e)(3). The remaining E002 exceedance (boron at MW-152) was evaluated with respect to the groundwater model, feasible alternatives, and remedy extents and was determined to not substantially affect the findings and conclusions of the previously initiated CMA evaluations and has therefore been incorporated into the CMA and this report.

As required by 35 I.A.C. § 845.650(d)(1) this report characterizes the nature and extent of boron and sulfate to support a complete and accurate assessment of the corrective measures. The report also evaluates relevant site conditions to determine how they may affect the corrective measures ultimately selected for the FAPS and documents the additional measures taken in accordance with 35 I.A.C. § 845.650(d).

Boron was detected above the GWPS within two hydrostratigraphic units: the shallow UU and in the deeper UA. The lateral and downgradient extent of boron in the UU is being further evaluated but is adequately defined by sampling of historical piezometers as well as results from the Kaskaskia River [3]. The vertical migration of boron concentrations above the GWPS in the UU is limited by low hydraulic conductivity clay and silt of the UU and the underlying shale bedrock. Samples from deeper nested monitoring wells, which have reported no exceedances following comparison of the lower confidence limits (LCLs) to the GWPSs described in 35 I.A.C. § 845.600

provide evidence that boron impacts are not migrating downward. The lateral and downgradient extent of boron in the UA is limited by the Secondary Pond directly adjacent to MW-391 to the west and along with groundwater quality data from monitoring wells in the UA that did not report exceedances following comparison of LCLs to the GWPSs described in 35 I.A.C. § 845.600. Samples collected from the Secondary and Tertiary Ponds, as well as the Kaskaskia River indicate all boron concentrations in surface water are below 1.2 milligrams per liter (mg/L) [3].

Sulfate was detected above the GWPS within the UU at a single location. The lateral and downgradient extent of sulfate in the UU is being further evaluated but is adequately defined by sampling of historical piezometers as well as results from the Kaskaskia River [3]. The vertical migration of sulfate in the UU is limited by low hydraulic conductivities of the UU and underlying shale bedrock and supported by the results of nested monitoring well MW-350 which has reported no exceedances following comparison to the GWPSs described in 35 I.A.C. § 845.600. Samples collected from the Secondary and Tertiary Ponds as well as the Kaskaskia River indicate all sulfate concentrations in surface water are below 200 mg/L [3].

1. INTRODUCTION

35 I.A.C. § 845.650(d)(1) requires the owner or operator of a coal combustion residuals (CCR) surface impoundment (SI) to characterize the nature and extent of a release and relevant site conditions that may affect the remedy ultimately selected for a CCR SI if any constituent regulated under 35 I.A.C. § 845 is found to exceed the GWPS. This report documents the nature and extent of constituents detected above the GWPS that are attributable to the BPP FAPS.

The groundwater data and analysis in this report includes results from historical sampling (initiated in 2015) through E003, which was completed on November 3, 2023. Results of events E001, E002, and E003 were submitted and placed in the facility's operating record within 60 days of receiving final laboratory analytical data [4, 5, 6] as required by 35 I.A.C. § 845.800(d)(15). The statistical determination presented in the report identified the following exceedances of the GWPS at compliance groundwater wells in the following hydrostratigraphic units:

- Detected UU and PMP Exceedances:
  - Boron at MW-150 and MW-152
  - pH at MW-253
  - Sulfate at MW-150
- Detected UA (Bedrock Unit) Exceedances:
  - Boron at MW-391

An ASD, as allowed by 35 I.A.C. § 845.650(e), was completed for the pH exceedance at UA monitoring well MW-253 [2] and received concurrence in a letter from the IEPA dated March 7, 2024 [7].

This Nature and Extent Report discusses in detail the extent of the boron and sulfate exceedances as well as a geochemical conceptual site model (GCSM) describing the nature of these exceedances.

2. BACKGROUND

2.1 Site Location and Description

The BPP is located in southwest Illinois in Randolph and St. Clair Counties. The Randolph County portion of the BPP is located within Sections 2, 3, 4, 9, 10, 11, 14, 15, and 16 of Township 4 South and Range 7 West. The St. Clair County portion of the property is located within Sections 33, 34, and 35 of Township 3 South and Range 7 West. The FAPS is approximately one-half mile west-northwest of the Village of Baldwin (**Figure 2-1**).

The BPP property is bordered to the west by the Kaskaskia River; to the east by Baldwin Road, farmland, and strip-mining areas; to the southeast by the village of Baldwin; to the south by the Illinois Central Gulf railroad tracks, scattered residences, and State Route 154; and to the north by farmland. The St. Clair/Randolph County Line crosses east-west at approximately the midpoint of Baldwin Lake (*i.e.,* Cooling Pond). **Figure 2-1** shows the location of the BPP; **Figure 2-2** is a site map showing the location of the FAPS, Bottom Ash Pond (BAP), Secondary Pond, Tertiary Pond, and Cooling Pond. The combined area, including the BAP, FAPS, Secondary Pond, and Tertiary Pond, will hereinafter be referred to as the Site.

2.2 Description of CCR SI

The BPP began operation in 1970 and initially burned bituminous coal from Illinois, switching to subbituminous coal in 1999. The FAPS is a closed Multi-Unit CCR SI consisting of three unlined SIs: Old East Fly Ash Pond (IEPA Unit ID W1578510001-01), East Fly Ash Pond (IEPA Unit ID W1578510001-02), and West Fly Ash Pond (IEPA Unit ID W1578510001-03), with a combined surface area of approximately 263 acres. The external perimeter of the three subunits within the FAPS was originally constructed in 1969. The Old East Fly Ash Pond and East Fly Ash Pond were used to store and dispose of fly ash from the BPP, while the West Fly Ash Pond was used to store and dispose of dry-stacked fly ash and to clarify CCR contact stormwater [8].

AECOM submitted the Closure and Post-Closure Care Plan for the Baldwin Fly Ash Pond System (Closure Plan) dated March 2016 to the IEPA, and it was approved on August 16, 2016 [9]. The Closure Plan included the Groundwater Monitoring Plan [10] which defined groundwater monitoring for the FAPS following approval of the Closure Plan. Dewatering of the FAPS was initiated in 2018 and closure of the FAPS was completed on November 17, 2020, as documented in the Notification of Completion of Closure [11].

The CCR unit consists primarily of fly ash, bottom ash, and boiler slag and may be present from the pre-closure surface (ranging from approximately 418 to 466 feet[1]) to a minimum elevation of approximately 401 feet along a historic drainage feature that runs approximately through the center of the FAPS (**Figure 2-3**). The unit is encompassed by earthen fill deposits of predominantly clay and silt materials from on-site excavations that were used to construct berms and roads surrounding the various impoundments across the Site.

2.3 Geology and Hydrogeology

The information used to describe the hydrogeology is based on the local geology obtained from published sources, hydrogeologic investigation data, and boring data collected from Site

[1] All elevations in this report are referenced to North American Vertical Datum of 1988 (NAVD88) unless otherwise noted.

investigations conducted from 2010 to 2023 [12, 10, 13]. Note that information collected from the adjacent BAP is incorporated into this document where appropriate because it is representative of the Site conditions.

2.3.1 Hydrostratigraphic Units

In addition to CCR, materials at the BPP have been categorized into two hydrostratigraphic units at the FAPS based on stratigraphic relationships, geologic composition, and common hydrogeologic properties. The units, listed from surface downward, are summarized as follows:

- **UU:** Predominantly clay with some silt and minor sand, silt layers, and occasional sand lenses. Includes the lithologic layers identified as the Cahokia Alluvium, Peoria Loess, Equality Formation, and Vandalia Till Member. This unit is composed of unlithified natural geologic materials present above the top of bedrock, ranging in thickness at the Site between 17 and 56 feet. Thin sand seams within the unit and the interface (contact) between the UU and bedrock have been identified as potential migration pathways. No continuous sand seams were observed within or immediately adjacent to the FAPS; however, the sand seams on Site may act as a PMP due to relatively higher hydraulic conductivities. The acronym UU and the materials it contains is synonymous with Upper Groundwater Unit used in previous documents.
- **Bedrock Unit:** This unit is considered the UA. Pennsylvanian and Mississippian-aged bedrock is composed of interbedded shale and limestone bedrock, which underlies and is continuous across the entire Site (**Appendix A**). Review of regional literature [14] indicates that three formations are present at the bedrock surface onsite including (from youngest [eastern portions of site] to oldest [western portion of the site]): Menard Formation; Waltersburg, Vienna, and Tar Springs Formation; and Glen Dean and Hardinsburg Formation. In many of the boring logs from the Site [12], the bedrock is described as highly weathered.

2.3.2 Uppermost Aquifer

Off-site, immediately upgradient and downgradient of the BPP property boundaries, both the shallow glacial deposits and the shallow bedrock have served as a source of water supply [12]. The shallow unlithified deposits off-Site have yielded water through intermittent, discontinuous sand lenses and, in the bedrock, through fractured sandstone and limestone. In general, within the boundaries of the Site, the UU (shallow unlithified deposits) consists of low permeability clays and silts. Within the UU, only thin and intermittent sand lenses are present within predominantly clay deposits; thus, the unlithified materials do not represent a continuous aquifer unit (**Figure 2-4**). Thin, non-continuous sandy deposits (*i.e.,* PMPs) that exist across the Site do not appear to extend to the FAPS as evidenced by soil borings adjacent to the CCR unit in which no sand was observed.

Based on the above, the Bedrock Unit is the only viable aquifer in the vicinity of the Site and was designated as the UA in the Supplemental Hydrogeologic Site Characterization and Groundwater Monitoring Plan [10], consistent with the USEPA definition in Title 40 of the Code of Federal Regulations § 257.53 [15].

The UA at the Site is the shallow Pennsylvanian and Mississippian -aged bedrock that immediately underlies the unlithified deposits. The top of the UA (bedrock surface) is provided in **Figure 2-5**. Based on the geologic information, the top of the aquifer is highest in elevation near the eastern portion of the Old East Fly Ash Pond, with an elevation of approximately 415 feet,

and slopes downward to the west and south to approximately 380 feet near MW-352 and MW-375. The shallow bedrock yields water through interconnected secondary porosity features (*e.g.,* cracks, fractures, crevices, joints, bedding planes, and other secondary openings). The shallow bedrock is the only water-bearing unit that is continuous across the Site. Groundwater in the Pennsylvanian and Mississippian-aged bedrock mainly occurs under semi-confined to confined conditions, with the overlying unlithified unit behaving as the upper confining unit to the UA.

Water quality in the UA (*i.e.,* Pennsylvanian and Mississippian-aged bedrock) decreases with increasing depth as water becomes increasingly mineralized [16]. Further, the ability of the unit to store and transmit water is dependent on the density of bedrock features that contribute to secondary porosities and whether those features are interconnected enough to yield water. Therefore, the lower limit of the UA is the depth at which either the groundwater is mineralized to a point that it is no longer a useable water source, or the secondary porosities do not yield a sufficient volume of groundwater to produce a useable water supply.

2.3.3 Potential Migration Pathways

Thin, non-continuous sandy deposits (*i.e.,* PMPs) appear disseminated across the Site and range from a single locally continuous unsaturated sand seam up to 7.9 feet in thickness to isolated, discontinuous thin seams of 0.2 to 1 feet in thickness. Two overlapping sand seams that appear to be continuous between adjacent borings occur to the west of the Secondary Pond (**Figure 2-4**) and are vertically separated by at least 6 feet of clay. The shallower sand seam, at elevations between 395 to 403 feet NAVD88, is not saturated. In addition to these sand seams identified adjacent to the BAP, the contacts between the unlithified material and bedrock have been identified as a PMP, where horizontal hydraulic conductivity data in Site monitoring wells with screens and/or filter packs across or immediately above the bedrock are higher than the surrounding clays [12].

2.3.4 Regional Bedrock Geology

Bedrock within the vicinity of the BPP varies depending on proximity relative to the Kaskaskia River [17, 18, 19]. Underlying the BPP Site and Cooling Pond and the Kaskaskia River Bottomlands are Pennsylvanian and Mississippian bedrock, which primarily consists of limestone and shale with some sandstone. Bedrock generally occurs within 50 feet of the ground surface; with the uppermost Mississippian bedrock being the Menard Formation (up to 60 feet thick), Tar Springs, Vienna, and Waltersburg units (up to approximately 90 feet thick) and Glen Dean and Hardinsburg Formation which is up to 100 feet thick. These formations consist of variable amounts of shale, mudstone, limestone, and siltstone with minor amounts of sandstone; the Glen Dean and Hardinsburg Formations predominate under the eastern portion of the Site and Cooling Pond, and the Waltersburg, Vienna, and Tar Springs Formations are located under the eastern half of the FAPS and background locations. Areas to the east of the Site are immediately underlain by the Carbondale Formation, which pinches out towards the west.

2.3.5 Water Table Elevation and Groundwater Flow Direction

Historically elevated heads within the pond resulted in migration of impacted water into the UU and UA. Following closure, heads within the pond were predicted to decline over a period of approximately 2-4 years until they reach equilibrium [20].

As indicated in **Section 2.3.2,** the groundwater in the UA is separated from overlying CCR material by the UU, consisting of low permeability material ranging in thickness from 17 feet east

of the FAPS to 56 feet north and west of the FAPS. Groundwater flow in the UU is generally to the west and southwest across the Site, towards the Kaskaskia River (*i.e.,* regional receiving body) (**Figure 2-6**). Similar to groundwater flow in the shallow unlithified materials, flow direction in the bedrock is generally to the west and southwest across the Site (**Figure 2-7**). In the east and central areas of the BAP, groundwater flow in the bedrock is northwest, and in the east area of the FAPS, flow is both southwest to northwest. As groundwater approaches the bedrock valley feature underlying the Secondary and Tertiary Ponds west of the BAP and FAPS, the flow direction veers toward this bedrock surface low. Groundwater elevations exhibit seasonal variation, generally less than 7 feet per year and maintains generally consistent flow directions. Following the initiation of closure and dewatering, groundwater elevations in monitoring wells along the northwest side of the FAPS (MW-366 and MW-390) began to exhibit seasonal variability, while MW-391 had a significant increase in 2017-2018 during closure dewatering activities before returning to historical levels (**Appendix B**). These wells generally occur along a small bedrock peninsula, where bedrock slopes downward, both to the north and south of these locations. South of the FAPS, groundwater elevations in bedrock monitoring wells (MW-350, MW-352, MW-375, and MW-377) exhibit less seasonal variability and have generally declined following closure (**Appendix B**).

Spatially across the FAPS, groundwater elevations range from 370 feet in the southwestern portion of the Site to 450 feet in the eastern portion of the Site (**Table 2-1**). The piezometric head at locations MW-252 and MW-352 are generally above ground surface throughout the year, and MW-152 tends to be above ground surface during the spring.

2.3.5.1 Vertical Hydraulic Gradients

Vertical hydraulic gradients were calculated based on available groundwater elevation data during the March 2016 to August 2023 monitoring period at nested well pairs both within the unlithified deposits (shallow and deep) and between the unlithified deposits and bedrock. Vertical gradients within the UU vary from strong upward gradients (indicating confining and even artesian conditions) to semi-confined conditions with both upward and downward gradients. Vertical gradients between the bedrock and the UU also vary in direction and strength. Results of the vertical hydraulic gradient observations across the Site are included in **Appendix C** and presented below:

- UU (*i.e.,* PMP) to UA:
  - Gradients calculated between MW-104DR (PMP) and MW-304 (UA) were seasonally variable, consistently upward during winter events and consistently downward across summer events.
  - Gradients calculated between MW-158R (PMP) and MW-258 (UA) were consistently downward across monitored events.
  - Gradients calculated between MW-252 (PMP) and MW-352 (UA) were consistently downwards across monitored events.
  - Gradients calculated between MW-150 (PMP) and MW-350 (UA) were consistently downwards across monitored events.
  - Gradients calculated between MW-155 (PMP) and MW-355 (UA) were mostly downward, with some observations of upward gradients.

- Gradients calculated between PZ-182 (PMP) and MW-382 (UA) were slightly downward across most monitored events, with some observations of upward gradients.

2.3.5.2 Impact of Surface Water Bodies on Groundwater Flow

Baldwin Lake (Cooling Pond) is the largest water body in the vicinity of the BPP. The surface water elevation of Baldwin Lake is maintained at approximately 429 to 430 feet. Potentiometric surface elevations of downgradient/side-gradient wells near Baldwin Lake range from 422 to 430 feet. Groundwater flow in the UA generally flows perpendicular to and away from Baldwin Lake across the BAP and FAPS. The Secondary Pond and Tertiary Pond do not appear to be altering groundwater flow direction in the UU or UA. The primary influence of groundwater flow direction in the UU and UA is flow toward the Kaskaskia River, topographic lows, and localized bedrock topographic lows associated with former drainage features.

2.3.6 Hydraulic Conductivities

2.3.6.1 Field Hydraulic Conductivities

Field hydraulic conductivity tests were conducted at the FAPS by Natural Resource Technology during 2014 investigation activities [21]. The results are summarized in **Table 2-2**, and discussed below:

- **CCR**: No field hydraulic conductivity tests were performed within the CCR.
- **UU**: Field hydraulic conductivity tests conducted in wells screened within the UU (MW-104DR, MW-151, MW-152, MW-156, MW-157, MW-161, TPZ-166, MW-252, MW-253, OW-256, OW-257, and MW-262) ranged from 3.5×10^{-7} to 6.8×10^{-4} centimeters per second (cm/s), with a geometric mean of 3.2×10^{-5} cm/s.
- **UA**: Results of field hydraulic conductivity tests conducted in wells screened within the UA (MW-350, MW-352, and MW-355) ranged from 1.7×10^{-6} to 3.5×10^{-5} cm/s, with a geometric mean of 5.0×10^{-6} cm/s.

2.3.6.2 Laboratory Hydraulic Conductivities

Falling head permeability tests (ASTM D5084 Method F) were performed in the laboratory on samples collected during the 2014 investigations [21]. The results are summarized in **Table 2-3** and discussed below.

- **CCR**: Four samples were collected from CCR borings TPZ-163, TPZ-164, TPZ-167, and TPZ-168. Samples were collected in CCR materials at 1.5 to 3.5, 3.0 to 5.0, 29.0 to 30.0, and 3.0 to 5.0 feet below ground surface (bgs), respectively. Laboratory falling head permeability test results for the four CCR samples indicated a geometric mean vertical hydraulic conductivity of 1.6×10^{-4} cm/s with a range of 9.7×10^{-6} to 6.5×10^{-4} cm/s.
- **UU**: Laboratory falling head permeability results of two samples collected from the Cahokia Formation indicated a geometric mean vertical hydraulic conductivity of 1.6×10^{-6} cm/s and ranged from 7.8×10^{-6} to 3.4×10^{-7} cm/s. One sample was collected from the Equality Formation at boring location TPZ-164. Laboratory falling head permeability test results for this sample of the Equality Formation indicated a vertical hydraulic conductivity of 1.3×10^{-6} cm/s. Laboratory falling head permeability results of five samples collected from the Vandalia till indicated a geometric mean vertical hydraulic conductivity of 6.1×10^{-7} cm/s with a range from 6.3×10^{-9} to 4.2×10^{-4} cm/s.

- **Bedrock**: No laboratory hydraulic conductivity tests were performed on bedrock samples.

2.4 Groundwater Monitoring

The proposed monitoring system for the FAPS at the time the exceedances were reported is shown on **Figure 2-8** and consists of three background monitoring wells (MW-304, MW-306, and MW-358) installed in bedrock, nine compliance wells (MW-350, MW-352, MW-366, MW-375, MW-377, MW-383, MW-384, MW-390, and MW-391) installed in bedrock, and six compliance wells (MW-150, MW-151, MW-152, MW-153, MW-252, and MW-253) installed within the unlithified materials, considered to be the PMP.

2.5 Hydrogeologic Conceptual Site Model

The Hydrogeologic Site Characterization Report [22] and information provided above forms the foundation of the FAPS hydrogeological setting. The FAPS overlies a potential recharge area for the underlying transmissive geologic media, which are composed of unlithified deposits (*i.e.,* low permeability clays of the UU and PMP). Recharge migrates downward, into and through the UU and PMP into the UA. Groundwater may also enter the system through the Cooling Pond, Secondary and Tertiary Ponds, the Kaskaskia River, or the many tributary streams located near the FAPS.

Groundwater in the unlithified areas consistently flows east to west towards the Kaskaskia River, with localized variations towards surficial drainage. Groundwater flow in bedrock is northwest in the east and central areas of the BAP, and southwest to northwest on the east area of the FAPS until groundwater reaches the bedrock valley feature underlying the Secondary and Tertiary Ponds west of the BAP and FAPS, at which point the flow direction veers towards this bedrock surface low at the southwestern corner of the Site.

The geologic conceptual model for the Site used for the groundwater modeling [23] consists of the following layers:

- CCR – consisting of primarily fly ash, bottom ash, and boiler slag, within the limits of the BAP and FAPS.
- UU:
    - Upper silty clay - composed of the Cahokia Formation, Peoria Loess, and Equality Formation.
    - PMP – Thin, non-continuous sandy deposits disseminated across the Site.
    - Lower silty clay – Vandalia Till
- Decomposed Bedrock – decomposed interbedded shale and limestone bedrock of the UA at the contact between the Vandalia Till and deep bedrock.
- Deep Bedrock – Deep competent bedrock of the UA yielding small amounts of water from interconnected pores, cracks, fractures, crevices, joints, and bedding planes.

The United States Geological Survey (USGS) National Map places the BPP within the lower Kaskaskia watershed subbasin (Hydrologic Unit Code 07140204) [24]. The FAPS hydrogeologic conceptual site model (CSM) extent is bounded by a hydrological catchment (watershed) divide to the west based on watershed data from USGS. Kaskaskia River is the receiving body of water for surface water.

Precipitation infiltrates and recharges the groundwater table throughout the Site and upgradient. Groundwater in the UU migrates downward into the clay and discontinuous sands of the Cahokia Formation, Peoria Loess, and Equality Formation. Where these sands are present, they are considered a PMP for groundwater adjacent to the FAPS and localized lateral migration of groundwater may occur. The weathered bedrock of the UA is separated from the PMP sands and the base of CCR in the FAPS by the laterally continuous low permeability UU (Vandalia Till). The bedrock in the vicinity of the FAPS yields small amounts of water from interconnected pores, cracks, fractures, crevices, joints, and bedding planes. The shallow bedrock is the only water-bearing unit that is continuous across the Site. Shallow sandstone and creviced limestone may yield small supplies in some areas, but water quality becomes poorer (*i.e.,* highly mineralized) with increasing depth.

Based on the geology and hydrogeology, monitoring wells at the FAPS can be separated into four distinct groupings which exhibit similar geologic and hydraulic characteristics. Monitoring well groupings are summarized as follows:

- UU/PMP wells: shallow wells (less than 40 feet bgs) screened in low to moderate permeability materials (generally ≤ 10^{-5} cm/s) downgradient of the FAPS including MW-150, MW-151, MW-152, MW-153, MW-252, MW-253. Based on the water levels measured within the FAPS, UU/PMP wells are downgradient of the FAPS.
- Eastern UA wells: wells located on the eastern half of the FAPS (including background wells MW-304, MW-306, and MW-358; and northern downgradient wells MW-383, and MW-384) where the top of the UA is slightly shallower (approximately 30 to 50 feet bgs). Groundwater flow directions indicate these wells are currently upgradient of the former drainage feature that was present prior to construction of the FAPS. Groundwater elevations in MW-383 and 384 exhibit limited seasonal variability and have generally declined following dewatering and closure.
- Northwest UA wells: wells located along the northwest side of the FAPS (MW-366, MW-390, and MW-391) where the top of the UA is slightly deeper (approximately 40 to 60 feet bgs), but the bedrock surface resembles a peninsula, with the surface sloping down both north towards the secondary pond and south towards the former drainage feature. Groundwater flow directions indicate these wells are at a position where flow begins to converge toward the bedrock low, and represents groundwater from the western portion of the FAPS. Groundwater elevations at MW-366 and MW-391 begin to show seasonal variability following initiation of dewatering and closure in 2017-2018. Elevations at MW-391 spiked significantly between 2017 and 2018 to levels consistent with the UU/PMP wells, suggesting that a connection between these units may have been present or created during construction dewatering and management of water.
- Southern UA wells: wells located along the southern boundary and also southwest of the FAPS (MW-350, MW-352, MW-374, MW-375, and MW-377) where the top of the UA is slightly deeper (approximately 40 to 60 feet bgs), and the wells are in a location where the bedrock surface is sloping to the south. Groundwater elevations measured in these wells show little seasonal variability and overall have declined slightly since dewatering and closure was initiated in 2017-2018.

3. OCCURRENCE AND DISTRIBUTION OF GROUNDWATER EXCEEDANCES (EXTENT)

As described in Section 1, exceedances from sample events E001, E002, and E003, performed at the FAPS, and for which an ASD was not completed, include the following parameters and wells by hydrostratigraphic unit:

- Detected UU/PMP Exceedances:
  - Boron at MW-150, and MW-152
  - Sulfate at MW-150
- Detected UA (Bedrock Unit) Exceedances:
  - Boron at MW-391

The extents of exceedances discussed below were defined using existing monitoring wells, including wells present onsite (**Table 3-1**) that may not be included in the 35 I.A.C. § 845 monitoring program.

3.1 Additional Investigation to Define Nature and Extent

Solid phase data were evaluated to assess potential geological sources of exceedance parameters and to inform the GCSM (discussed further in **Section 4**). Solid phase data were not collected from the CCR source material prior to completion of closure of the unit in 2020. Four borings were advanced in 2022 and 2023 at the FAPS and solid samples were collected from both the UA and the UU adjacent to paired monitoring wells MW-150 and MW-350 and solid samples were collected from the UA adjacent to three monitoring wells (MW-352, MW-366, and MW-391). Borings were also advanced adjacent to four additional locations at the BPP BAP, with solids collected from the UU and UA at three locations (MW-358, MW-392, and MW-393) and solids collected from the UU at MW-394. These solids were characterized using a variety of analytical techniques including the following:

- Loss on Ignition;
- Total Organic Carbon Analysis;
- Cation Exchange Capacity Analysis;
- EPA 6010A for Total Metals (35 I.A.C. § 845.600 parameters plus aluminum, bismuth, copper, iron, magnesium, manganese, nickel, potassium, silver, strontium, tin, titanium, uranium, vanadium, yttrium, and zinc and boron via Bulk Characterization;
- EPA 6010B for 6-step sequential extraction (boron and iron; on only MW-358, MW-392, MW393, and MW-394));
- Bulk Mineralogy by Rietvelt X-ray diffraction analysis; and,
- Bulk Elemental Composition by X-ray fluorescence analysis.

Historically, an offsite investigation was completed to evaluate the potential migration of boron and sulfate to the south and southwest of the FAPS ([25], **Appendix D**). The investigation included the installation of eight temporary piezometers to evaluate concentrations of boron, sulfate, and total dissolved solids downgradient of UU wells MW-150 and MW-152.

3.2 Extents in the Upper Unit (PMP)

Exceedances are identified quarterly following comparison to the GWPSs described in 35 I.A.C. § 845.600. The LCLs vary as the dataset is updated to include additional quarterly events (**Table 3-2**). The discussion below includes ranges of concentrations measured in wells with exceedances, because there is no single value for statistical evaluations.

3.2.1 Boron

Boron concentrations in monitoring wells MW-150 and MW-152 resulted in identified exceedances of the GWPS (2.16 mg/L, **Figure 3-1**). The concentrations and extent of boron exceedances at the FAPS are summarized as follows:

- MW-150 – Exceedances were reported in all three compliance sampling events with concentrations ranging from 2.87 to 4.37 mg/L. The primary source and lateral and downgradient extent of boron concentrations in proximity to MW-150 is currently being evaluated. In March 2012, dissolved concentrations of boron and sulfate in temporary piezometer BPZ7 were reported at 0.252 mg/L and 215 mg/L, respectively (**Appendix D**). Concentrations of boron and sulfate in MW-150 during the same timeframe were 0.56 mg/L and 584 mg/L, respectively. The extent is ultimately limited by an oxbow of the Kaskaskia River approximately 900 feet to the west/southwest of MW-150 in connection with the Kaskaskia River. Samples collected within the river [3] indicate boron concentrations are less than 0.05 mg/L.

  Vertically, the extent of boron is limited by low hydraulic conductivity of the UU with a range of 6.3×10^{-9} to 4.2×10^{-4} cm/s (**Section 2.3.6**). The concentration of boron at MW-150 is also defined vertically by MW-350, a deeper well nested with MW-150 and screened in the UA. At MW-350 the maximum measured concentration of boron was 0.585 mg/L, which was measured during E002.

- MW-152 – Concentrations resulting in a GWPS exceedance determination were only measured in MW-152 during compliance sampling event E002, with a reported result for boron of 9.09 mg/L (**Table 3-2**[2]). The concentrations of boron at this location are highly variable and have been attributed to seasonal groundwater elevations (**Figure 3-2**). Concentrations are lowest in the spring when groundwater elevations are higher, and higher in the fall when groundwater elevations are low. The downgradient extent is bounded to the west by monitoring well MW-151, with a maximum concentration of 0.89 mg/L during E003 (**Table 3-3**). In March 2012, concentrations of dissolved boron southwest (BPZ4) and southeast (BPZ1) of MW-152 were 0.0435 mg/L and 0.0096 mg/L, respectively (**Appendix D**). The concentration of dissolved boron at MW-152 during the same time frame was approximately 18 mg/L. The observed reduction in concentrations at MW-152 indicates that higher concentrations are not expected off-Site.

  Vertically, the extent of boron is limited by low hydraulic conductivity of the UU with a range 6.3×10^{-9} to 4.2×10^{-4} cm/s (Section 2.3.6). MW-152 is also defined vertically by monitoring wells MW-252 and MW-352, deeper wells nested with MW-152 and screened below MW-152 in the UU and UA, respectively. MW-252 and MW-352 concentrations were not identified as exceedances following comparison to the GWPSs described in 35 I.A.C. § 845.600.

[2] The negative LCL calculated for boron at MW-152 at E003 represents the confidence interval around the mean. When the standard deviation (*i.e.*, variability) of data is high, the calculated lower confidence level may be less than 0.

3.2.2 Sulfate

Sulfate concentrations in monitoring well MW-150 resulted in identified exceedances of the GWPS (762 mg/L). The concentrations and extent of the sulfate exceedance at the FAPS are summarized as follows (**Figure 3-1**):

- MW-150 – Exceedances were reported in compliance sampling events E001 and E002. The primary source, transport mechanism, and lateral and downgradient distribution of sulfate concentrations in proximity to MW-150 are currently being evaluated. Concentrations of dissolved sulfate in MW-150 have increased from 584 mg/L to 1,050 mg/L between 2012 and 2023. In BPZ7 in 2012, the concentration of sulfate was 215 mg/L (**Appendix D**). The downgradient extent is ultimately limited by an oxbow of the Kaskaskia River, approximately 900 feet to the west/southwest of MW-150.

  Vertically, the extent of sulfate is limited by low hydraulic conductivity of the UU, with a range 6.3×10^{-9} to 4.2×10^{-4} cm/s (Section 2.3.6). Concentrations of sulfate in MW-150 is also defined vertically by MW-350, a deeper well nested with MW-150 screened in the UA. The maximum concentration of sulfate detected in MW-350 was 102 mg/L (**Table 3-3**), which was detected during E002.

3.3 Extent in Uppermost Aquifer (Bedrock Unit)

Exceedances are identified quarterly following comparison to the GWPSs described in 35 I.A.C. § 845.600. The LCLs vary as the dataset is updated to include additional quarterly events (**Table 3-2**). The discussion below includes ranges of concentrations measured in wells with exceedances, because there is no single value for LCLs.

3.3.1 Boron

Concentrations of boron resulted in exceedances of the GWPS (2.16 mg/L) at UA well MW-391 (**Figure 3-3**). Concentrations and the extent of boron at this location is summarized as follows:

- MW-391 - Exceedances were determined in all three compliance sampling events. The lateral and downgradient extent of boron concentrations in proximity to MW-391 are limited by the Secondary and Tertiary Ponds immediately adjacent to the monitoring well to the west. Downgradient extent is additionally bound by MW-350 with a maximum measured concentration of 0.585 mg/L boron detected during E002.

  Vertically, the extent of the boron impacts are limited by the low permeability shale bedrock which decreases with depth as the secondary porosities do not yield a sufficient volume of groundwater to produce a useable water supply. In addition, water quality decreases with increasing depth as water becomes increasingly mineralized [16].

4. GEOCHEMICAL CONCEPTUAL SITE MODEL (NATURE)

A GCSM was developed to describe the conditions of the groundwater in the vicinity of the BPP FAPS in support of the CMA and is summarized here (full analysis presented in **Appendix E**). The GCSM describes the geochemical processes that contribute to the mobilization, distribution, and attenuation of chemicals in the environment. As discussed in previous sections, the exceedances observed at the FAPS include boron and sulfate.

The GCSM includes two hydrostratigraphic units: the shallow UU PMP and the deeper UA. The primary source of boron and sulfate to groundwaters of the UA and UU PMP within the monitoring system is the FAPS CCR source water. CCR source water samples, collected from the porewater monitoring wells screened within the CCR materials at the FAP, and the FAP relationship to hydrogeological patterns at the Site, are the primary factors defining the distribution of boron and sulfate concentrations at the Site. Boron was identified within UA solids at concentrations that suggest that aquifer solids could provide an additional potential natural geogenic source of boron to groundwater, and groundwater from background wells consistently exhibited boron concentrations consistent with a natural geogenic source. The observation of pyrite within solids of shale portions of the UA could provide an additional source of sulfate to groundwater via pyrite oxidation, as pyrite is not expected to be a stable mineral phase under observed groundwater redox conditions and sulfate concentrations at background wells are indicative of a potential additional natural source.

Boron and sulfate in the groundwater system may be attenuated via surface complexation reactions within portions of the UU PMP and the UA. Conditions within groundwater from both the UA and UU PMP are typically predicted to favor amorphous iron oxide stability at most locations, and the presence of iron oxides in some Site solids supporting the occurrence of this mechanism. Limited variability in pH or redox conditions is observed between upgradient background and downgradient locations. Boron may be further attenuated via interactions with clay minerals, which are observed in solids across both the UU and UA. The observation of gypsum, although limited to the shale bedrock portions of the UA, indicates that precipitation of gypsum may be another potential attenuation mechanism for sulfate at locations near the FAPS.

5. COMBINED GEOCHEMICAL AND HYDROGEOLOGIC CONCEPTUAL SITE MODELS

5.1 Boron Conceptual Site Model

The CSM describing current conditions at the FAPS combining the hydrogeologic and geochemical CSMs for boron is as follows. Water that may come into contact with CCR in the FAPS becomes porewater within the unlined CCR unit. Porewater (i.e., CCR source water) containing elevated concentrations of boron mixes with groundwater underlying and adjacent to the UU. Groundwater within the UU/PMP in the vicinity of the FAPS travels horizontally outward from the FAPS, migrating toward the Secondary Pond or the drainage ditch to the south, but ultimately toward the Kaskaskia River. Groundwater may also migrate vertically into the clay of the UU that separates the UU from the UA. If groundwater reaches the UA, it migrates slowly in the formation due to the low permeability of the shale bedrock. Boron concentrations are attenuated physically through dilution and dispersion; and may be chemically attenuated via surface complexation to iron oxides and clay minerals, which are observed in solids within both the UU and UA.

The distribution of boron exceedances is being further refined but the extent is currently defined by a combination of wells in the UU and UA with concentrations below the GWPS and ultimately by the concentrations observed in surface water [3]. The presence or absence of exceedances can be attributed to variability in the geology and porewater concentrations, changes in groundwater elevations and flow directions, and the extent of water migration between the UU and UA.

5.2 Sulfate Conceptual Site Model

The CSM describing current conditions at the FAPS combining the hydrogeologic and geochemical CSMs for sulfate is as follows. Water that may come into contact with CCR in the FAPS becomes porewater within the unlined CCR unit. Porewater containing elevated concentrations of sulfate mixes with groundwater underlying and adjacent to the UU. Groundwater within the UU/PMP in the vicinity of the FAPS travels horizontally outward from the FAPS, migrating toward the Secondary Pond or the drainage ditch to the south, but ultimately toward the Kaskaskia River. Groundwater may also migrate vertically into the clay of the UU that separates the UU from the UA. If it reaches the UA, it migrates slowly in the formation due to the low permeability of the shale bedrock. Sulfate concentrations are attenuated physically through dilution and dispersion and may be geochemically attenuated via surface complexation to iron oxides within portions of the UU PMP and the UA. The observation of gypsum, although limited to the shale bedrock portions of the UA, indicates that precipitation of gypsum may be another potential attenuation mechanism for sulfate at locations near the FAPS.

The limit of sulfate exceedances is being further evaluated but is currently defined by a combination of wells in the UU and UA with concentrations below the GWPS and ultimately by the concentrations observed in surface water [3]. The presence or absence of exceedances can be attributed to variability in the geology and CCR source water (porewater) concentrations, changes in groundwater elevations and flow directions, and the extent of water migration between the UU and UA.

6. CONCLUSIONS AND FUTURE ACTIVITIES

In accordance with 35 I.A.C. § 845.650(d)(1), the nature and extent of GWPS exceedances of boron and sulfate have been described in sufficient detail to support a complete and accurate assessment of the corrective measures necessary to effectively clean up all releases from the FAPS.

As discussed in Sections 3.3.1 and 3.3.2, additional refinement of the distribution of boron and sulfate near MW-150 and boron near MW-152 is ongoing in UU wells. Additional investigation is planned to further evaluate the boron exceedance in MW-391 as well as understand the mechanisms that potentially influence groundwater elevations and boron concentrations. Activities include:

- Evaluation of MW-391 to determine if the well has been compromised and identify potential mechanisms causing the rapid water elevation shifts during dewatering and closure.
- Sampling of additional piezometers in the UU near MW-150 and MW-152.
- Survey and water elevation monitoring of the drainage ditch near MW-152 to further evaluate how the ditch may interact with shallow groundwater.
- Pending access agreement with adjacent property owner, installation of additional wells south of the western limit of the FAPS to evaluate potential migration of boron and sulfate in the UU near MW-150.

Findings from sampling of these additional wells and other activities will be incorporated into the final Corrective Action Plan Permit application, which will be submitted in 2025.

Boron was selected for modeling source control presented in the Final Closure Plan and is considered a surrogate for sulfate. For modeling purposes, it was assumed that boron would not significantly sorb or chemically react with aquifer solids (soil adsorption coefficient was set to 0 milliliters per gram) which is a conservative estimate for predicting contaminant transport times in the model. Additional geochemical modeling will be completed to evaluate how sorption to solid phases may affect sulfate mobility and therefore the time to reach the GWPS for this parameter.

7. REFERENCES

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TABLES

Table 2-1. Summary of Groundwater Elevations
Nature and Extent Report
Baldwin Power Plant
Fly Ash Pond System
Baldwin, Illinois

DATE LOCATION	1/10/2023	2/20/2023	3/13/2023 - 3/15/2023	4/16/2023	5/16/2023	5/17/2023 - 5/19/2023	5/22/2023 - 5/23/2023	6/16/2023 - 6/22/2023	7/10/2023	7/16/2023	8/2/2023 - 8/3/2023	8/7/2023	9/30/2023	10/30/2023	11/6/2023 - 11/7/2023	12/13/2023
MW-104DR	446.91	--	447.67	--	--	--	445.34	--	--	--	441.67	--	--	438.82	438.71	--
MW-104SR	446.74	--	447.62	--	--	--	445.29	--	--	--	441.64	--	--	--	438.59	--
MW-150	--	--	378.83	379.52	378.08	377.87	--	376.63	--	375.98	375.89	--	--	375.92	376.01	376.34
MW-151	--	--	395.30	--	--	394.38	--	--	394.18	--	391.89	--	--	392.38	392.49	392.51
MW-152	--	--	419.44	--	--	418.49	--	--	--	--	416.80	--	416.92	416.80	417.05	417.13
MW-153	--	--	434.85	435.60	433.24	--	432.81	430.17	429.17	429.09	429.48	--	428.56	427.83	427.74	427.69
MW-154	--	--	--	--	--	--	--	--	--	--	--	--	--	--	372.70	--
MW-155	--	--	376.21	--	--	--	375.88	--	--	--	--	373.60	--	--	371.64	--
MW-252	--	--	420.39	423.30	--	422.94	--	--	--	--	422.26	--	--	421.77	421.61	421.68
MW-253	--	--	433.51	435.50	432.93	--	432.24	--	--	--	429.69	--	--	428.77	423.19	428.37
MW-304	445.57	445.84	445.97	445.91	445.89	--	445.96	445.66	--	445.5	445.65	--	445.18	445.24	445.00	445.15
MW-306	435.31	435.97	436.07	436.19	436.09	--	436.06	435.75	--	435.61	435.68	--	--	433.21	435.14	435.04
MW-350	--	--	372.71	373.27	373.04	373.06	--	373.06	--	372.83	372.91	--	372.69	372.47	368.02	371.87
MW-352	--	--	424.39	--	--	421.77	--	--	419.72	--	411.55	--	--	418.76	407.37	414.59
MW-355	--	--	371.11	--	--	--	370.71	--	--	--	--	368.43	--	363.75	368.78	--
MW-358	386.37	442.61	442.83	399.36	412.48	412.81	--	413.89	--	421.07	424.63	--	422.57	427.56	420.88	415.65
MW-366	--	--	410.28	--	411.89	--	--	--	--	--	406.82	--	--	406.07	405.83	--
MW-375	--	--	391.25	--	--	390.84	--	--	--	--	389.49	--	--	387.81	385.64	387.37
MW-377	--	--	415.80	--	--	--	415.71	--	--	--	415.19	--	--	414.52	414.30	414.30
MW-383	440.48	--	441.17	439.08	440.05	--	440.33	436.30	--	439.05	439.57	--	439.08	439.37	433.41	438.70
MW-384	444.14	--	444.80	444.34	444.16	--	444.26	443.77	--	443.79	443.85	--	--	443.25	452.76	442.75
MW-390	420.46	--	422.75	--	--	421.86	--	--	--	--	419.17	--	--	418.03	418.26	418.06
MW-391	--	--	367.93	365.58	365.76	365.89	--	360.73	--	360.94	361.21	--	360.35	358.63	355.48	355.81
OW-156	421.25	--	424.14	--	421.65	--	--	--	--	--	--	--	--	417.67	418.21	--
OW-157	426.92	--	427.48	--	426.59	--	--	--	--	--	--	--	--	423.12	423.80	--

Notes:
-- = Not Measured
All groundwater elevation data are presented relative to the North American Vertical Datum 1988 (NAVD88).

Table 2-2. Field Horizontal Hydraulic Conductivities
Nature and Extent Report
Baldwin Power Plant
Fly Ash Pond System
Baldwin, Illinois

Monitoring Well Number	Depth Interval Tested (feet)	Analysis Method	Lithologic Layer	Primary Lithologies within Screened Well Interval	Horizontal Hydraulic Conductivity (cm/s)
Upper Unit					
MW-104DR	23.2 - 28.2	Bouwer-Rice	Vandalia Till Member	Sand (fine-medium), Sandy Clay, and Silty Clay	6.8E-04
MW-151	6.1 - 15.8	Bouwer-Rice	Cahokia Formation	Sandy Clay, Silty Clay, and Clay	1.1E-05
MW-152	7.5 - 16.7	Bouwer-Rice	Equality Formation	Clay, Sand, and Sandy Clay	7.0E-05
MW-161	23.3 - 32.8	Bouwer-Rice	Equality Formation	Silty Clay, Sand with Silt	8.1E-05
MW-252	44.4 - 49.0	Bouwer-Rice	Vandalia Till Member	Clay	1.9E-06
MW-253	29.9 - 34.5	Bouwer-Rice	Vandalia Till Member	Clay, shaley	3.5E-07
MW-262	42.1 - 46.6	Bouwer-Rice	Vandalia Till Member	Sand with Silt, Sandy Silt, Silty Clay, and Sand (fine-coarse)	6.0E-04
OW-156	7.9 - 17.2	Bouwer-Rice	Equality Formation	Clay and Silty Clay	4.3E-05
OW-157	7.8 - 17.1	Bouwer-Rice	Equality Formation	Clay with Silt, Clay with Sand, and Clay	1.3E-04
OW-256	28.0 - 32.5	Bouwer-Rice	Vandalia Till Member	Silty Clay, Sand (fine-medium)	2.2E-04
OW-257	34.0 - 38.5	Bouwer-Rice / KGS Model	Vandalia Till Member	Silty Clay, Shale and Clay	3.3E-06
TPZ-166	15.3 - 24.7	Bouwer-Rice	Vandalia Till Member	Silty Clay	1.9E-05
				Geometric Mean Hydraulic Conductivity	**3.2E-05**
Uppermost Aquifer					
MW-350	41.6 - 46.2	Bouwer-Rice	Mississippian Bedrock	Limestone, massive, hard to very hard; RQD = 96% (Excellent)	2.1E-06
MW-352	67.9 - 72.5	Bouwer-Rice	Pennsylvanian or Mississippian Bedrock	Limestone, medium hard to hard; RQD = 57% (Fair)	1.7E-06
MW-355	27.4 - 32.0	Bouwer-Rice	Mississippian Bedrock	Limestone, medium soft, fossiliferous; RQD = 57% (Fair)	3.5E-05
				Geometric Mean Hydraulic Conductivity	**5.0E-06**

[O: JJW 4/12/21, U: CJC 4/15/24, C: EGP 4/15/24]

Notes:
cm/s = centimeters per second

Reference:
Bouwer-Rice = Bouwer and Rice Analytical Method for Unconfined Aquifers, 1976. (note: also used for Confined Aquifers)
KGS Model = KGS overdamped slug test analysis model (Hyder et al., 1994)
Data source was the Groundwater Quality Assessment and Phase II Hydrogeologic Investigation (NRT, 2014)

Table 2-3. Laboratory Vertical Hydraulic Conductivities
Nature and Extent Report
Baldwin Power Plant
Fly Ash Pond System
Baldwin, Illinois

Monitoring Well Number	Depth Interval Tested (feet)	Analysis Method	Lithologic Layer	Primary Lithologies within Sample Interval	Horizontal Hydraulic Conductivity (cm/s)
Fill Unit (CCR)					
TPZ-163	1.5 - 3.5	Geotechnology (2013)	Ash Pond System: Fly Ash / Bottom Ash	Ash (USCS classification: Silty Sand, fine grained)	2.5E-04
TPZ-164	3.0 - 5.0	Geotechnology (2013)	Ash Pond System: Bottom Ash	Ash (USCS classification: Sandy Silt, fine grained sand)	6.5E-04
TPZ-167	29.0 - 30.0	Geotechnology (2013)	Ash Pond System: Fly Ash	Ash (USCS classification: Silt)	9.7E-06
TPZ-168	3.0 - 5.0	Geotechnology (2013)	Ash Pond System: Fly Ash	Ash (USCS classification: Sandy Silt, fine-medium grained sand)	4.2E-04
				Geometric Mean Hydraulic Conductivity	**1.6E-04**
Upper Unit					
MW-154	8.0 - 9.2	Shively Geotechnical (2010)	Cahokia Formation	Sandy Clay with Gravel	7.8E-06
MW-252	44.0 - 46.0	Shively Geotechnical (2010)	Vandalia Member	Clay	6.3E-09
MW-262	33.5 - 35.5	Geotechnology (2013)	Vandalia Member	Clay	9.9E-09
Uppermost Aquifer					
MW-350	18.0 - 20.0	Shively Geotechnical (2010)	Cahokia Formation	Clay	3.4E-07
TPZ-163	28.0 - 30.0	Geotechnology (2013)	Vandalia Member	Clay, trace fine sand	4.2E-04
TPZ-164	10.0 - 12.0	Geotechnology (2013)	Equality Formation	Clay	1.3E-06
TPZ-165	8.0 - 10.0	Geotechnology (2013)	Vandalia Member	Clay, trace sand	5.3E-06
TPZ-167	32.0 - 34.0	Geotechnology (2013)	Vandalia Member	Clay with sand	6.2E-07
				Geometric Mean Hydraulic Conductivity	**8.6E-07**

[O: JJW 4/12/21, U: CJC 4/15/24, C: EGP 4/15/24]

Notes:
cm/s = centimeters per second

Reference:
Shively Geotechnical (2010): see Appendix C of Baldwin Bottom Ash Pond System Hydrogeologic Characterization Report, Revision 1 (Ramboll, 2023)
Geotechnology (2013): see Appendix C of Baldwin Bottom Ash Pond System Hydrogeologic Characterization Report, Revision 1 (Ramboll, 2023)
Data source was the Groundwater Quality Assessment and Phase II Hydrogeologic Investigation (NRT, 2014)

Table 3-1. Monitoring Well Construction Details
Nature and Extent Report
Baldwin Power Plant
Fly Ash Pond System
Baldwin, Illinois

Location	HSU	Date Constructed	Top of PVC Elevation (ft)	Measuring Point Elevation (ft)	Measuring Point Description	Ground Elevation (ft)	Screen Top Depth (ft bgs)	Screen Bottom Depth (ft bgs)	Screen Top Elevation (ft)	Screen Bottom Elevation (ft)	Well Depth (ft bgs)	Bottom of Boring Elevation (ft)	Screen Length (ft)	Screen Diameter (inches)	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)
MW-150	PMP	2010-09-01	396.5	396.7	Top of PVC	393.8	15	24.7	378.8	369.2	25.2	368.7	9.6	2	38.189401	-89.878468
MW-151	PMP	2010-09-01	400.0	400.1	Top of PVC	397.2	6.1	15.8	391.1	381.4	16.3	380.9	9.6	2	38.188449	-89.872354
MW-152	PMP	2010-09-01	425.0	425.2	Top of PVC	422.2	7.5	16.7	414.7	405.5	17.2	405.0	9.3	2	38.187569	-89.866764
MW-153	PMP	2010-09-01	445.7	445.8	Top of PVC	442.8	10.4	20	432.4	422.8	20.5	422.3	9.6	2	38.185884	-89.86101
MW-252	PMP	2010-09-01	425.1	425.2	Top of PVC	422.3	44.4	49	377.9	373.2	49.5	372.7	4.6	2	38.187563	-89.866745
MW-253	PMP	2010-09-01	445.8	446.0	Top of PVC	442.7	29.9	34.5	412.8	408.2	35	407.7	4.6	2	38.185885	-89.861026
MW-304	UA	2015-10-20	455.5	455.4	Top of PVC	453.0	45	55	408.0	398.0	55	317.6	10	2	38.188332	-89.853441
MW-350	UA	2010-09-01	396.8	397.0	Top of PVC	394.1	41.6	46.2	352.5	347.9	46.6	347.4	4.6	2	38.189416	-89.878477
MW-352	UA	2010-09-01	425.0	425.2	Top of PVC	422.4	67.9	72.5	354.5	349.8	73	348.6	4.6	2	38.187554	-89.866729
MW-358	UA	2022-10-08	455.7	455.9	Top of PVC	453.6	80	90	373.7	363.7	90	363.6	10	2	38.195275	-89.849417
MW-366	UA	2015-12-04	425.1	425.2	Top of PVC	422.5	42	52	380.5	370.5	52	368.2	10	2	38.192191	-89.872345
MW-375	UA	2015-11-06	423.1	423.2	Top of PVC	420.5	57	67	363.5	353.5	67	335.8	10	2	38.189045	-89.873514
MW-377	UA	2015-11-02	421.4	421.5	Top of PVC	418.8	46	56	372.8	362.8	56	360.5	10	2	38.188386	-89.869742
MW-383	UA	2015-12-21	459.5	459.7	Top of PVC	457.2	58	68	399.2	389.2	68	384.2	10	2	38.194913	-89.858286
MW-384	UA	2015-12-18	458.9	459.1	Top of PVC	456.7	60.5	70.5	396.2	386.2	70.5	362.6	10	2	38.191789	-89.860699
MW-390	UA	2016-03-04	428.1	427.8	Top of PVC	426.0	50	65	376.0	361.0	65	358.0	15	2	38.192956	-89.869793
MW-391	UA	2016-03-10	426.6	426.8	Top of PVC	424.2	55	70	369.2	354.2	70	349.8	15	2	38.190869	-89.874759

Notes:
All elevation data are presented relative to the North American Vertical Datum 1988 (NAVD88), GEOID 12A
bgs = below ground surface
ft = foot or feet
HSU = Hydrostratigraphic Unit
UA = Uppermost Aquifer
PMP = Potential Migration Pathway
PVC = polyvinyl chloride

Table 3-2. Exceedance Parameter Statistical Results
Nature and Extent Report
Baldwin Power Plant
Fly Ash Pond System
Baldwin, Illinois

Location	Parameter	Unit	Groundwater Protection Standard	2023 Q2 LCL	2023 Q3 LCL	2023 Q4 LCL
MW-150	Boron, total	mg/L	2.16	4.12	4.38	2.87
MW-152	Boron, total	mg/L	2.16	0.515	9.09	-13.3
MW-391	Boron, total	mg/L	2.16	2.42	2.41	2.50
MW-150	Sulfate, total	mg/L	762	970	852	749
MW-253	pH (field)	SU	6.5/11.1		11.3/11.8	11.2/11.7

Notes:
LCL = Lower Confidence Level
mg/L = milligrams per liter
SU = standard unit

Table 3-3. Summary of Groundwater Data
Nature and Extent Report
Baldwin Power Plant
Fly Ash Pond System
Baldwin, Illinois

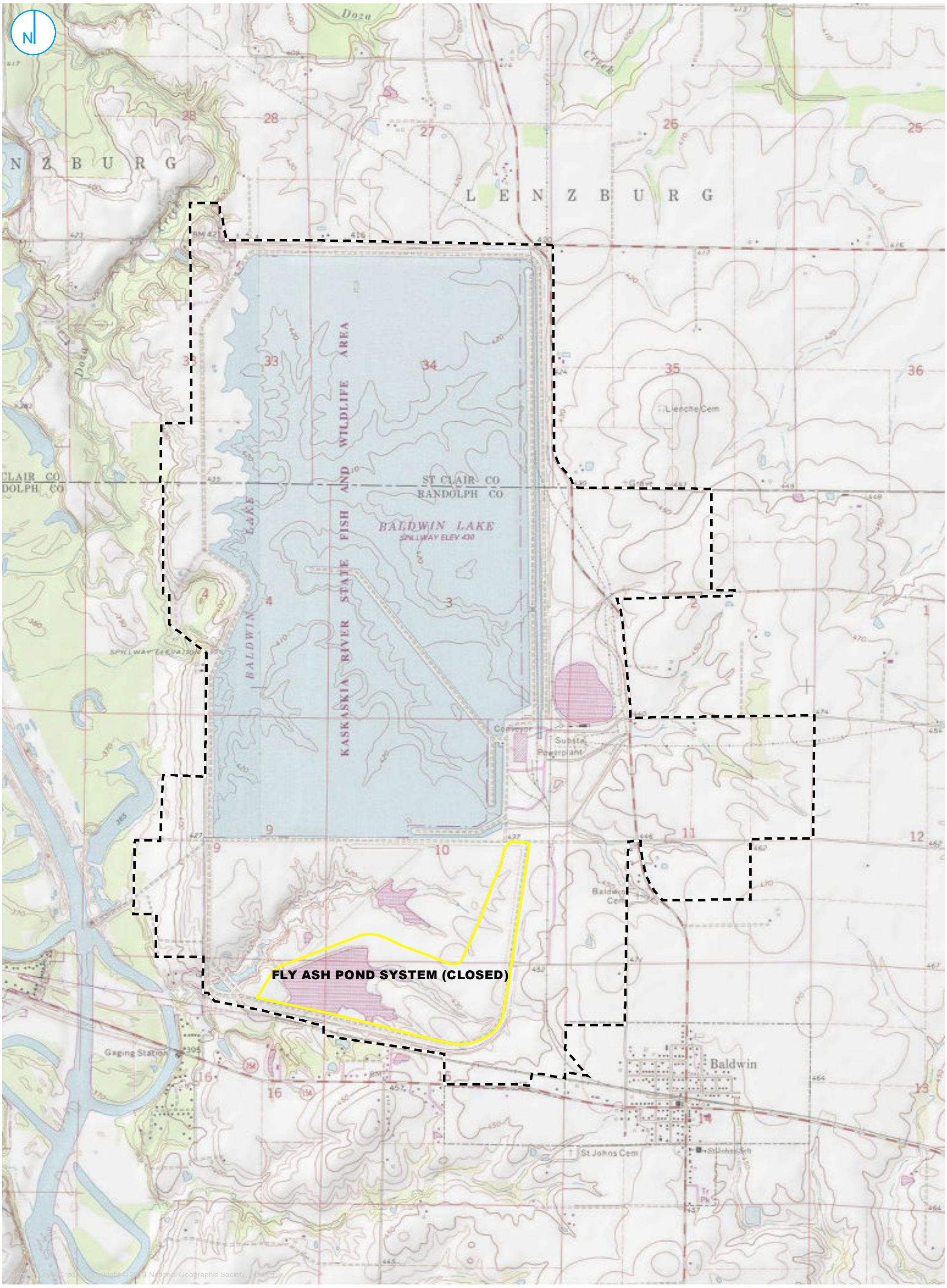
HSU	Location	Well Type	Parameter	Unit	Sample Count	Non-Detect Results	Percent Non-Detect Results	First Sample	Last Sample	Minimum	Median	Mean	Maximum
PMP	MW-150	C	Boron, total	mg/L	4	0	0	2023/03/15	2023/11/03	3.43	3.9	3.9	4.38
PMP	MW-150	C	Sulfate, total	mg/L	4	0	0	2023/03/15	2023/11/03	832	890	900	970
PMP	MW-150	C	pH (field)	SU	36	0	0	2015/03/25	2023/11/03	6.7	7.2	7.1	7.5
PMP	MW-151	C	Boron, total	mg/L	5	0	0	2023/03/15	2023/10/31	0.345	0.75	0.67	0.889
PMP	MW-151	C	Sulfate, total	mg/L	5	0	0	2023/03/15	2023/10/31	74.0	82	85	95.0
PMP	MW-151	C	pH (field)	SU	29	0	0	2017/03/16	2023/10/31	6.7	6.9	6.9	7.2
PMP	MW-152	C	Boron, total	mg/L	4	0	0	2023/03/15	2023/10/31	0.477	4.8	7.5	19.8
PMP	MW-152	C	Sulfate, total	mg/L	4	0	0	2023/03/15	2023/10/31	242	550	580	988
PMP	MW-152	C	pH (field)	SU	36	0	0	2015/03/25	2023/10/31	6.6	6.9	6.9	7.5
PMP	MW-153	C	Boron, total	mg/L	5	4	80	2023/03/15	2023/11/03	<0.009	0.030	0.059	<0.013
PMP	MW-153	C	Sulfate, total	mg/L	5	0	0	2023/03/15	2023/11/03	62.0	68.0	66	75.0
PMP	MW-153	C	pH (field)	SU	37	0	0	2015/03/25	2023/11/03	6.1	7.1	7.1	7.4
PMP	MW-252	C	Boron, total	mg/L	4	0	0	2023/03/15	2023/10/31	0.143	0.16	0.16	0.174
PMP	MW-252	C	Sulfate, total	mg/L	4	0	0	2023/03/15	2023/10/31	437	450	450	474
PMP	MW-252	C	pH (field)	SU	36	0	0	2015/03/25	2023/10/31	6.6	6.8	6.9	7.6
PMP	MW-253	C	Boron, total	mg/L	3	1	33	2023/03/15	2023/11/03	<0.02	0.070	0.055	0.0853
PMP	MW-253	C	Sulfate, total	mg/L	3	0	0	2023/03/15	2023/11/03	140	150	160	174
PMP	MW-253	C	pH (field)	SU	35	0	0	2015/03/25	2023/11/03	9.8	12	11	12.4
UA	MW-304	B	Boron, total	mg/L	29	0	0	2015/12/29	2023/11/01	1.27	1.7	1.7	2.16
UA	MW-304	B	Sulfate, total	mg/L	29	0	0	2015/12/29	2023/11/01	157	190	190	231
UA	MW-304	B	pH (field)	SU	40	0	0	2015/12/29	2023/11/01	7.4	7.9	7.9	8.2
UA	MW-358	B	Boron, total	mg/L	10	0	0	2022/10/27	2023/11/01	1.10	1.4	1.4	1.67
UA	MW-358	B	Sulfate, total	mg/L	10	2	20	2022/10/27	2023/11/01	8.00	24	40	108
UA	MW-358	B	pH (field)	SU	10	0	0	2022/10/27	2023/11/01	7.6	7.9	7.9	8.4
UA	MW-350	C	Boron, total	mg/L	10	0	0	2020/03/26	2023/11/03	0.538	0.62	0.63	0.900
UA	MW-350	C	Sulfate, total	mg/L	10	0	0	2020/03/26	2023/11/03	52.0	92	87	113
UA	MW-350	C	pH (field)	SU	38	0	0	2015/03/25	2023/11/03	8.0	12	11	12.8
UA	MW-352	C	Boron, total	mg/L	5	0	0	2023/03/15	2023/10/31	1.88	2.1	2.2	2.77
UA	MW-352	C	Sulfate, total	mg/L	5	1	20	2023/03/15	2023/10/31	6.00	7.0	7.6	<6
UA	MW-352	C	pH (field)	SU	37	0	0	2015/03/25	2023/10/31	6.7	7.6	7.7	9.0
UA	MW-366	C	Boron, total	mg/L	23	0	0	2016/01/20	2023/11/02	1.19	1.7	1.7	2.70
UA	MW-366	C	Sulfate, total	mg/L	23	0	0	2016/01/20	2023/11/02	33.0	430	340	700
UA	MW-366	C	pH (field)	SU	23	0	0	2016/01/20	2023/11/02	6.7	7.0	7.0	7.5
UA	MW-375	C	Boron, total	mg/L	23	0	0	2016/01/20	2023/11/03	0.979	1.4	1.4	2.06
UA	MW-375	C	Sulfate, total	mg/L	23	0	0	2016/01/20	2023/11/03	83.0	120	140	243
UA	MW-375	C	pH (field)	SU	23	0	0	2016/01/20	2023/11/03	7.0	7.8	7.7	7.9

Table 3-3. Summary of Groundwater Data
Nature and Extent Report
Baldwin Power Plant
Fly Ash Pond System
Baldwin, Illinois

HSU	Location	Well Type	Parameter	Unit	Sample Count	Non-Detect Results	Percent Non-Detect Results	First Sample	Last Sample	Minimum	Median	Mean	Maximum
UA	MW-377	C	Boron, total	mg/L	23	0	0	2016/01/19	2023/11/03	1.54	1.7	1.7	2.01
UA	MW-377	C	Sulfate, total	mg/L	23	0	0	2016/01/19	2023/11/03	37.0	39	40	51.0
UA	MW-377	C	pH (field)	SU	23	0	0	2016/01/19	2023/11/03	6.9	7.2	7.2	7.7
UA	MW-383	C	Boron, total	mg/L	23	0	0	2016/01/21	2023/11/01	1.16	1.4	1.4	2.05
UA	MW-383	C	Sulfate, total	mg/L	23	0	0	2016/01/21	2023/11/01	150	180	180	212
UA	MW-383	C	pH (field)	SU	23	0	0	2016/01/21	2023/11/01	7.3	7.6	7.6	7.8
UA	MW-384	C	Boron, total	mg/L	23	0	0	2016/01/21	2023/11/01	1.26	1.5	1.5	2.26
UA	MW-384	C	Sulfate, total	mg/L	23	0	0	2016/01/21	2023/11/01	30.0	100	94	178
UA	MW-384	C	pH (field)	SU	23	0	0	2016/01/21	2023/11/01	7.2	8.0	7.9	8.1
UA	MW-390	C	Boron, total	mg/L	23	0	0	2016/03/22	2023/11/02	0.175	0.55	0.86	2.30
UA	MW-390	C	Sulfate, total	mg/L	23	0	0	2016/03/22	2023/11/02	102	150	160	234
UA	MW-390	C	pH (field)	SU	23	0	0	2016/03/22	2023/11/02	6.8	7.2	7.2	7.8
UA	MW-391	C	Boron, total	mg/L	17	0	0	2016/12/22	2023/11/03	1.30	3.2	4.0	8.91
UA	MW-391	C	Sulfate, total	mg/L	17	0	0	2016/12/22	2023/11/03	426	760	910	1,760
UA	MW-391	C	pH (field)	SU	18	0	0	2016/12/22	2023/11/03	7.3	7.7	7.7	8.2

Notes:
B = Background
C = Compliance
HSU = Hydrostratigraphic Unit
mg/L = milligrams per liter
PMP = Potential Migration Pathway
SU = standard unit
UA = Uppermost Aquifer

FIGURES



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FLY ASH POND SYSTEM
PROPERTY BOUNDARY

0 1,000 2,000 Feet

SITE LOCATION MAP

NATURE AND EXTENT REPORT
FLY ASH POND SYSTEM
BALDWIN POWER PLANT
BALDWIN, ILLINOIS

FIGURE 2-1

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

Y:\Mapping\Projects\222285BaldwinMXD\GMP_Addendum\FAPS\Figure 1-2_Site Map.mxd

PROJECT: 169000XXXX | DATED: 10/15/2021 | DESIGNER: HOTCALD

REGULATED UNIT (SUBJECT UNIT) FLY ASH POND SYSTEM (CLOSED)

SITE FEATURE
LIMITS OF FINAL COVER
PROPERTY BOUNDARY

0 400 800 Feet

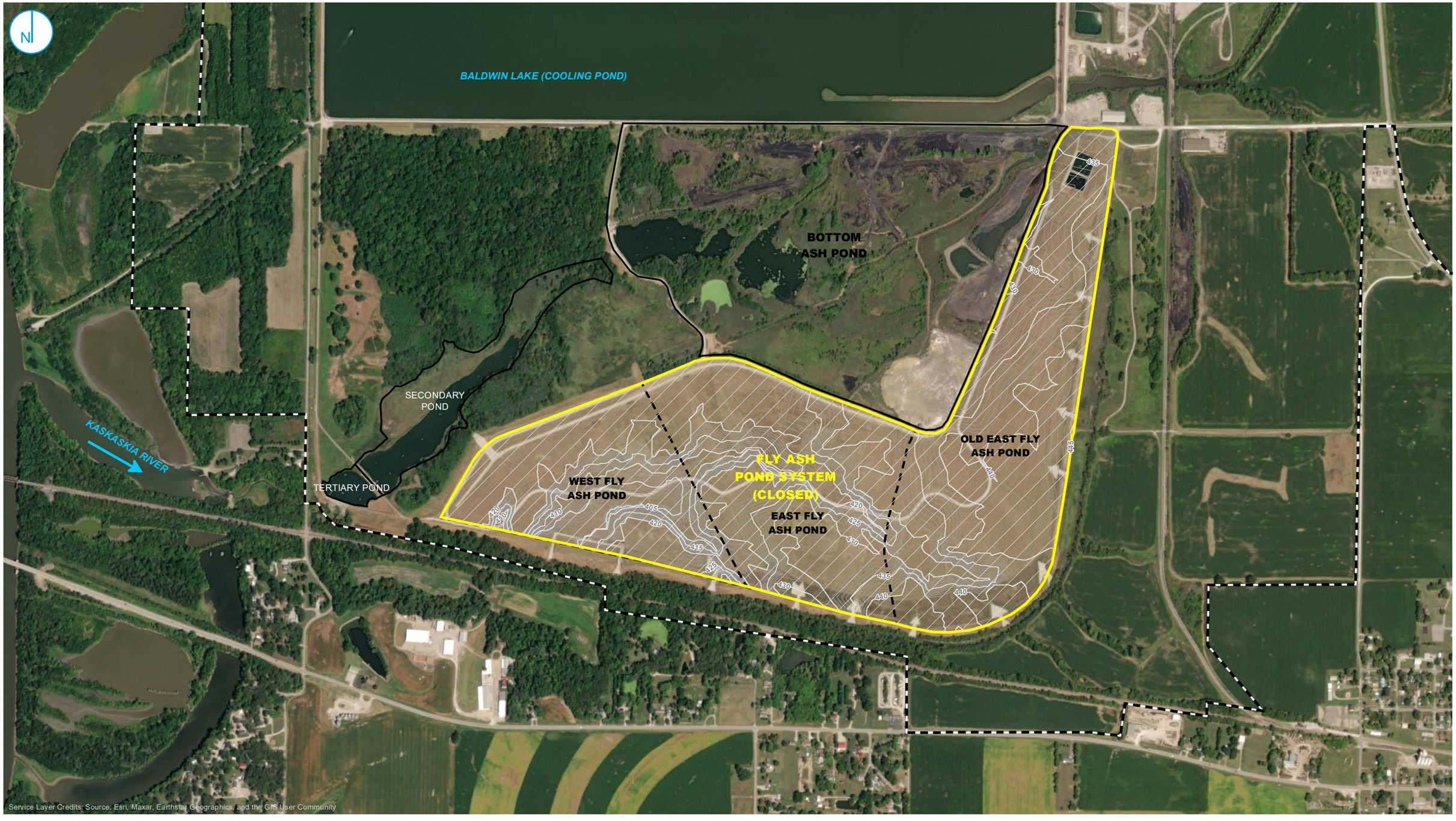
SITE MAP

NATURE AND EXTENT REPORT
FLY ASH POND SYSTEM
BALDWIN POWER PLANT
BALDWIN, ILLINOIS

FIGURE 2-2

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL



5FT TOPOGRAPHIC CONTOUR
1FT TOPOGRAPHIC CONTOUR
REGULATED UNIT (SUBJECT UNIT)
SITE FEATURE
CAPPED AREA
PROPERTY BOUNDARY

0 400 800 Feet

BASE OF CCR

NATURE AND EXTENT REPORT
FLY ASH POND SYSTEM

BALDWIN POWER PLANT
BALDWIN, ILLINOIS

FIGURE 2-3

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

Y:\Mapping\Projects\22\22851\MXD\Nature_and_Extent\BAL\Nature_and_Extent_Report\Figure 1_BAL FAPS BOA.mxd
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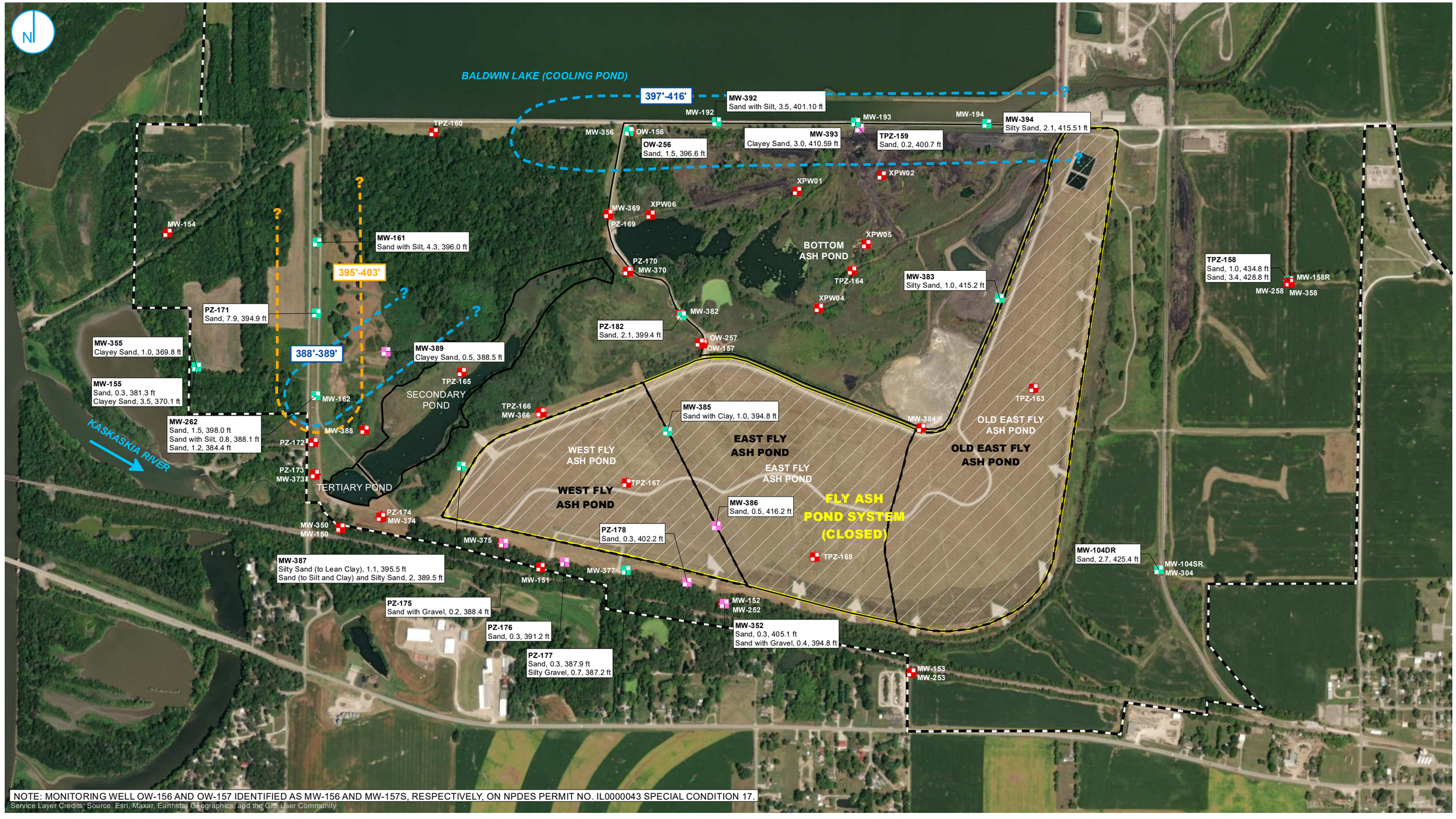


PROJECT: 1690000XXXX | DATED: 4/17/2024 | DESIGNER: galammc
Y:\Mapping\Projects\22\285\MXD\Nature_and_Extent\BAL\Nature_and_Extent_Report\Figure 2-4_Sand Seam Observations Thickness and Elevations.mxd

- BORING LOCATION WITH OBSERVED SAND SEAM > 0.5 FT
- BORING LOCATION WITH OBSERVED SAND SEAM =< 0.5 FT
- BORING LOCATION WITH NO OBSERVED SAND SEAM

BORING/WELL NUMBER
SEAM DESCRIPTION, SEAM THICKNESS (FT), SEAM BASE ELEVATION

AREAS OF POTENTIALLY INTERCONNECTED SAND SEAMS AND SEAM ELEVATION INTERVAL
- UNSATURATED SAND SEAM
- SATURATED SAND SEAM

- REGULATED UNIT (SUBJECT UNIT)
- SITE FEATURE
- LIMITS OF FINAL COVER
- PROPERTY BOUNDARY

0 400 800 Feet

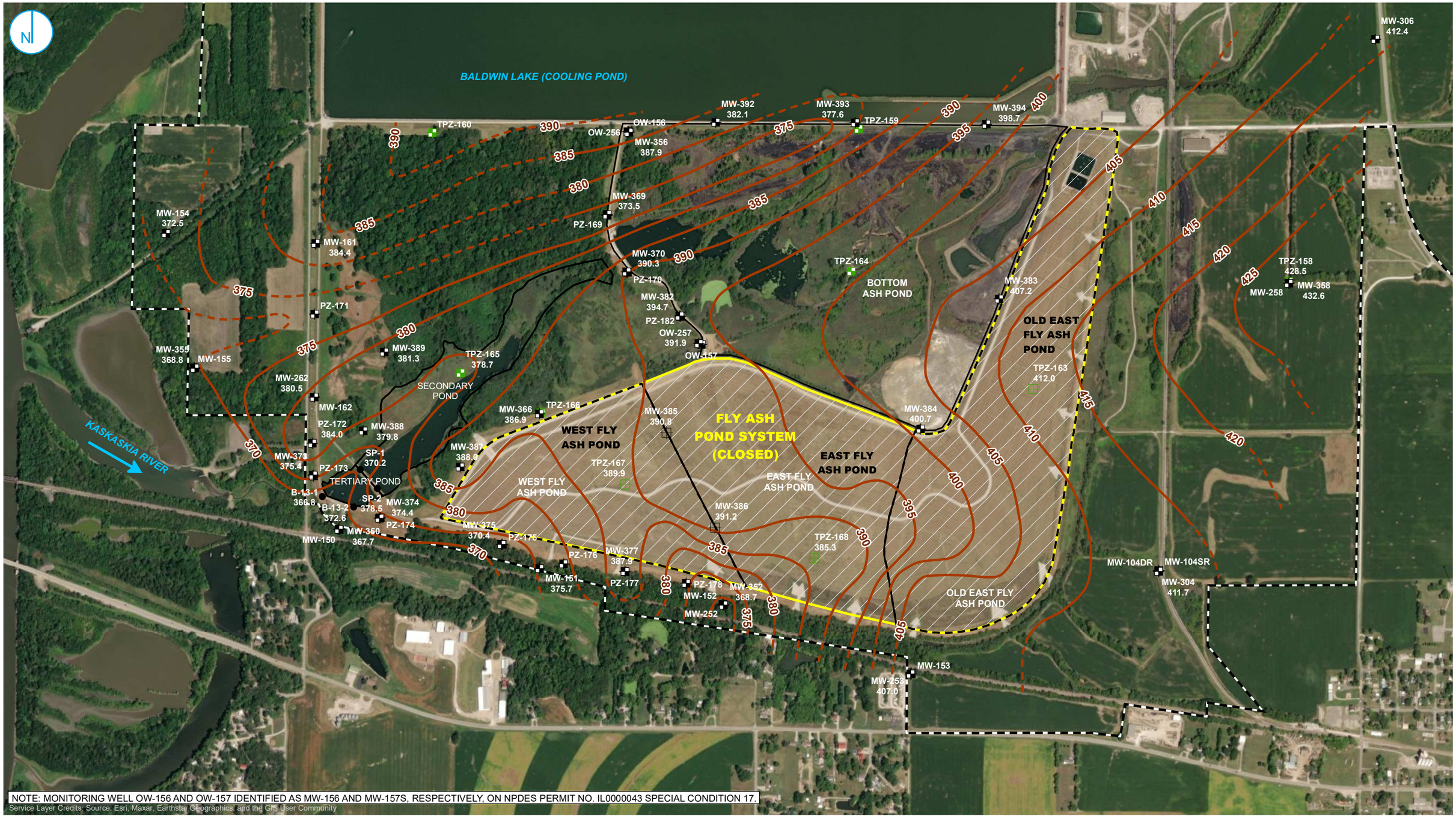
SAND SEAM OBSERVATIONS, THICKNESS AND ELEVATIONS

NATURE AND EXTENT REPORT
FLY ASH POND SYSTEM
BALDWIN POWER PLANT
BALDWIN, ILLINOIS

FIGURE 2-4

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL



NOTE: MONITORING WELL OW-156 AND OW-157 IDENTIFIED AS MW-156 AND MW-157S, RESPECTIVELY, ON NPDES PERMIT NO. IL0000043 SPECIAL CONDITION 17.

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

- MONITORING WELL
- PORE WATER WELL
- CLOSED MONITORING WELL
- CLOSED PORE WATER WELL
- AECOM BORING LOCATION

- BEDROCK ELEVATION CONTOUR
- INFERRED BEDROCK ELEVATION CONTOUR

- REGULATED UNIT (SUBJECT UNIT)
- SITE FEATURE
- LIMITS OF FINAL COVER
- PROPERTY BOUNDARY

0 400 800 Feet

TOP OF UPPERMOST AQUIFER

NATURE AND EXTENT REPORT
FLY ASH POND SYSTEM
BALDWIN POWER PLANT
BALDWIN, ILLINOIS

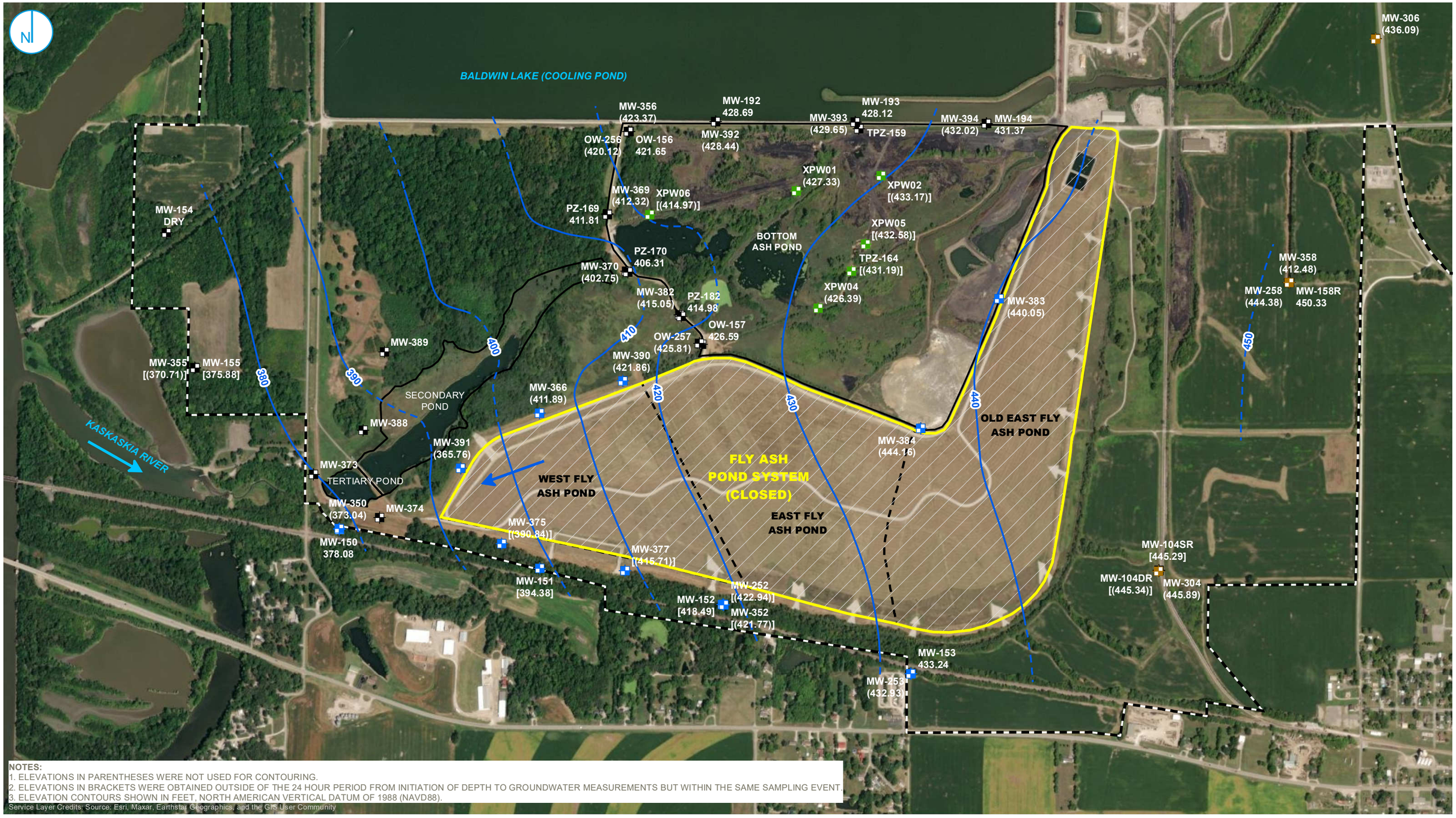
FIGURE 2-5

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

PROJECT: 169000XXXX | DATED: 4/11/2024 | DESIGNER: galarnmc

Y:\Mapping\Projects\222285\MXD\Nature_and_Extent\BAL\Nature_and_Extent_Report\Figure 2-6_Bedrock Topography.mxd



NOTES:
1. ELEVATIONS IN PARENTHESES WERE NOT USED FOR CONTOURING.
2. ELEVATIONS IN BRACKETS WERE OBTAINED OUTSIDE OF THE 24 HOUR PERIOD FROM INITIATION OF DEPTH TO GROUNDWATER MEASUREMENTS BUT WITHIN THE SAME SAMPLING EVENT.
3. ELEVATION CONTOURS SHOWN IN FEET, NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

- COMPLIANCE MONITORING WELL
- BACKGROUND MONITORING WELL
- MONITORING WELL
- PORE WATER WELL
- GROUNDWATER ELEVATION CONTOUR (10-FT CONTOUR INTERVAL, NAVD88)
- INFERRED GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER FLOW DIRECTION
- REGULATED UNIT (SUBJECT UNIT)
- SITE FEATURE
- CAPPED
- PROPERTY BOUNDARY

0 400 800 Feet

SHALLOW UNLITHIFIED POTENTIOMETRIC SURFACE MAP, MAY 2023 (E001)

FIGURE 2-6

NATURE AND EXTENT REPORT
FLY ASH POND SYSTEM
BALDWIN POWER PLANT
BALDWIN, ILLINOIS

RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.

RAMBOLL

Y:\Mapping\Projects\22\22285\MXD\GW_Contours\Round_2023\Baldwin\FAPS_605\BAL 605 FAPS Unlith Pot Surface 20230516.mxd
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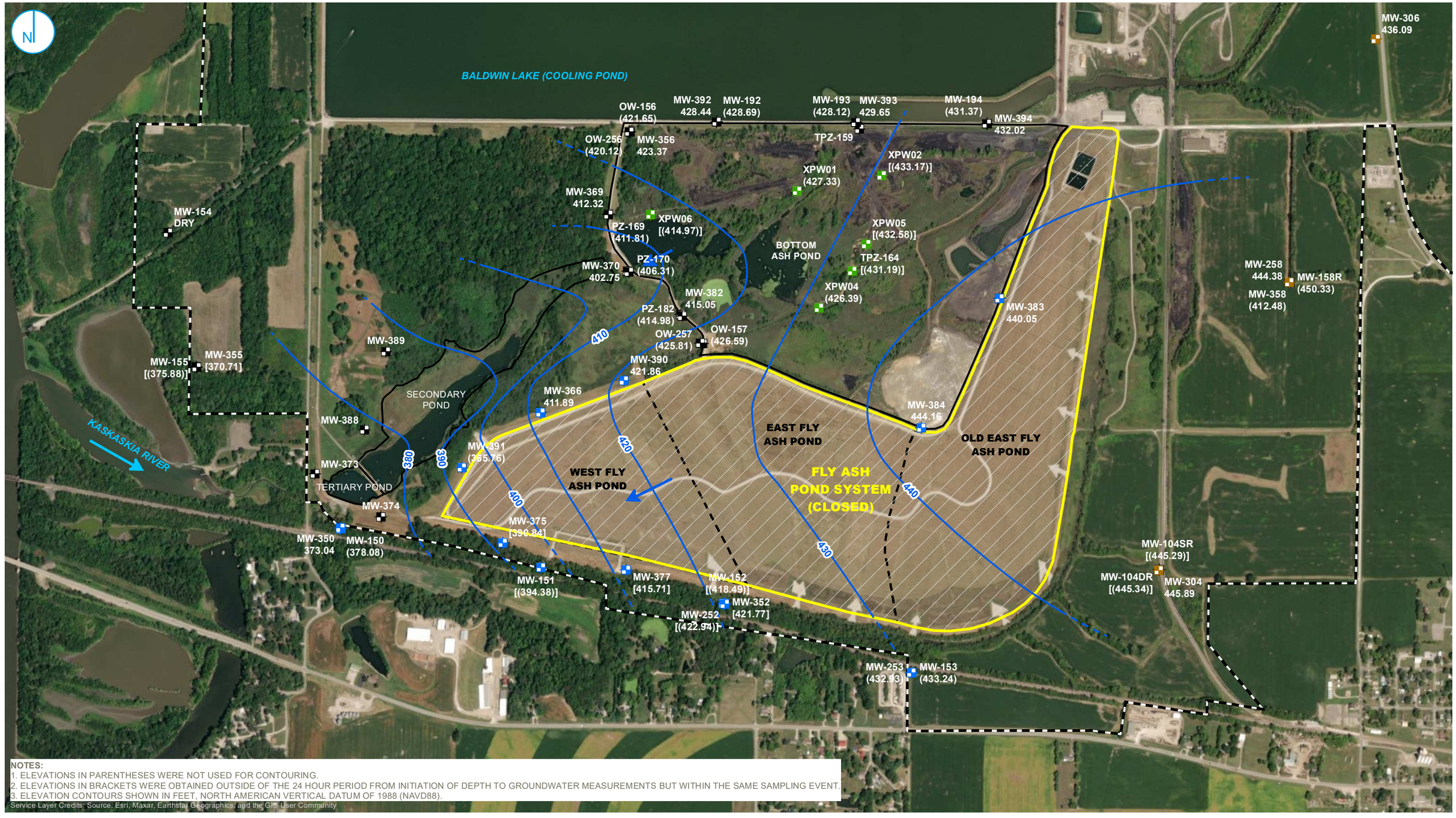


NOTES:
1. ELEVATIONS IN PARENTHESES WERE NOT USED FOR CONTOURING.
2. ELEVATIONS IN BRACKETS WERE OBTAINED OUTSIDE OF THE 24 HOUR PERIOD FROM INITIATION OF DEPTH TO GROUNDWATER MEASUREMENTS BUT WITHIN THE SAME SAMPLING EVENT.
3. ELEVATION CONTOURS SHOWN IN FEET, NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

- COMPLIANCE MONITORING WELL
- BACKGROUND MONITORING WELL
- MONITORING WELL
- PORE WATER WELL
- GROUNDWATER ELEVATION CONTOUR (10-FT CONTOUR INTERVAL, NAVD88)
- INFERRED GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER FLOW DIRECTION
- REGULATED UNIT (SUBJECT UNIT)
- SITE FEATURE
- CAPPED AREA
- PROPERTY BOUNDARY

0 400 800 Feet

UPPERMOST AQUIFER POTENTIOMETRIC SURFACE MAP, MAY 2023 (E001)

NATURE AND EXTENT REPORT
FLY ASH POND SYSTEM
BALDWIN POWER PLANT
BALDWIN, ILLINOIS

FIGURE 2-7

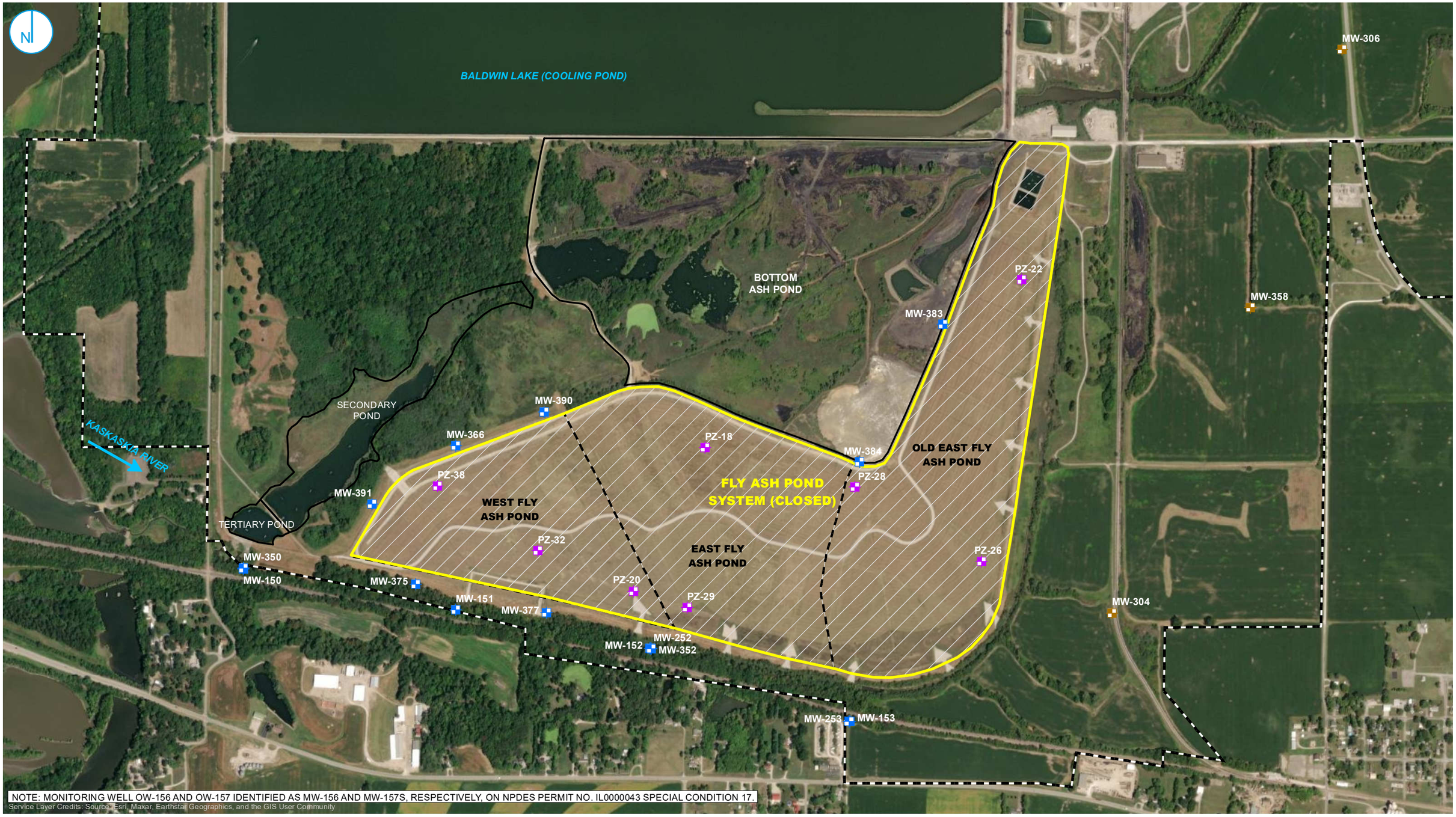
RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

PROJECT: 169000XXXX | DATED: 10/31/2023 | DESIGNER: GALARNMC

Y:\Mapping\Projects\2202285\MXD\GW_Contours\Round_2023\Baldwin\FAPS_605\BAL 605 FAPS Pot Surface 20230516.mxd

Y:\Mapping\Projects\22\2285\MXD\Nature_and_Extent\BAL\Nature_and_Extent_Report\Figure 2-8. Monitoring Well Location Network.mxd
PROJECT: 169000XXXX | DATED: 4/17/2024 | DESIGNER: galammc



COMPLIANCE MONITORING WELL
BACKGROUND MONITORING WELL
SUPPLEMENTAL PIEZOMETER
REGULATED UNIT (SUBJECT UNIT)
FLY ASH POND SYSTEM (CLOSED)
SITE FEATURE
LIMITS OF FINAL COVER
PROPERTY BOUNDARY

0 400 800 Feet

MONITORING WELL LOCATION MAP

NATURE AND EXTENT REPORT
FLY ASH POND SYSTEM
BALDWIN POWER PLANT
BALDWIN, ILLINOIS

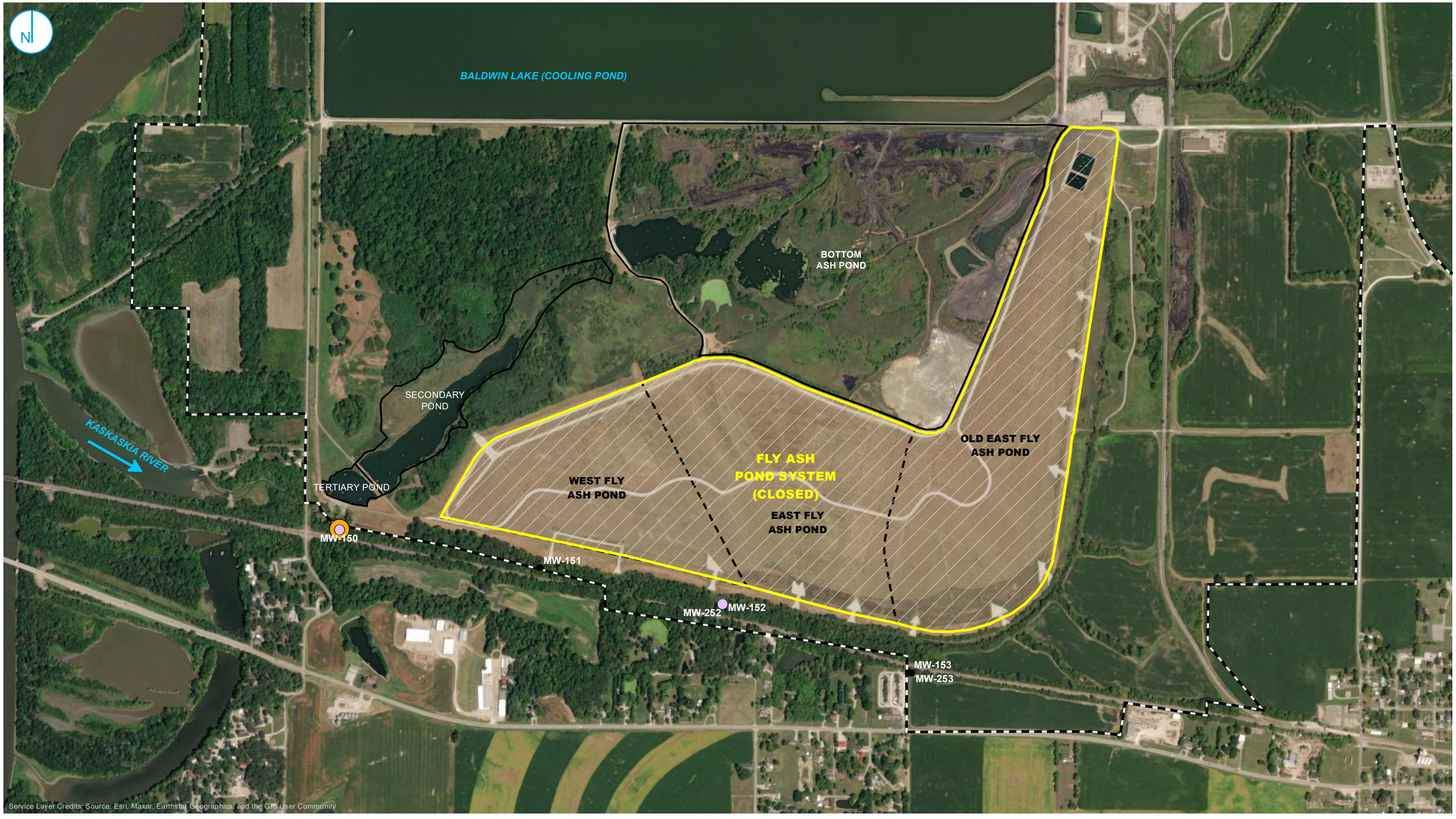
FIGURE 2-8

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

Y:\Mapping\Projects\22\22854\MXD\Nature_and_Extent\BAL\Nature_and_Extent_Report\Figure 3-2. BAL 605 GWPS UU.mxd

PROJECT: 169000XXXX | DATED: 4/15/2024 | DESIGNER: galarnmc



- TOTAL BORON EXCEEDANCE
- TOTAL SULFATE EXCEEDANCE
- COMPLIANCE WELL WITHOUT EXCEEDANCE
- REGULATED UNIT (SUBJECT UNIT)
- SITE FEATURE
- CAPPED AREA
- PROPERTY BOUNDARY

0 400 800 Feet

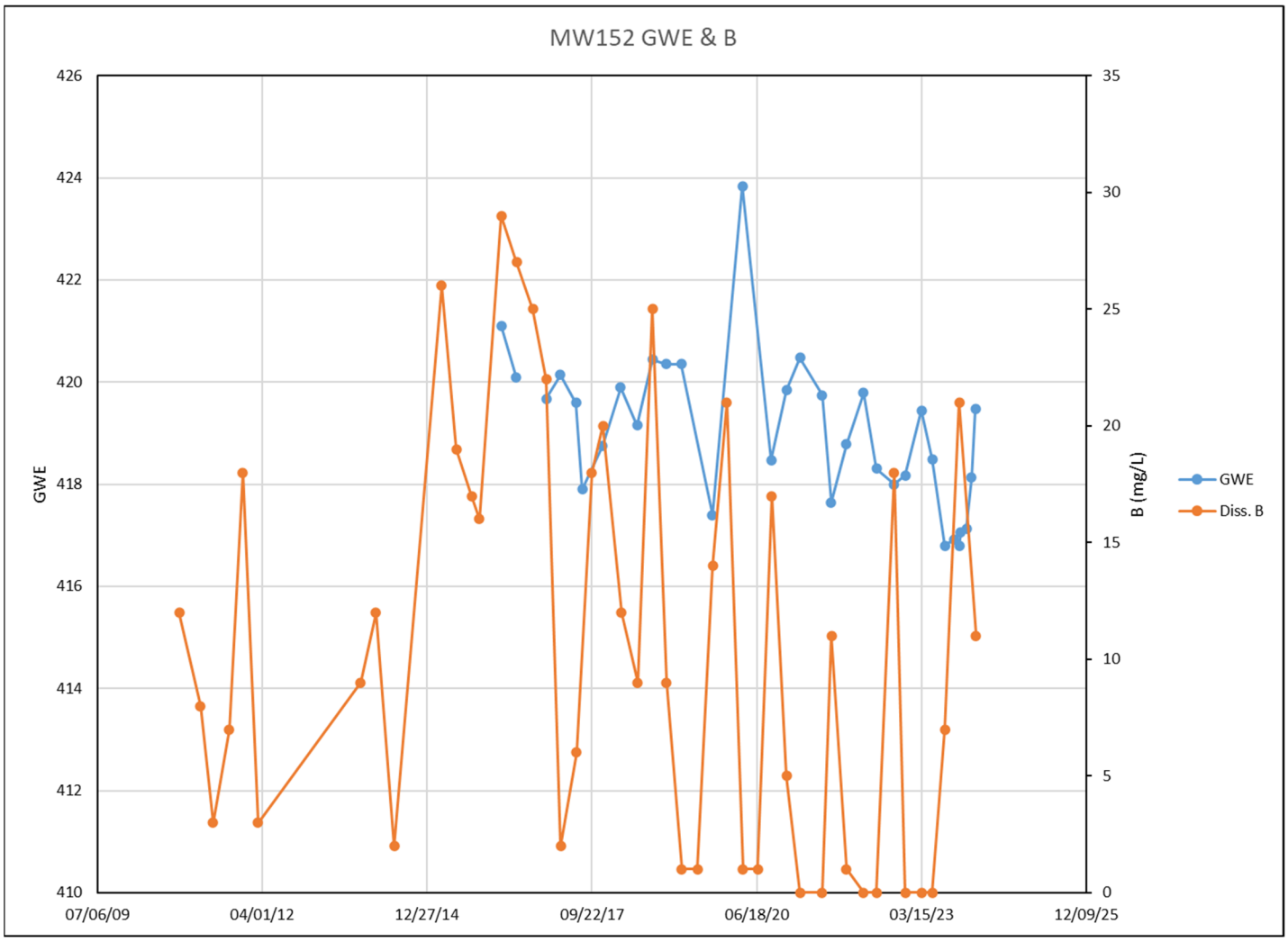
GWPS EXCEEDANCE MAP UPPER UNIT

NATURE AND EXTENT REPORT
FLY ASH POND SYSTEM
BALDWIN POWER PLANT
BALDWIN, ILLINOIS

FIGURE 3-1

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

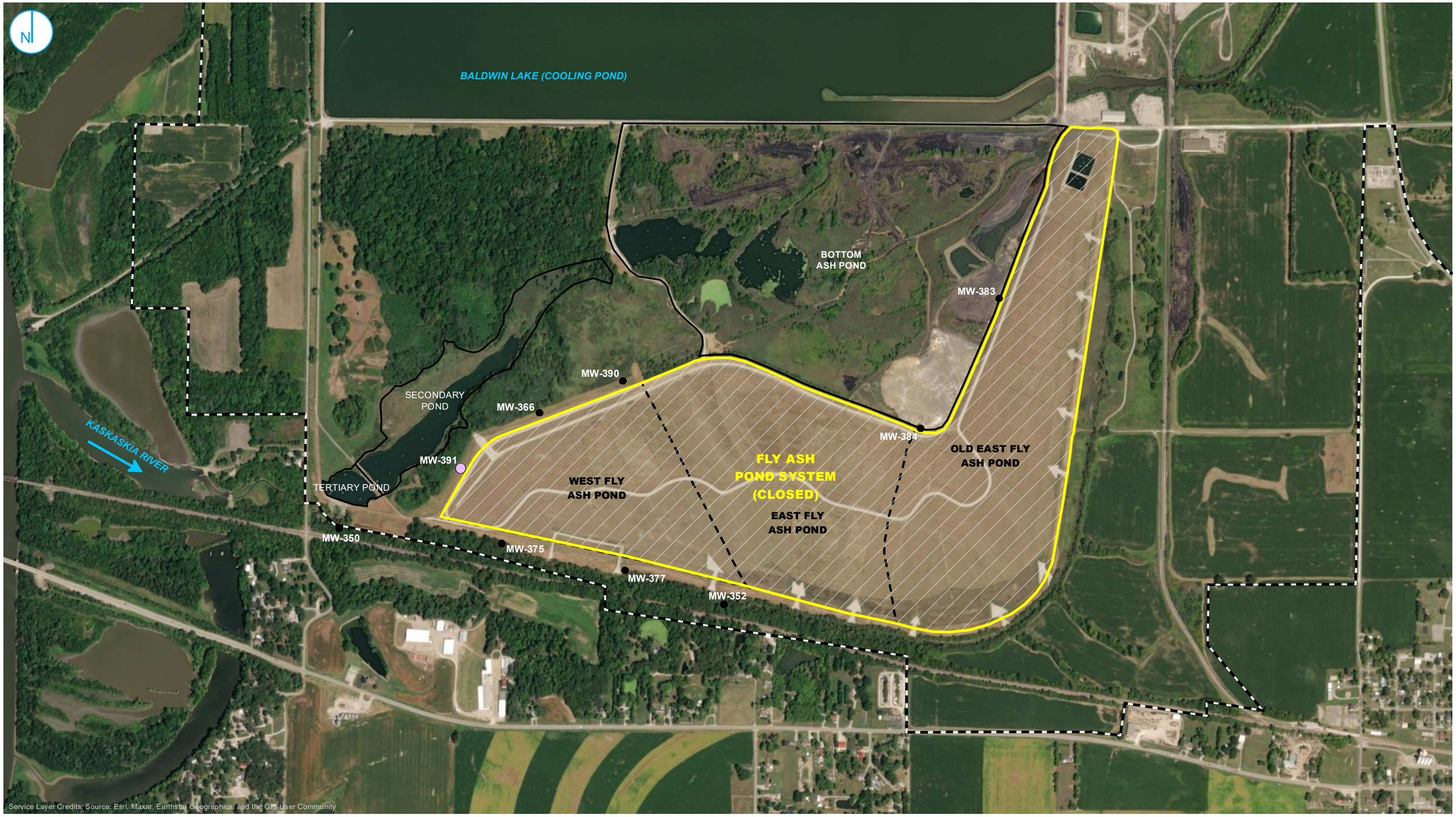
RAMBOLL



GROUNDWATER ELEVATIONS AND BORON CONCENTRATIONS IN MW-152

NATURE AND EXTENT REPORT
FLY ASH POND SYSTEM
BALDWIN POWER PLANT
BALDWIN, ILLINOIS

Notes:
Groundwater elevation (GWE) data are presented relative to the North American Vertical Datum 1988.
Dissolved boron (Diss B) data are presented in milligrams per liter.



TOTAL BORON EXCEEDANCE
COMPLIANCE WELL WITHOUT EXCEEDANCE
REGULATED UNIT (SUBJECT UNIT)
SITE FEATURE
CAPPED AREA
PROPERTY BOUNDARY

0 400 800 Feet

GWPS EXCEEDANCE MAP UPPERMOST AQUIFER

NATURE AND EXTENT REPORT
FLY ASH POND SYSTEM
BALDWIN POWER PLANT
BALDWIN, ILLINOIS

FIGURE 3-3

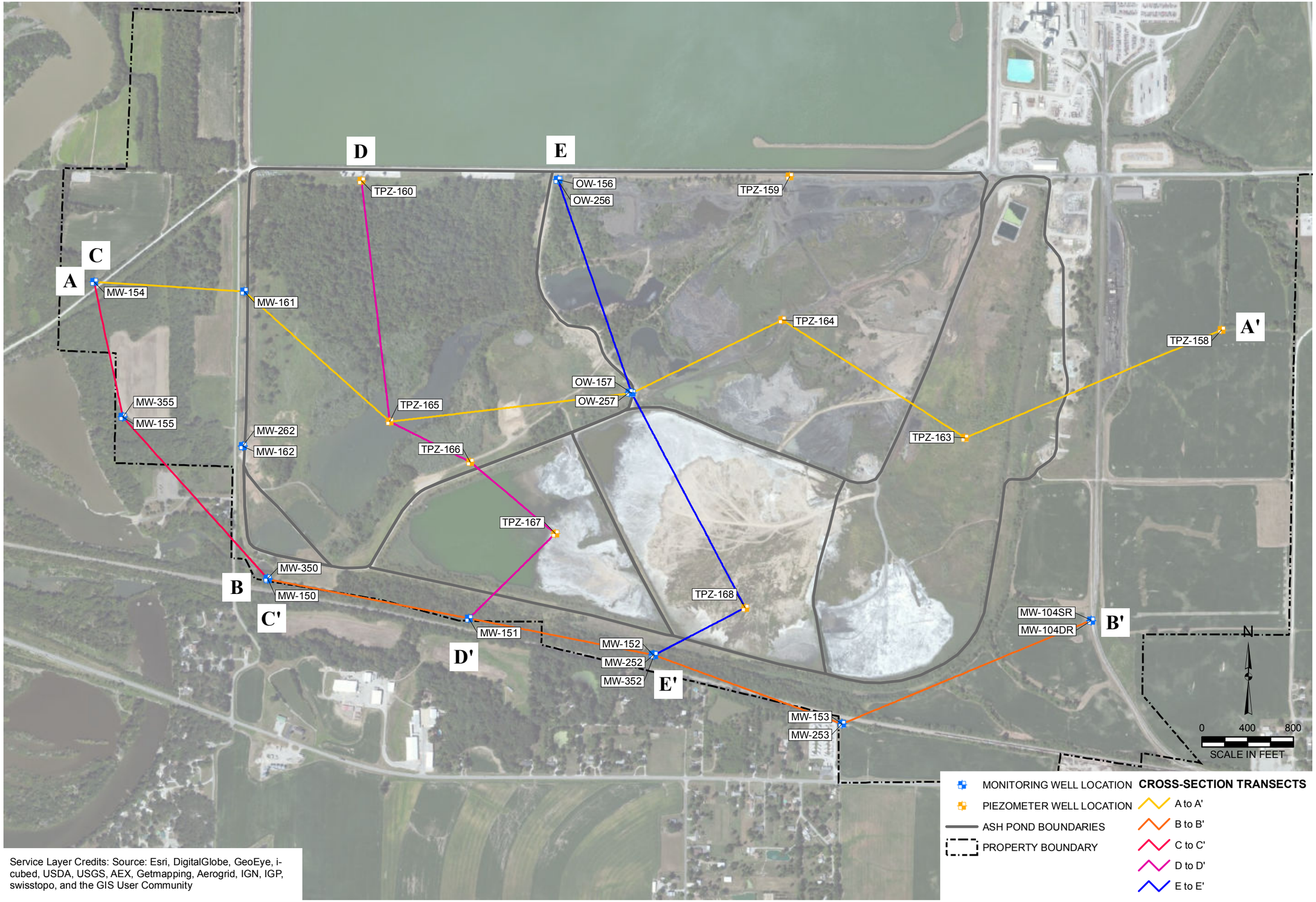
RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

Y:\Mapping\Projects\22\12285\MXD\Nature_and_Extent\BAL\Nature_and_Extent_Report\Figure 3-1_BAL_605_GWPS_UA.mxd
PROJECT: 169000XXXX | DATED: 4/15/2024 | DESIGNER: galarnmc

APPENDICES

APPENDIX A
Geologic Cross-Sections



Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

DRAWN BY/DATE: TDC 4/30/14
REVIEWED BY/DATE: SJC 4/27/14
APPROVED BY/DATE: SJC 6/9/14

CROSS SECTION LOCATION MAP

GROUNDWATER QUALITY ASSESSMENT AND PHASE II HYDROGEOLOGIC INVESTIGATION
BALDWIN ASH POND SYSTEM, BALDWIN ENERGY COMPLEX
10901 BALDWIN ROAD BALDWIN, ILLINOIS 62217

PROJECT NO: 2189

FIGURE NO: 7

NATURAL RESOURCE TECHNOLOGY

Y:\Mapping\Projects\2212189\MXD\HydroGeo_Rpt\Figure 7_Cross Section Location Map.mxd Author: tcushman; Date/Time: 6/10/2014, 9:16:53 AM

West

East

A

A'

ELEVATION (feet)

460
450
440
430
420
410
400
390
380
370

MW–161
FILL
SILT
CLAY AND SILT
(EQUALITY
FORMATION)
SAND
MW–154
CLAY

OW–157
OW–257
CLAY
(EQUALITY
FORMATION)
TPZ–164
CCR
TPZ–165
FILL
CLAY
CLAY
(VANDALIA
MEMBER)

TPZ–163
CCR
CLAY
(VANDALIA
MEMBER)
TPZ–158
SAND
SAND

LIMESTONE – SHALE
BEDROCK

LEGEND

- WELL SCREEN INTERVAL
- FILL
- CLAY, CL
- CLAY, CH
- SAND, SP/SM/SW
- SHALE
- SILT, ML
- COAL COMBUSTION RESIDUALS, CCRs

NOTE: This profile was developed by interpolation between widely spaced boreholes. Only at the borehole location should it be considered as an approximately accurate representation and then only to the degree implied by the notes on the borehole logs.

0 400 800
FEET

(HORIZONTAL SCALE
IS APPROXIMATE)

DRAWN BY/DATE:
TDC 5/15/14
REVIEWED BY/DATE:
SJC 5/16/14
APPROVED BY/DATE:
SJC 6/9/14

GEOLOGIC CROSS SECTION A-A'

GROUNDWATER QUALITY ASSESSMENT AND PHASE II HYDROGEOLOGIC INVESTIGATION
BALDWIN ASH POND SYSTEM, BALDWIN ENERGY COMPLEX
10901 BALDWIN ROAD BALDWIN, ILLINOIS 62217

PROJECT NO: 2189

FIGURE NO: 8A

NATURAL RESOURCE TECHNOLOGY

Y:\Mapping\Projects\2121289MXD\HydroGeo_Rpt\Figure 8_Geologic Cross Section.mxd Author: tcushman Date/Time: 5/16/2014, 10:18:13 AM

WEST
B
I

EAST
B'
I

460
440
420
400
380
360
340

MW–150
MW–350

MW–151

MW–152
MW–252
MW–352

MW–153
MW–253

MW–104SR
MW–104DR

CLAY
(CAHOKIA ALLUVUM)

CLAY

CLAY
(EQUALITY FM)

SAND

CLAY

CLAY
(VANDALIA MEMBER)

SAND

LIMESTONE–SHALE
BEDROCK

LIMESTONE–SHALE
BEDROCK

LIMESTONE–SHALE
BEDROCK

LEGEND

WELL SCREEN INTERVAL

FILL

CLAY, CL

CLAY, CH

SAND, SP/SM/SW

SHALE

SILT, ML

COAL COMBUSTION RESIDUALS, CCRs

NOTE: This profile was developed by interpolation between widely spaced boreholes. Only at the borehole location should it be considered as an approximately accurate representation and then only to the degree implied by the notes on the borehole logs.

0 300 600
FEET
(HORIZONTAL SCALE IS APPROXIMATE)

DRAWN BY/DATE:
TDC 5/15/14
REVIEWED BY/DATE:
SJC 5/16/14
APPROVED BY/DATE:
SJC 6/9/14

GEOLOGIC CROSS SECTION B-B'

GROUNDWATER QUALITY ASSESSMENT AND PHASE II HYDROGEOLOGIC INVESTIGATION
BALDWIN ASH POND SYSTEM, BALDWIN ENERGY COMPLEX
10901 BALDWIN ROAD BALDWIN, ILLINOIS 62217

PROJECT NO: 2189

FIGURE NO: 8B

NATURAL RESOURCE TECHNOLOGY

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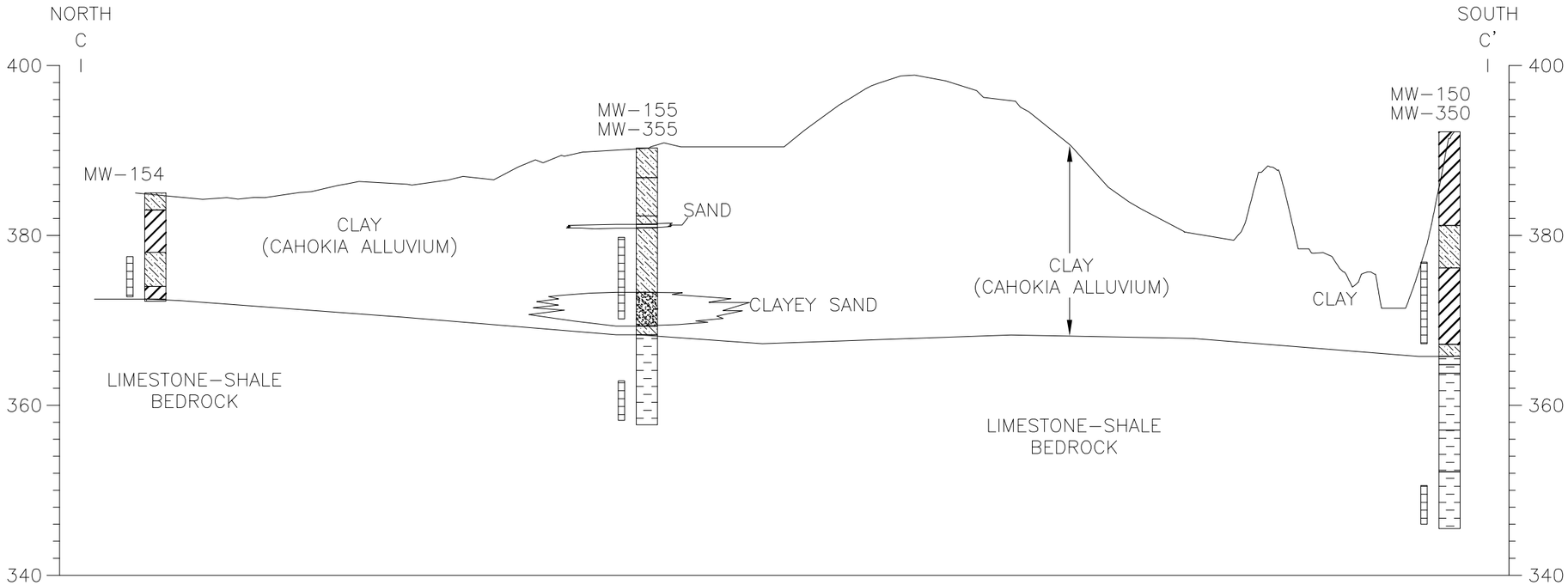


LEGEND

WELL SCREEN INTERVAL

FILL

CLAY, CL

CLAY, CH

SAND, SP/SM/SW

SHALE

SILT, ML

COAL COMBUSTION RESIDUALS, CCRs

NOTE: This profile was developed by interpolation between widely spaced boreholes. Only at the borehole location should it be considered as an approximately accurate representation and then only to the degree implied by the notes on the borehole logs.

0 150 300

FEET

(HORIZONTAL SCALE IS APPROXIMATE)

DRAWN BY/DATE: TDC 5/15/14
REVIEWED BY/DATE: SJC 5/16/14
APPROVED BY/DATE: SJC 6/9/14

GEOLOGIC CROSS SECTION C-C'

GROUNDWATER QUALITY ASSESSMENT AND PHASE II HYDROGEOLOGIC INVESTIGATION
BALDWIN ASH POND SYSTEM, BALDWIN ENERGY COMPLEX
10901 BALDWIN ROAD BALDWIN, ILLINOIS 62217

PROJECT NO: 2189

FIGURE NO: 8C

NATURAL RESOURCE TECHNOLOGY

Y:\Mapping\Projects\2121189\MXD\HydroGeo_Rpt\Figure 8_Geologic Cross Section.mxd Author: tcushman Date/Time: 5/16/2014, 10:18:13 AM

North

South

D

D'

ELEVATION (feet)

460
450
440
430
420
410
400
390
380
370

TPZ−160

CLAY AND SILT (EQUALITY FORMATION)

CLAY (VANDALIA MEMBER)

FILL

TPZ−165

TPZ−166

FILL

CCRs

CLAY (EQUALITY FORMATION)

CLAY (VANDALIA MEMBER)

TPZ−167

CCRs

FILL

MW−151

CLAY (VANDALIA MEMBER)

LIMESTONE – SHALE BEDROCK

LEGEND

WELL SCREEN INTERVAL

FILL

CLAY, CL

CLAY, CH

SAND, SP/SM/SW

SHALE

SILT, ML

COAL COMBUSTION RESIDUALS, CCRs

NOTE: This profile was developed by interpolation between widely spaced boreholes. Only at the borehole location should it be considered as an approximately accurate representation and then only to the degree implied by the notes on the borehole logs.

0 200 400

FEET

(HORIZONTAL SCALE IS APPROXIMATE)

DRAWN BY/DATE: TDC 5/15/14
REVIEWED BY/DATE: SJC 5/16/14
APPROVED BY/DATE: SJC 6/9/14

GEOLOGIC CROSS SECTION D-D'

GROUNDWATER QUALITY ASSESSMENT AND PHASE II HYDROGEOLOGIC INVESTIGATION
BALDWIN ASH POND SYSTEM, BALDWIN ENERGY COMPLEX
10901 BALDWIN ROAD BALDWIN, ILLINOIS 62217

PROJECT NO: 2189

FIGURE NO: 8D

NATURAL RESOURCE TECHNOLOGY

Y:\Mapping\Projects\2112189\MXD\HydroGeo_Rpt\Figure 8_Geologic Cross Section.mxd Author: tcushman; Date/Time: 5/16/2014, 10:18:13 AM

North

E

E'

South

ELEVATION (feet)

460
450
440
430
420
410
400
390
380
370
360
350
340

OW–156
OW–256

OW–157
OW–257

TPZ–168

MW–152
MW–252
MW–352

CLAY
(PEORIA LOESS)

FILL

CCRs

CCRs

FILL

CLAY
(EQUALITY
FORMATION)

CLAY
(EQUALITY
FORMATION)

CLAY
(VANDALIA
MEMBER)

CLAY
(VANDALIA
MEMBER)

SAND

SAND
SEAMS

CLAY
(VANDALIA
MEMBER)

LIMESTONE – SHALE
BEDROCK

LEGEND

WELL SCREEN INTERVAL

FILL

CLAY, CL

CLAY, CH

SAND, SP/SM/SW

SHALE

SILT, ML

COAL COMBUSTION RESIDUALS, CCRs

NOTE: This profile was developed by interpolation between widely spaced boreholes. Only at the borehole location should it be considered as an approximately accurate representation and then only to the degree implied by the notes on the borehole logs.

0 200 400
FEET
(HORIZONTAL SCALE
IS APPROXIMATE)

DRAWN BY/DATE:
TDC 5/15/14
REVIEWED BY/DATE:
SJC 5/16/14
APPROVED BY/DATE:
SJC 6/9/14

GEOLOGIC CROSS SECTION E-E'

GROUNDWATER QUALITY ASSESSMENT AND PHASE II HYDROGEOLOGIC INVESTIGATION
BALDWIN ASH POND SYSTEM, BALDWIN ENERGY COMPLEX
10901 BALDWIN ROAD BALDWIN, ILLINOIS 62217

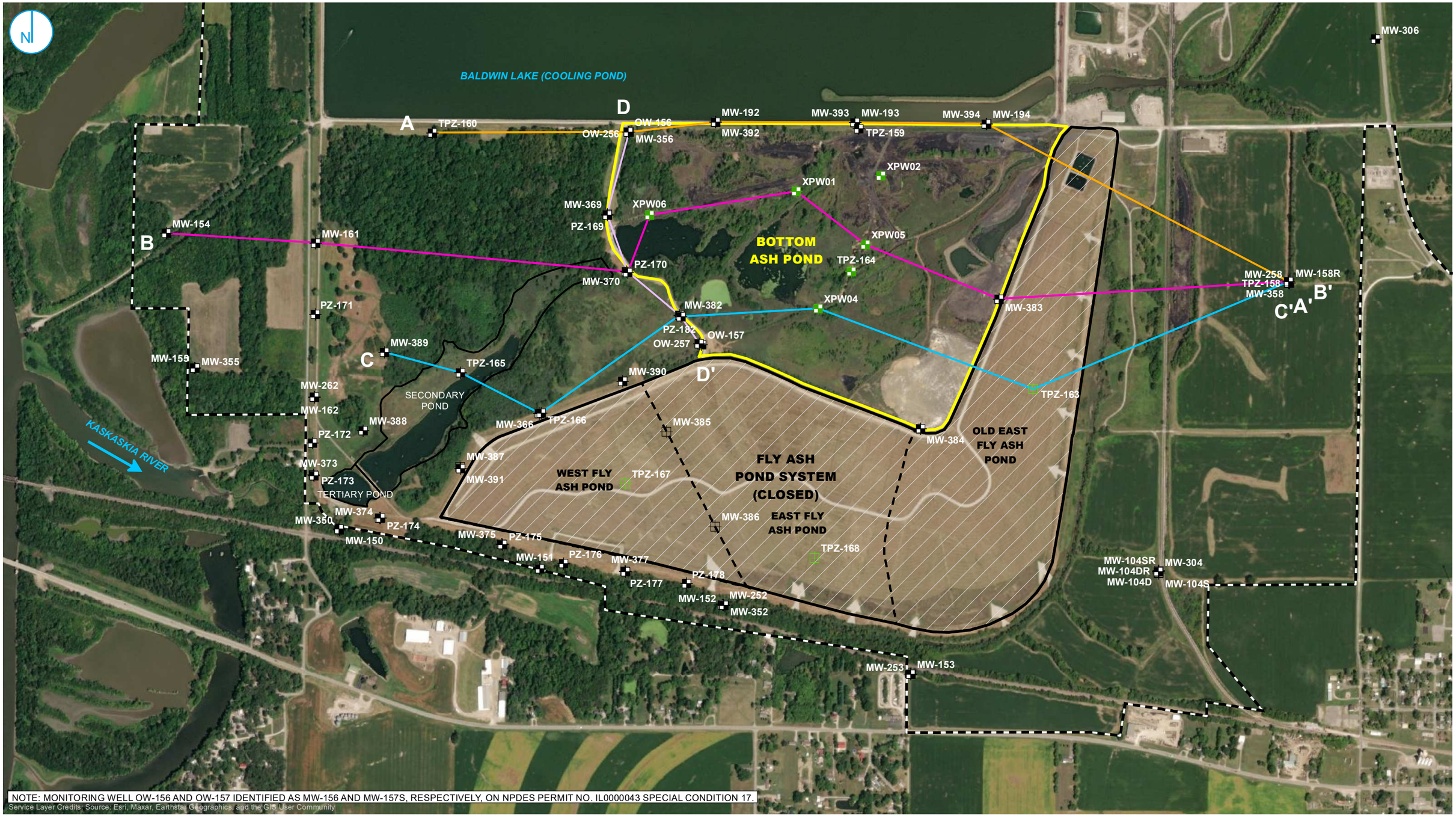
PROJECT NO: 2189

FIGURE NO: 8E

NATURAL RESOURCE TECHNOLOGY

Y:\Mapping\Projects\2112189\MXD\HydroGeo_Rpt\Figure 8_Geologic Cross Section.mxd Author: tcushman; Date/Time: 5/16/2014, 10:18:13 AM

Y:\Mapping\Projects\22\22285\MXD\845_Operating_Permit\Baldwin\BAP\2023_Update\Figure 2-6_Cross Section Locations.mxd



NOTE: MONITORING WELL OW-156 AND OW-157 IDENTIFIED AS MW-156 AND MW-157S, RESPECTIVELY, ON NPDES PERMIT NO. IL0000043 SPECIAL CONDITION 17.

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

- MONITORING WELL AND PIEZOMETER LOCATION
- PORE WATER WELL
- CLOSED MONITORING WELL
- CLOSED PORE WATER WELL

CROSS SECTION TRANSECT

- A to A'
- B to B'
- C to C'
- D to D'

- REGULATED UNIT (SUBJECT UNIT)
- FLY ASH POND SYSTEM (CLOSED)
- SITE FEATURE
- LIMITS OF FINAL COVER
- PROPERTY BOUNDARY

0 400 800 Feet

CROSS SECTION LOCATION MAP

HYDROGEOLOGIC SITE CHARACTERIZATION REPORT REVISION 1
BOTTOM ASH POND
BALDWIN POWER PLANT
BALDWIN, ILLINOIS

FIGURE 2-6

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

PROJECT: 169000XXXX | DATED: 5/9/2023 | DESIGNER: GALARNMC

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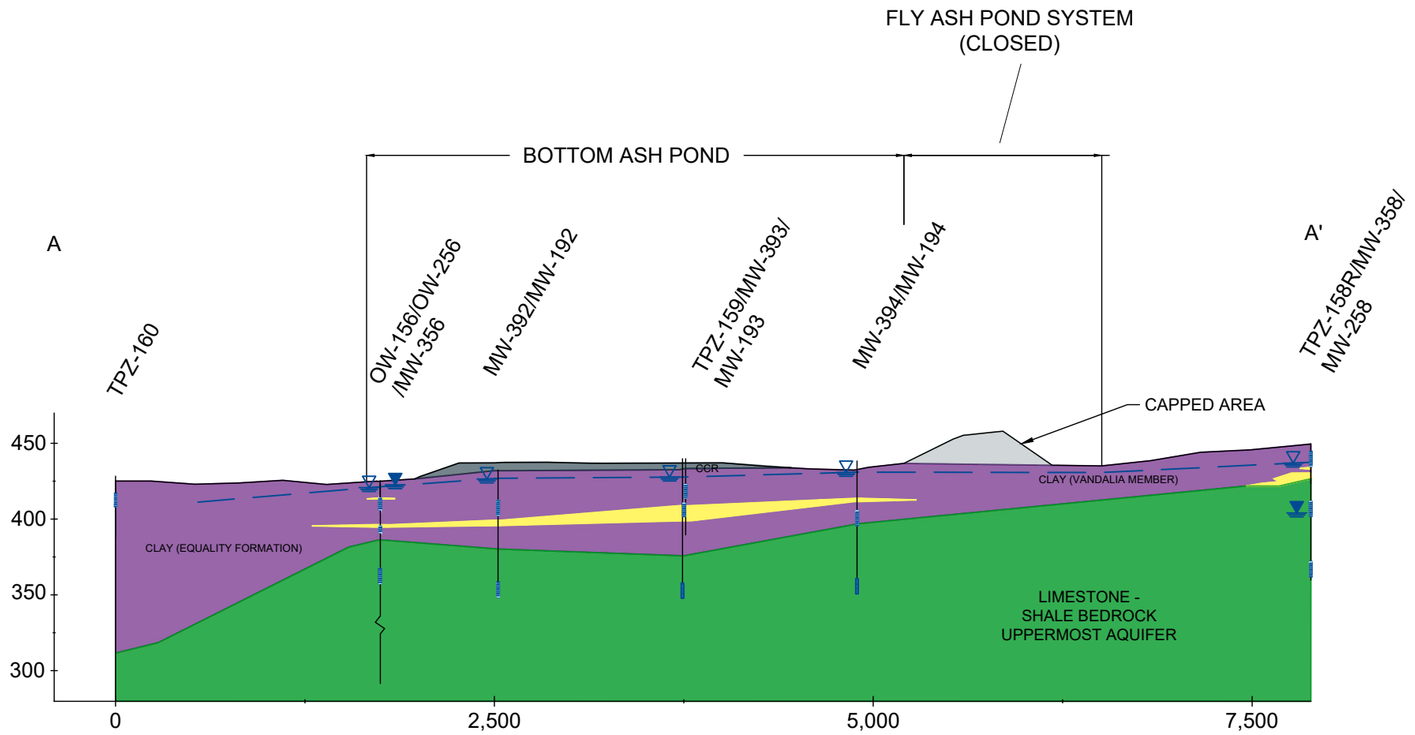
PROJECT: 1940100806 DATED: 6/26/2023 11:34 PM DESIGNER: ENGELHSA

NOTES

1. This profile was developed by interpolation between widely spaced boreholes. Only at the borehole location should it be considered as an approximately accurate representation and then only to the degree implied by the notes on the borehole logs.
2. Scale is approximate.
3. Vertical scale is exaggerated 10X.
4. Groundwater elevations measured on March 15, 2023.



LEGEND

- COAL COMBUSTION RESIDUALS (CCR)
- FILL
- CLAY
- SILT
- SAND
- BEDROCK / WEATHERED BEDROCK (INTERBEDDED SHALE, LIMESTONE)
- WELL SCREEN INTERVAL
- UPPERMOST AQUIFER POTENTIOMETRIC SURFACE
- UPPERMOST AQUIFER GROUNDWATER ELEVATION
- OTHER GROUNDWATER / SURFACE WATER ELEVATION(S)

100' 0 1,000'

CROSS SECTIONS A-A'

HYDROGEOLOGIC SITE CHARACTERIZATION REPORT REVISION 1
BOTTOM ASH POND
BALDWIN POWER PLANT
BALDWIN, ILINNOIS

FIGURE 2-7

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

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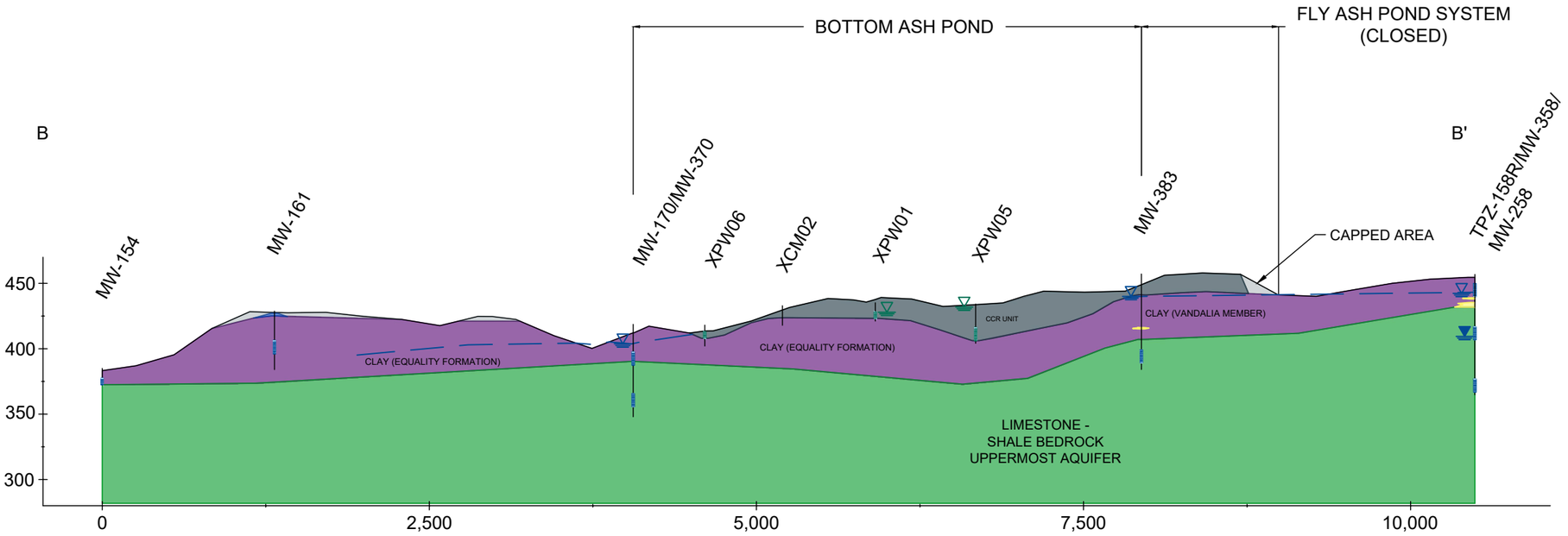


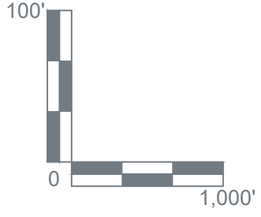
NOTES

1. These profiles were developed by interpolation between widely spaced boreholes. Only at the borehole location should it be considered as an approximately accurate representation and then only to the degree implied by the notes on the borehole logs.
2. Scale is approximate.
3. Vertical scale is exaggerated 10X.
4. Groundwater elevations measured on March 15, 2023.

LEGEND

- COAL COMBUSTION RESIDUALS (CCR)
- FILL
- CLAY
- SILT
- SAND
- BEDROCK / WEATHERED BEDROCK (INTERBEDDED SHALE, LIMESTONE)

- WELL SCREEN INTERVAL
- UPPERMOST AQUIFER POTENTIOMETRIC SURFACE
- UPPERMOST AQUIFER GROUNDWATER ELEVATION
- POREWATER ELEVATION
- OTHER GROUNDWATER / SURFACE WATER ELEVATION(S)



CROSS SECTIONS B-B'

HYDROGEOLOGIC SITE CHARACTERIZATION REPORT REVISION 1 BOTTOM ASH POND

BALDWIN POWER PLANT
BALDWIN, ILINNOIS

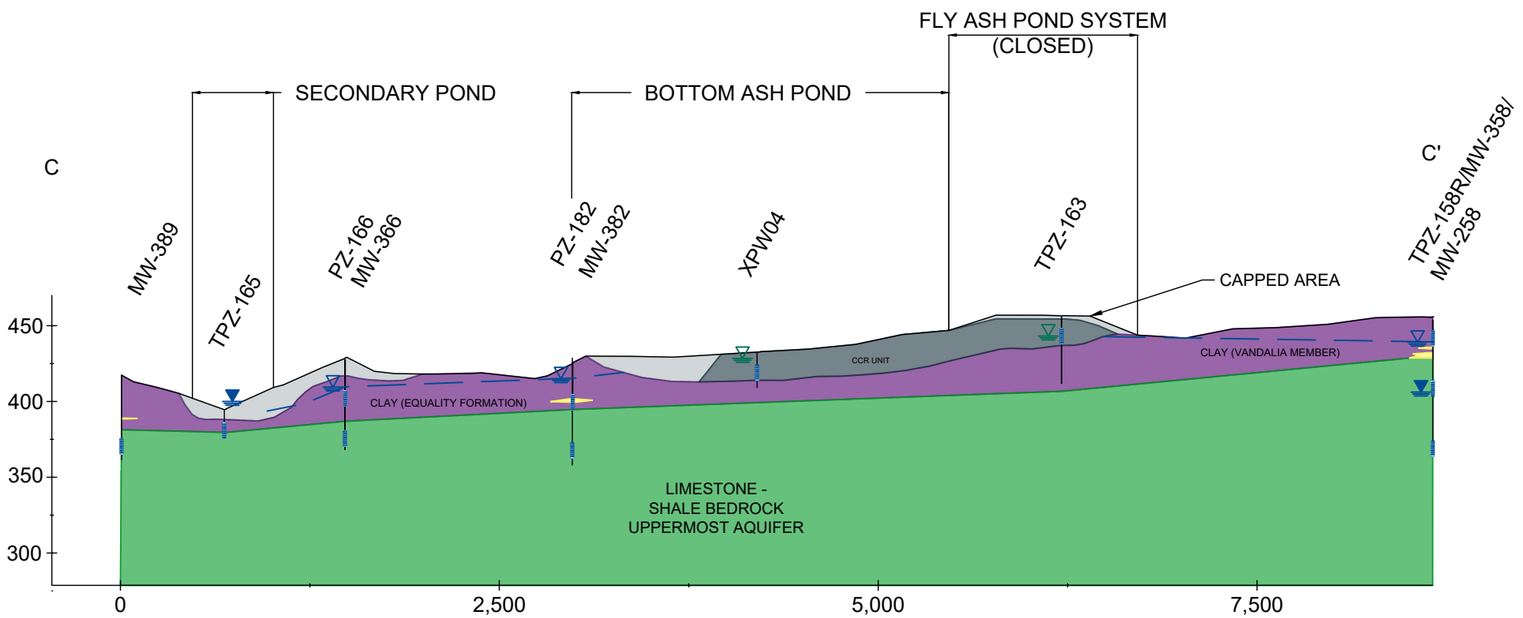
FIGURE 2-8

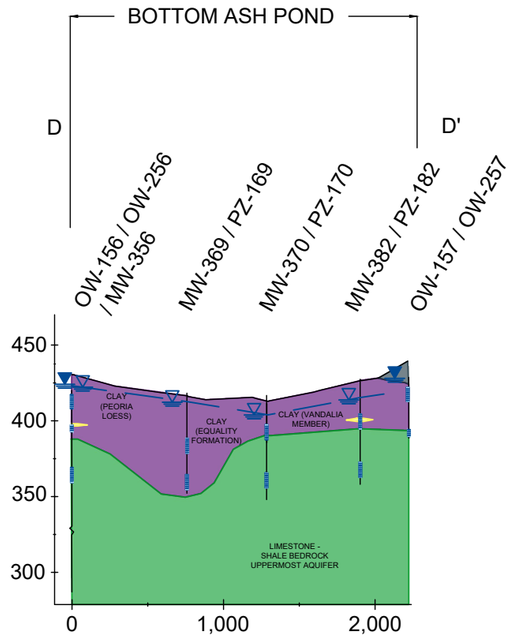
RAMBOLL AMERICAS ENGINEERING SOLUTIONS, INC.

RAMBOLL

NOTES

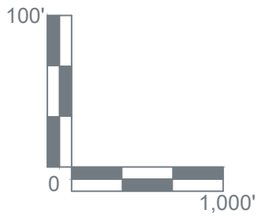
1. This profile was developed by interpolation between widely spaced boreholes. Only at the borehole location should it be considered as an approximately accurate representation and then only to the degree implied by the notes on the borehole logs.
2. Scale is approximate.
3. Vertical scale is exaggerated 10X.
4. Groundwater elevations measured on March 15, 2023.





LEGEND

- COAL COMBUSTION RESIDUALS (CCR)
- FILL
- CLAY
- SILT
- SAND
- BEDROCK / WEATHERED BEDROCK (INTERBEDDED SHALE, LIMESTONE)
- WELL SCREEN INTERVAL
- UPPERMOST AQUIFER POTENTIOMETRIC SURFACE
- UPPERMOST AQUIFER GROUNDWATER ELEVATION
- POREWATER ELEVATION
- OTHER GROUNDWATER / SURFACE WATER ELEVATION(S)



CROSS SECTIONS C-C' AND D-D'

HYDROGEOLOGIC SITE CHARACTERIZATION REPORT REVISION 1
BOTTOM ASH POND
BALDWIN POWER PLANT
BALDWIN, ILINNOIS

FIGURE 2-9

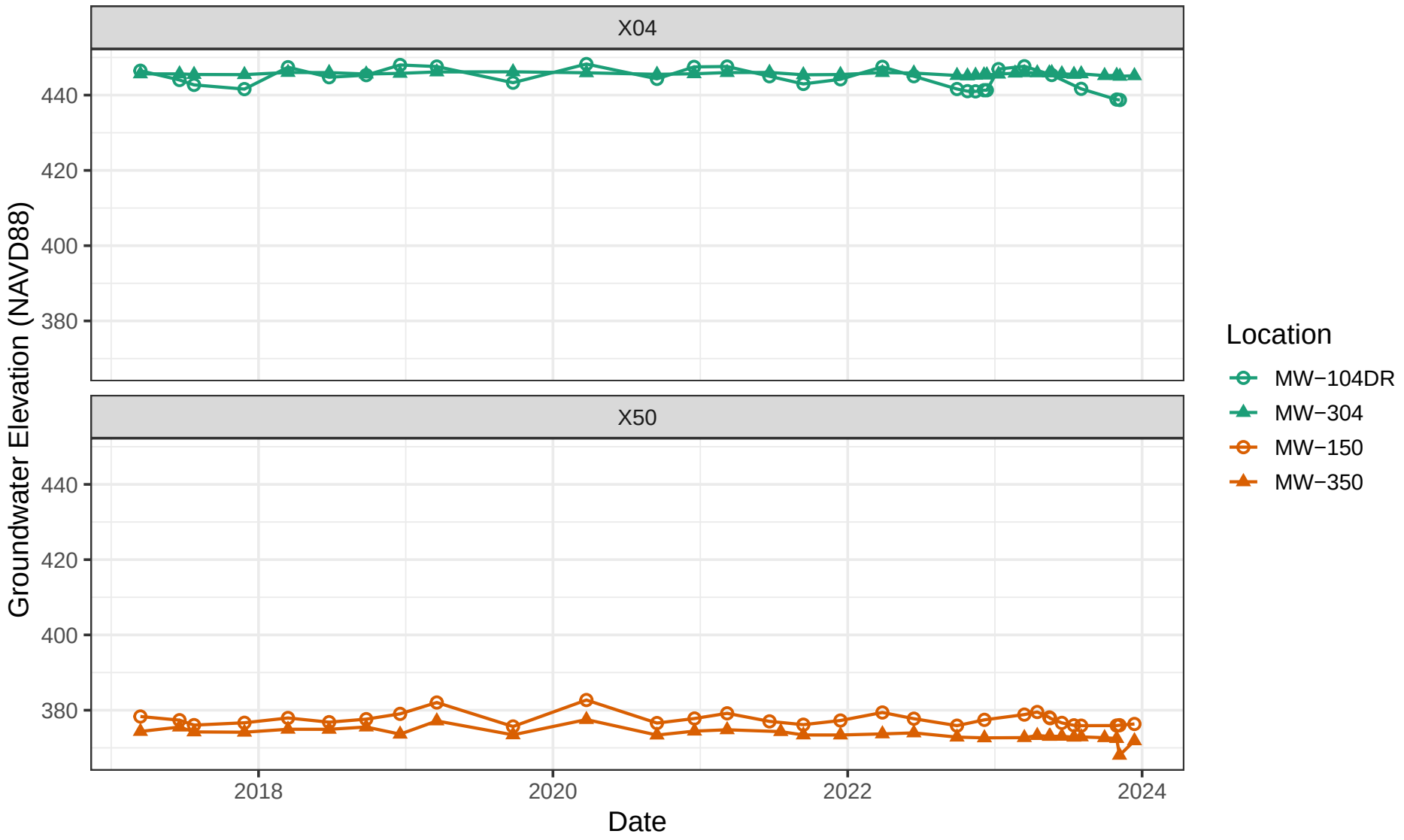
RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

C:\Users\Engelhsa\OneDrive - Ramboll\Projects\Vistra\Modeling & Calcs\BAL\CAD\2023_CrossSections\Baldwin Cross Sections.dwg
PROJECT: 1940100806 DATED: 6/26/2023 11:34 PM DESIGNER: ENGELHSA

APPENDIX B
Select Hydrographs

Path: dara/Vistra − 845/Corrective Action Assessment/Nature and Extent/Hydrographs



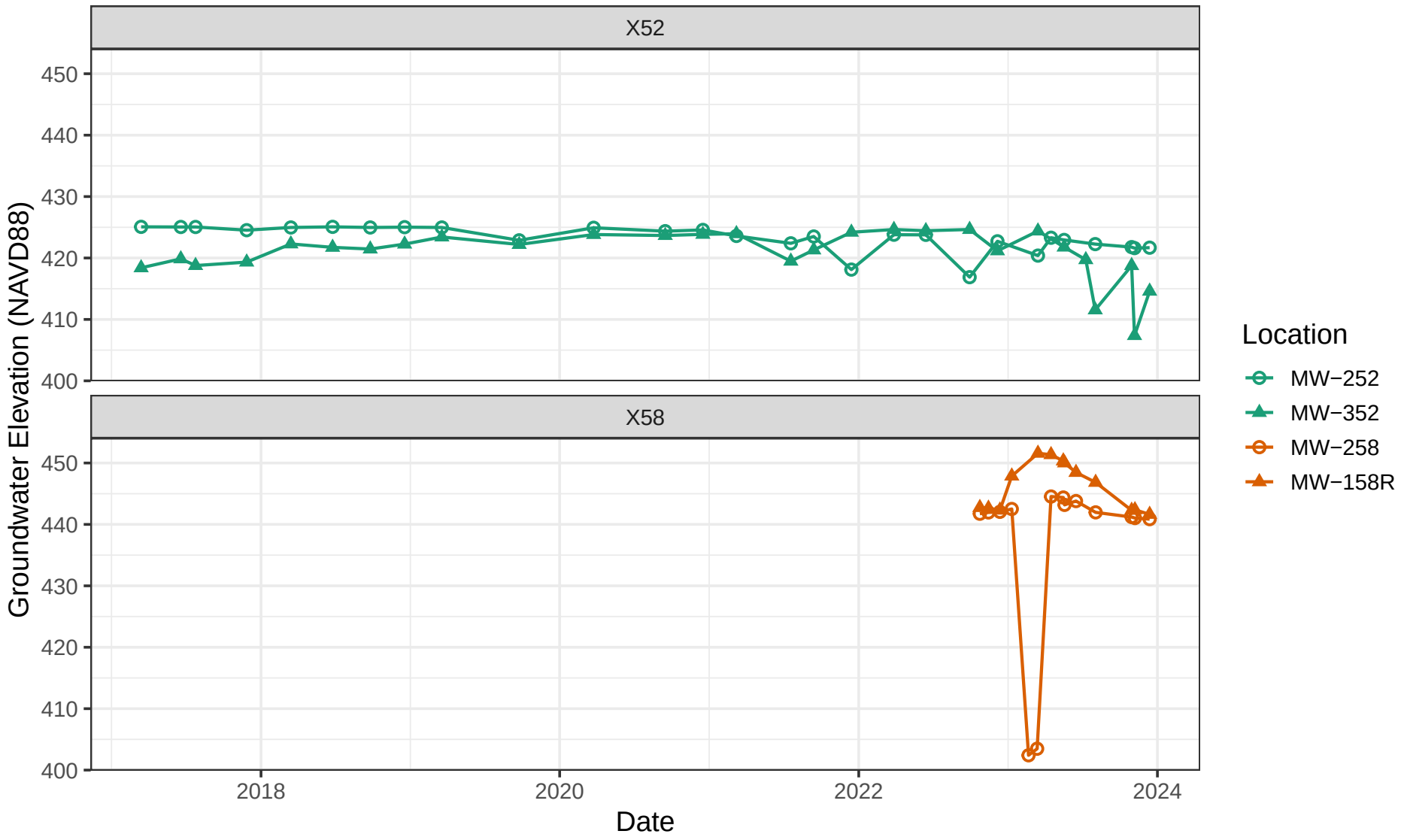
RAMBOLL

Hydrographs
Nature and Extent Report
Baldwin Fly Ash Pond System
Baldwin, IL

Figure
1

Drafter: AOC Date: 2024−04−17 Contract Number: 1940103584

Path: dara/Vistra − 845/Corrective Action Assessment/Nature and Extent/Hydrographs



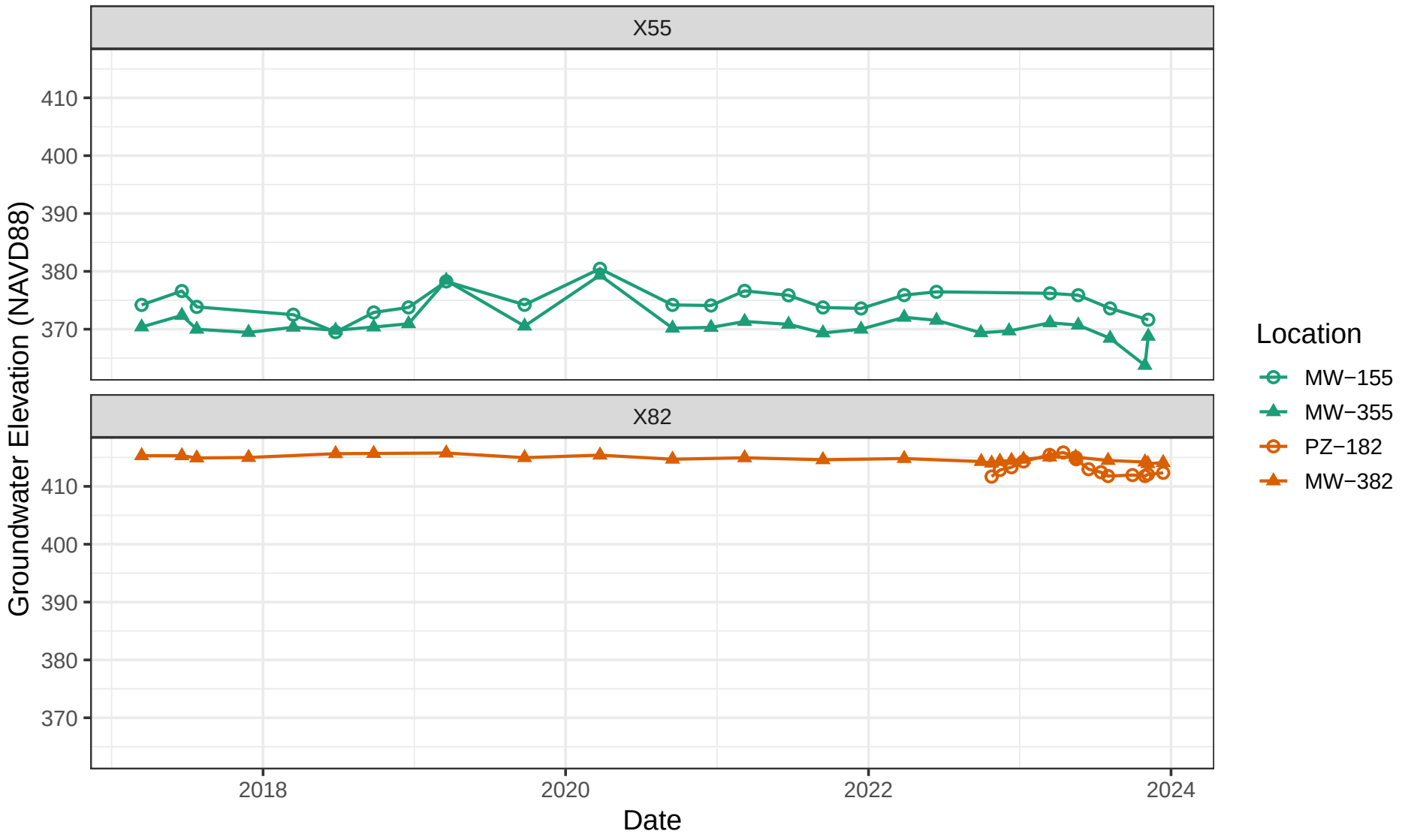
RAMBOLL

Hydrographs
Nature and Extent Report
Baldwin Fly Ash Pond System
Baldwin, IL

Figure
2

Drafter: AOC Date: 2024−04−17 Contract Number: 1940103584

Path: dara/Vistra − 845/Corrective Action Assessment/Nature and Extent/Hydrographs

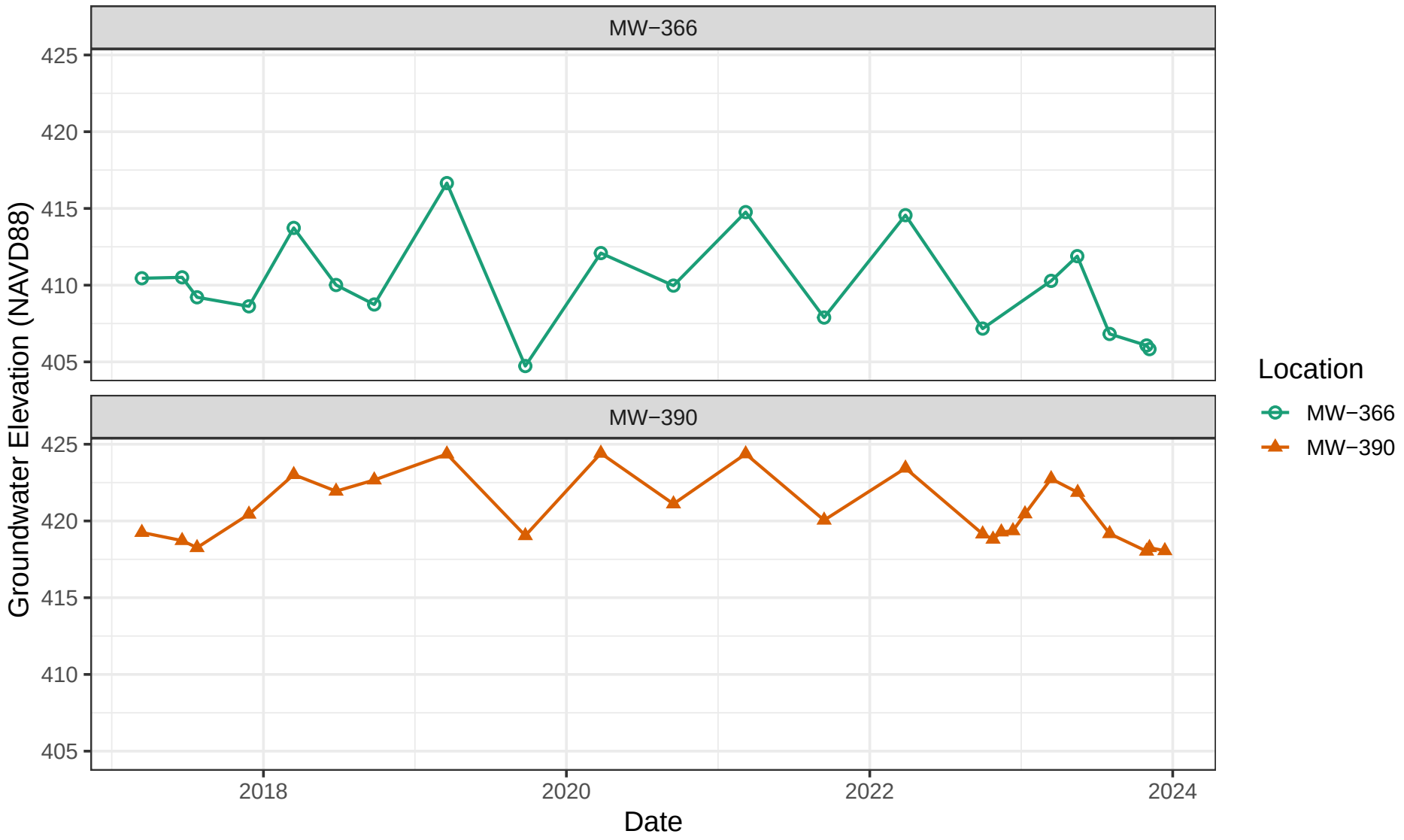


Hydrographs
Nature and Extent Report
Baldwin Fly Ash Pond System
Baldwin, IL

Figure
3

Drafter: AOC Date: 2024−04−17 Contract Number: 1940103584

Path: dara/Vistra − 845/Corrective Action Assessment/Nature and Extent/Hydrographs



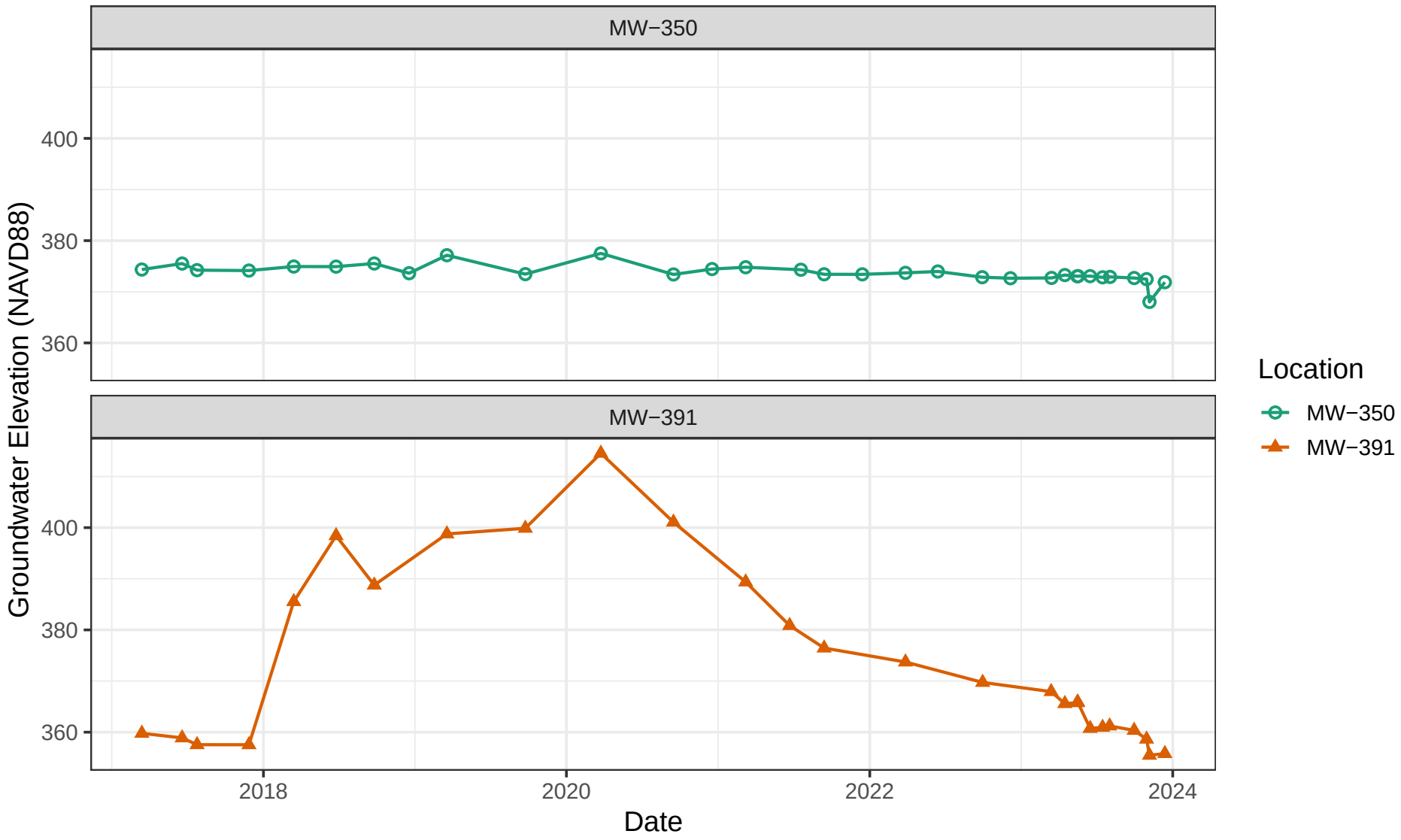
RAMBOLL

Hydrographs
Nature and Extent Report
Baldwin Fly Ash Pond System
Baldwin, IL

Figure
4

Drafter: AOC Date: 2024−04−17 Contract Number: 1940103584

Path: dara/Vistra − 845/Corrective Action Assessment/Nature and Extent/Hydrographs



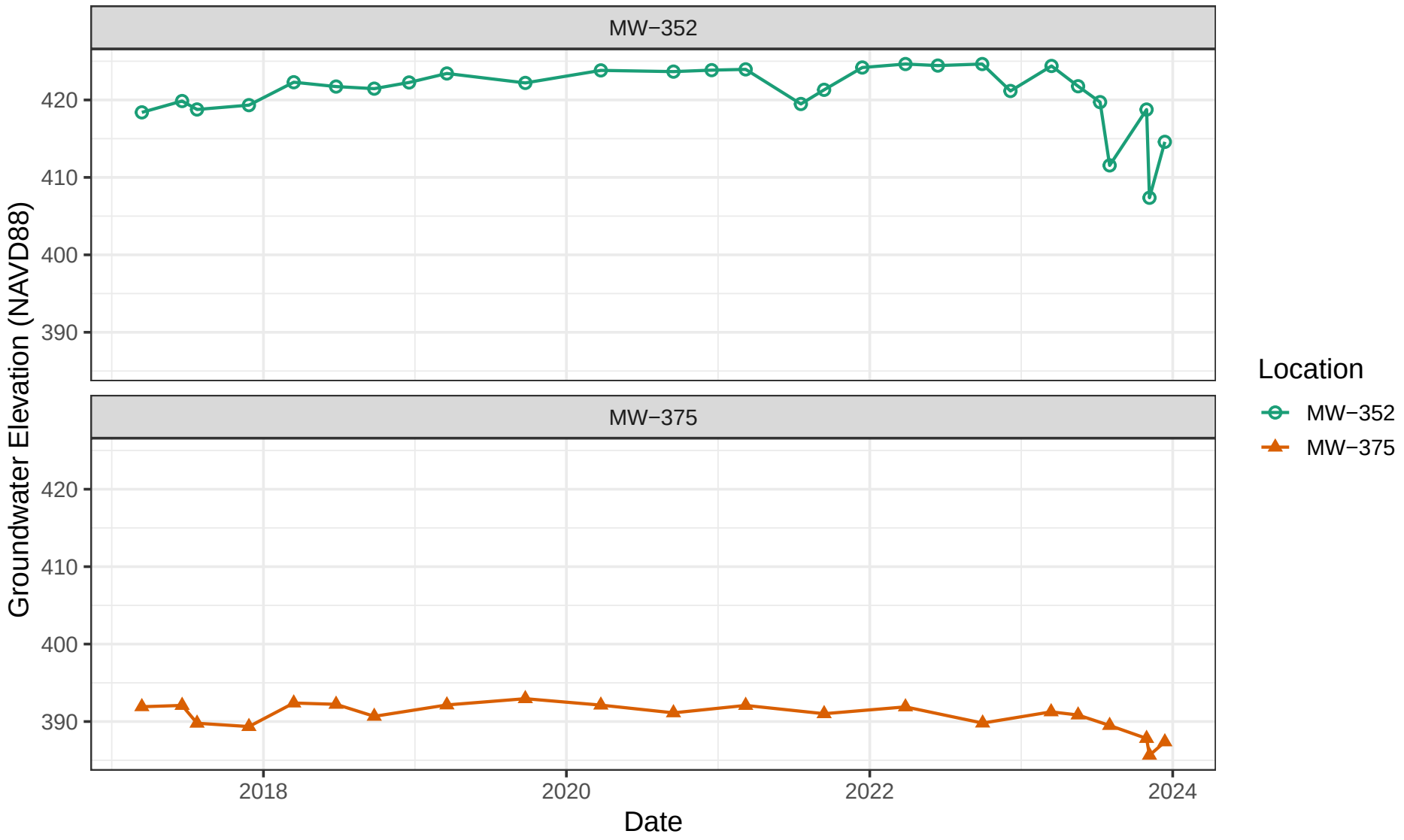
RAMBOLL

Hydrographs
Nature and Extent Report
Baldwin Fly Ash Pond System
Baldwin, IL

Figure
5

Drafter: AOC Date: 2024−04−17 Contract Number: 1940103584

Path: dara/Vistra − 845/Corrective Action Assessment/Nature and Extent/Hydrographs



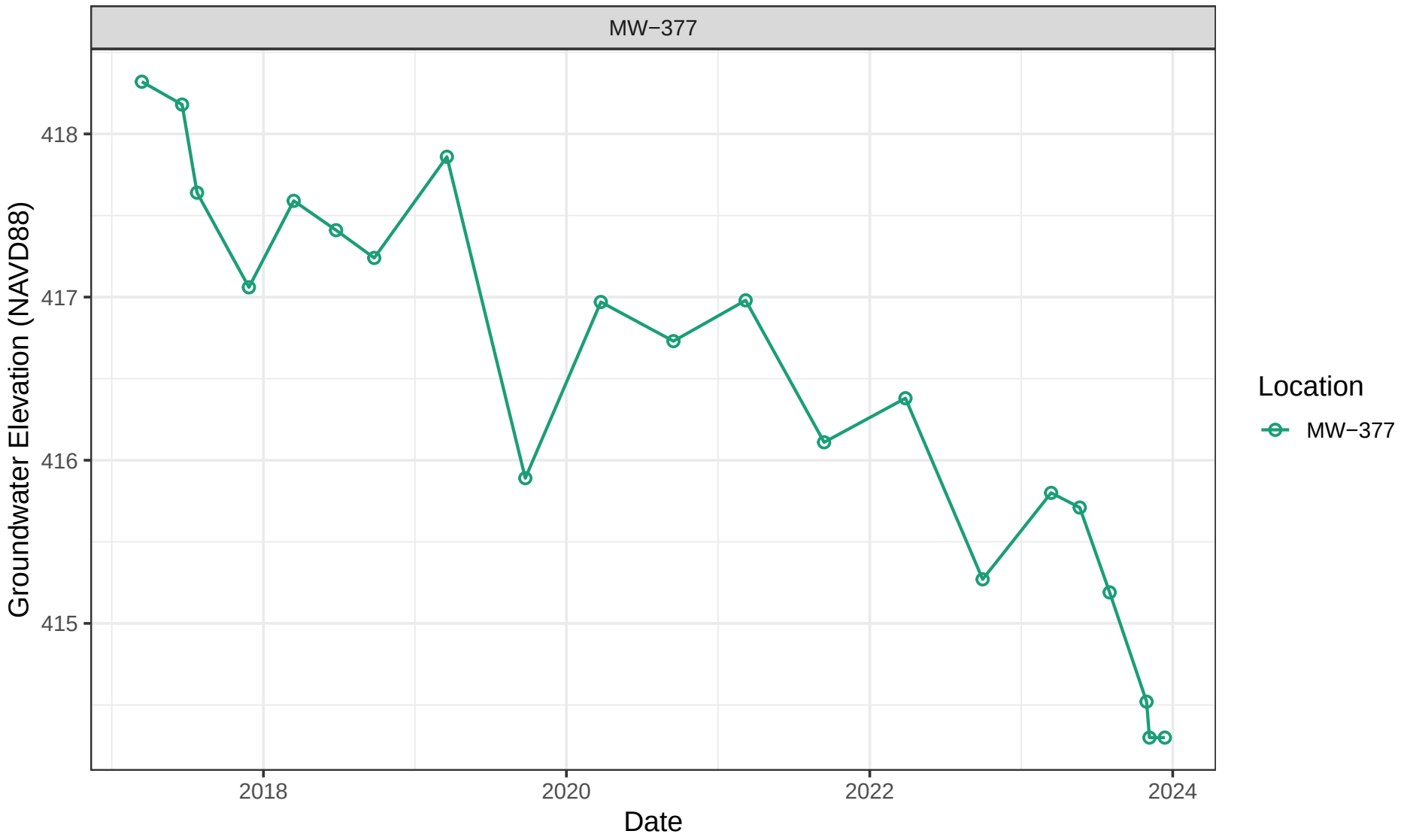
RAMBOLL

Hydrographs
Nature and Extent Report
Baldwin Fly Ash Pond System
Baldwin, IL

Figure
6

Drafter: AOC Date: 2024−04−17 Contract Number: 1940103584

Path: dara/Vistra − 845/Corrective Action Assessment/Nature and Extent/Hydrographs



RAMBOLL

Hydrographs
Nature and Extent Report
Baldwin Fly Ash Pond System
Baldwin, IL

Figure
7

Drafter: AOC Date: 2024−04−17 Contract Number: 1940103584

APPENDIX C
Vertical Hydraulic Gradients

APPENDIX C. VERTICAL HYDRAULIC GRADIENTS

NATURE AND EXTENT REPORT

BALDWIN POWER PLANT

FLY ASH POND SYSTEM

BALDWIN, ILLINOIS

Date	MW-104SR Groundwater Elevation (ft NAVD88)	MW-104DR Groundwater Elevation (ft NAVD88)	Head Change (ft)	Distance Change [1] (ft)	Vertical Hydraulic Gradient [2] (dh/dl)	
	UU (Vandalia)	UU (Vandalia)				
3/21/2016	447.33	447.39	-0.06	20.41	-0.003	up
6/21/2016	445.22	445.27	-0.05	18.30	-0.003	up
9/19/2016	447.05	447.12	-0.07	20.13	-0.003	up
12/21/2016	444.45	444.52	-0.07	17.53	-0.004	up
3/14/2017	446.42	446.48	-0.06	19.50	-0.003	up
6/19/2017	443.95	444.02	-0.07	17.03	-0.004	up
7/25/2017	442.66	442.72	-0.06	15.74	-0.004	up
11/27/2017	441.54	441.60	-0.06	14.62	-0.004	up
3/15/2018	447.34	447.42	-0.08	20.42	-0.004	up
6/25/2018	444.68	444.75	-0.07	17.76	-0.004	up
9/25/2018	445.24	445.31	-0.07	18.32	-0.004	up
12/18/2018	447.91	448.01	-0.10	15.83	-0.006	up
3/19/2019	447.54	447.59	-0.05	20.62	-0.002	up
9/24/2019	443.29	443.30	-0.01	16.37	-0.001	flat
3/24/2020	448.20	448.26	-0.06	15.83	-0.004	up
9/15/2020	444.29	444.32	-0.03	17.37	-0.002	up
12/16/2020	447.46	447.50	-0.04	20.54	-0.002	up
3/8/2021	447.54	447.60	-0.06	20.62	-0.003	up
6/21/2021	445.24	445.01	0.23	18.32	0.013	down
9/14/2021	442.91	442.97	-0.06	15.99	-0.004	up
12/14/2021	444.15	444.20	-0.05	17.23	-0.003	up
3/28/2022	447.51	447.52	-0.01	20.59	0.000	flat
6/14/2022	444.99	445.02	-0.03	18.07	-0.002	up
9/29/2022	444.09	441.62	2.47	17.17	0.144	down
12/5/2022	441.24	441.30	-0.06	14.32	-0.004	up
			Middle of screen elevation MW-104SR			442.8
			Middle of screen elevation MW-104DR			426.9
			Top of screen elevation MW-104SR			447.8
			Top of screen elevation MW-104DR			429.4

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BALDWIN POWER PLANT

FLY ASH POND SYSTEM

BALDWIN, ILLINOIS

Date	MW-104DR Groundwater Elevation (ft NAVD88)	MW-304 Groundwater Elevation (ft NAVD88)	Head Change (ft)	Distance Change [1] (ft)	Vertical Hydraulic Gradient [2] (dh/dl)	
	UU (Vandalia)	BU				
3/21/2016	447.39	445.08	2.31	23.89	0.097	down
6/21/2016	445.27	445.08	0.19	23.89	0.008	down
9/19/2016	447.12	444.97	2.15	23.89	0.090	down
12/21/2016	444.52	444.97	-0.45	23.89	-0.019	up
3/14/2017	446.48	445.64	0.84	23.89	0.035	down
6/19/2017	444.02	445.64	-1.62	23.89	-0.068	up
7/25/2017	442.72	445.48	-2.76	23.89	-0.116	up
11/27/2017	441.60	445.44	-3.84	23.89	-0.161	up
3/15/2018	447.42	446.02	1.40	23.89	0.059	down
6/25/2018	444.75	445.98	-1.23	23.89	-0.051	up
9/25/2018	445.31	445.60	-0.29	23.89	-0.012	up
12/18/2018	448.01	445.78	2.23	23.89	0.093	down
3/19/2019	447.59	446.16	1.43	23.89	0.060	down
9/24/2019	443.30	446.19	-2.89	23.89	-0.121	up
3/24/2020	448.26	445.93	2.33	23.89	0.098	down
9/15/2020	444.32	445.52	-1.20	23.89	-0.050	up
12/16/2020	447.50	445.67	1.83	23.89	0.077	down
3/8/2021	447.60	445.99	1.61	23.89	0.067	down
6/21/2021	445.01	446.02	-1.01	23.89	-0.042	up
9/14/2021	442.97	445.40	-2.43	23.89	-0.102	up
12/14/2021	444.20	445.47	-1.27	23.89	-0.053	up
3/28/2022	447.52	445.99	1.53	23.89	0.064	down
6/14/2022	445.02	445.86	-0.84	23.89	-0.035	up
9/29/2022	441.62	434.04	7.58	23.89	0.317	down
12/5/2022	441.30	445.35	-4.05	23.89	-0.170	up
			Middle of screen elevation MW-104DR			426.9
			Middle of screen elevation MW-304			403.0
			Top of screen elevation MW-104DR			429.4
			Top of screen elevation MW-304			408.0

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BALDWIN POWER PLANT

FLY ASH POND SYSTEM

BALDWIN, ILLINOIS

Date	MW-153 Groundwater Elevation (ft NAVD88)	MW-253 Groundwater Elevation (ft NAVD88)	Head Change (ft)	Distance Change [1] (ft)	Vertical Hydraulic Gradient [2] (dh/dl)	
	UU (Vandalia)	UU (Vandalia)				
3/21/2016	435.58	435.89	-0.31	17.07	-0.018	up
6/21/2016	432.92	434.66	-1.74	17.07	-0.102	up
9/19/2016	436.69	435.27	1.42	17.07	0.083	down
12/21/2016	432.55	434.51	-1.96	17.07	-0.115	up
3/14/2017	434.19	435.09	-0.90	17.07	-0.053	up
6/22/2017	431.88	432.76	-0.88	21.35	-0.041	up
7/25/2017	430.10	432.76	-2.66	19.57	-0.136	up
11/27/2017	430.37	431.33	-0.96	19.84	-0.048	up
3/15/2018	434.62	434.74	-0.12	17.07	-0.007	up
6/25/2018	432.15	432.89	-0.74	21.62	-0.034	up
9/25/2018	432.69	433.73	-1.04	17.07	-0.061	up
12/18/2018	437.62	436.55	1.07	17.07	0.063	down
3/19/2019	439.02	437.82	1.20	17.07	0.070	down
9/24/2019	429.90	431.38	-1.48	19.37	-0.076	up
3/24/2020	439.75	438.73	1.02	17.07	0.060	down
9/15/2020	431.37	431.93	-0.56	20.84	-0.027	up
12/17/2020	434.36	433.57	0.79	17.07	0.046	down
3/8/2021	436.65	435.69	0.96	17.07	0.056	down
6/22/2021	432.07	432.56	-0.49	21.54	-0.023	up
9/16/2021	430.47	431.19	-0.72	19.94	-0.036	up
12/15/2021	431.60	431.62	-0.02	21.07	-0.001	flat
3/29/2022	436.77	435.11	1.66	17.07	0.097	down
6/15/2022	432.49	432.86	-0.37	17.07	-0.022	up
9/29/2022	428.82	429.86	-1.04	18.29	-0.057	up
12/6/2022	429.67	430.09	-0.42	19.14	-0.022	up
			Middle of screen elevation MW-153			427.6
			Middle of screen elevation MW-253			410.5
			Top of screen elevation MW-153			432.4
			Top of screen elevation MW-253			412.8

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BALDWIN POWER PLANT

FLY ASH POND SYSTEM

BALDWIN, ILLINOIS

Date	MW-152 Groundwater Elevation (ft NAVD88)	MW-252 Groundwater Elevation (ft NAVD88)	Head Change (ft)	Distance Change [1] (ft)	Vertical Hydraulic Gradient [2] (dh/dl)	
	UU (Equality)	UU (Vandalia)				
3/21/2016	421.10	424.93	-3.83	34.54	-0.111	up
6/21/2016	420.09	424.57	-4.48	34.54	-0.130	up
12/21/2016	419.67	425.06	-5.39	34.54	-0.156	up
3/14/2017	420.14	425.07	-4.93	34.54	-0.143	up
6/19/2017	419.59	425.05	-5.46	34.54	-0.158	up
7/25/2017	417.90	425.05	-7.15	34.54	-0.207	up
11/27/2017	418.76	424.53	-5.77	34.54	-0.167	up
3/15/2018	419.89	424.97	-5.08	34.54	-0.147	up
6/25/2018	419.15	425.07	-5.92	34.54	-0.171	up
9/25/2018	420.44	424.97	-4.53	34.54	-0.131	up
12/18/2018	420.35	425.02	-4.67	34.54	-0.135	up
3/19/2019	420.35	424.97	-4.62	34.54	-0.134	up
9/24/2019	417.40	422.88	-5.48	34.54	-0.159	up
3/24/2020	423.84	424.92	-1.08	34.54	-0.031	up
9/15/2020	418.47	424.37	-5.90	34.54	-0.171	up
12/16/2020	419.84	424.57	-4.73	34.54	-0.137	up
3/8/2021	420.48	423.59	-3.11	34.54	-0.090	up
7/19/2021	419.74	422.39	-2.65	34.54	-0.077	up
9/14/2021	417.26	423.50	-6.24	34.54	-0.181	up
12/14/2021	418.78	418.11	0.67	34.54	0.019	down
3/28/2022	419.79	423.79	-4.00	34.54	-0.116	up
6/14/2022	418.31	423.77	-5.46	34.54	-0.158	up
9/29/2022	418.00	416.88	1.12	34.54	0.032	down
12/6/2022	418.17	422.72	-4.55	34.54	-0.132	up
			Middle of screen elevation MW-152			410.1
			Middle of screen elevation MW-252			375.6
			Top of screen elevation MW-152			414.7
			Top of screen elevation MW-252			377.9

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BALDWIN POWER PLANT

FLY ASH POND SYSTEM

BALDWIN, ILLINOIS

Date	MW-252 Groundwater Elevation (ft NAVD88)	MW-352 Groundwater Elevation (ft NAVD88)	Head Change (ft)	Distance Change [1] (ft)	Vertical Hydraulic Gradient [2] (dh/dl)	
	UU (Vandalia)	BU				
3/21/2016	424.93	423.88	1.05	23.41	0.045	down
6/21/2016	424.57	424.34	0.23	23.41	0.010	down
12/21/2016	425.06	422.54	2.52	23.41	0.108	down
3/14/2017	425.07	418.40	6.67	23.41	0.285	down
6/19/2017	425.05	419.86	5.19	23.41	0.222	down
7/25/2017	425.05	418.77	6.28	23.41	0.268	down
11/27/2017	424.53	419.33	5.20	23.41	0.222	down
3/15/2018	424.97	422.29	2.68	23.41	0.114	down
6/25/2018	425.07	421.73	3.34	23.41	0.143	down
9/25/2018	424.97	421.46	3.51	23.41	0.150	down
12/18/2018	425.02	422.26	2.76	23.41	0.118	down
3/19/2019	424.97	423.42	1.55	23.41	0.066	down
9/24/2019	422.88	422.20	0.68	23.41	0.029	down
3/24/2020	424.92	423.82	1.10	23.41	0.047	down
9/15/2020	424.37	423.66	0.71	23.41	0.030	down
12/16/2020	424.57	423.85	0.72	23.41	0.031	down
3/8/2021	423.59	423.95	-0.36	23.41	-0.015	up
7/19/2021	423.95	423.50	0.45	23.41	0.019	down
9/14/2021	419.48	418.11	1.37	23.41	0.059	down
12/14/2021	421.31	423.79	-2.48	23.41	-0.106	up
3/28/2022	424.19	423.77	0.42	23.41	0.018	down
6/14/2022	424.64	416.88	7.76	23.41	0.331	down
9/29/2022	424.44	422.72	1.72	23.41	0.073	down
12/6/2022	425.00	421.16	3.84	23.41	0.164	down
			Middle of screen elevation MW-252			375.6
			Middle of screen elevation MW-352			352.2
			Top of screen elevation MW-252			377.9
			Top of screen elevation MW-352			354.5

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BALDWIN POWER PLANT

FLY ASH POND SYSTEM

BALDWIN, ILLINOIS

Date	MW-150 Groundwater Elevation (ft NAVD88)	MW-350 Groundwater Elevation (ft NAVD88)	Head Change (ft)	Distance Change [1] (ft)	Vertical Hydraulic Gradient [2] (dh/dl)	
	UU (Cahokia)	BU				
3/21/2016	379.22	374.57	4.65	23.79	0.195	down
6/21/2016	377.59	375.26	2.33	27.38	0.085	down
12/21/2016	377.70	374.66	3.04	27.49	0.111	down
3/14/2017	378.32	374.35	3.97	28.11	0.141	down
6/19/2017	377.35	375.52	1.83	27.14	0.067	down
7/25/2017	376.04	374.23	1.81	25.83	0.070	down
11/27/2017	376.66	374.15	2.51	26.45	0.095	down
3/15/2018	377.93	374.94	2.99	27.72	0.108	down
6/25/2018	376.82	374.92	1.90	26.61	0.071	down
9/25/2018	377.62	375.53	2.09	27.41	0.076	down
12/18/2018	379.03	373.63	5.40	23.79	0.227	down
3/19/2019	382.04	377.15	4.89	23.79	0.206	down
9/24/2019	375.67	373.45	2.22	25.46	0.087	down
3/24/2020	382.70	377.51	5.19	23.79	0.218	down
9/15/2020	376.58	373.39	3.19	26.37	0.121	down
12/17/2020	377.79	374.44	3.35	27.58	0.121	down
3/8/2021	379.17	374.80	4.37	23.79	0.184	down
6/21/2021	377.03	--	--	--	--	--
9/14/2021	376.15	373.42	2.73	25.94	0.105	down
12/14/2021	377.26	373.11	4.15	27.05	0.153	down
3/28/2022	379.39	373.70	5.69	23.79	0.239	down
6/14/2022	377.74	--	--	--	--	--
9/29/2022	375.89	372.85	3.04	25.68	0.118	down
12/6/2022	377.44	372.65	4.79	27.23	0.176	down
			Middle of screen elevation MW-150			374.0
			Middle of screen elevation MW-350			350.2
			Top of screen elevation MW-150			378.8
			Top of screen elevation MW-350			352.5

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BALDWIN POWER PLANT

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BALDWIN, ILLINOIS

Date	MW-155 Groundwater Elevation (ft NAVD88)	MW-355 Groundwater Elevation (ft NAVD88)	Head Change (ft)	Distance Change [1] (ft)	Vertical Hydraulic Gradient [2] (dh/dl)	
	UU (Cahokia)	BU				
3/21/2016	376.85	373.83	3.02	15.74	0.192	down
6/21/2016	375.80	371.14	4.66	14.69	0.317	down
9/19/2016	373.85	372.22	1.63	12.74	0.128	down
12/21/2016	373.39	370.23	3.16	12.28	0.257	down
3/14/2017	374.20	370.39	3.81	13.09	0.291	down
6/19/2017	376.60	372.39	4.21	15.49	0.272	down
7/25/2017	373.86	369.99	3.87	12.75	0.304	down
3/15/2018	372.51	370.34	2.17	11.40	0.190	down
6/25/2018	369.49	369.82	-0.33	8.38	-0.039	up
9/25/2018	372.90	370.38	2.52	11.79	0.214	down
12/18/2018	373.77	370.94	2.83	12.66	0.224	down
3/19/2019	378.26	378.44	-0.18	17.15	-0.010	up
9/24/2019	374.22	370.54	3.68	13.11	0.281	down
3/24/2020	380.45	379.34	1.11	14.39	0.077	down
9/15/2020	374.20	370.19	4.01	13.09	0.306	down
12/17/2020	374.10	370.31	3.79	12.99	0.292	down
3/8/2021	376.63	371.34	5.29	15.52	0.341	down
6/22/2021	375.86	370.85	5.01	14.75	0.340	down
9/16/2021	373.76	369.36	4.40	12.65	0.348	down
12/14/2021	373.59	370.00	3.59	12.48	0.288	down
3/29/2022	375.90	372.06	3.84	14.79	0.260	down
6/15/2022	376.46	371.54	4.92	15.35	0.321	down
			Middle of screen elevation MW-155			375.5
			Middle of screen elevation MW-355			361.1
			Top of screen elevation MW-155			380.3
			Top of screen elevation MW-355			363.4

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Date	OW-156 Groundwater Elevation (ft NAVD88)	MW-356 Groundwater Elevation (ft NAVD88)	Head Change (ft)	Distance Change [1] (ft)	Vertical Hydraulic Gradient [2] (dh/dl)	
	UU (Equality)	BU				
3/21/2016	420.78	424.77	-3.99	48.42	-0.082	up
6/21/2016	421.10	424.89	-3.79	48.42	-0.078	up
9/19/2016	423.33	425.03	-1.70	48.42	-0.035	up
12/21/2016	422.10	424.82	-2.72	48.42	-0.056	up
3/14/2017	423.45	425.06	-1.61	48.42	-0.033	up
6/19/2017	423.70	425.20	-1.50	48.42	-0.031	up
7/25/2017	419.17	425.05	-5.88	48.42	-0.121	up
11/27/2017	419.82	424.88	-5.06	48.42	-0.105	up
6/25/2018	420.06	425.06	-5.00	48.42	-0.103	up
9/25/2018	421.74	425.03	-3.29	48.42	-0.068	up
3/19/2019	424.35	424.95	-0.60	48.42	-0.012	up
9/24/2019	418.48	424.58	-6.10	48.42	-0.126	up
3/24/2020	424.87	424.37	0.50	48.42	0.010	down
9/15/2020	419.68	423.98	-4.30	48.42	-0.089	up
12/17/2020	422.85	--	--	--	--	--
3/8/2021	424.22	423.66	0.56	48.42	0.012	down
6/22/2021	420.04	--	--	--	--	--
9/15/2021	418.49	423.61	-5.12	48.42	-0.106	up
3/29/2022	424.27	423.40	0.87	48.42	0.018	down
9/30/2022	420.85	423.28	-2.43	48.42	-0.050	up
			Middle of screen elevation OW-156			412.6
			Middle of screen elevation MW-356			364.2
			Top of screen elevation OW-156			380.3
			Top of screen elevation MW-356			363.4

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Date	MW-158R Groundwater Elevation (ft NAVD88)	MW-258 Groundwater Elevation (ft NAVD88)	Head Change (ft)	Distance Change [1] (ft)	Vertical Hydraulic Gradient [2] (dh/dl)	
	UU (Equality)	BU				
10/27/2022	442.74	441.74	1.00	34.15	0.029	down
11/17/2022	442.63	441.95	0.68	34.04	0.020	down
12/13/2022	442.32	442.05	0.27	33.73	0.008	down
1/11/2023	447.87	442.52	5.35	31.97	0.167	down
2/20/2023	--	442.92	--	31.97	--	--
			Middle of screen elevation MW-158R			440.6
			Middle of screen elevation MW-258			408.6
			Top of screen elevation MW-158R			445.6
			Top of screen elevation MW-258			413.6

Date	PZ-170 Groundwater Elevation (ft NAVD88)	MW-370 Groundwater Elevation (ft NAVD88)	Head Change (ft)	Distance Change [1] (ft)	Vertical Hydraulic Gradient [2] (dh/dl)	
	UU (Equality)	BU				
10/27/2022	404.21	401.72	2.49	31.80	0.078	down
11/16/2022	404.41	401.78	2.63	31.80	0.083	down
12/13/2022	404.82	402.17	2.65	31.80	0.083	down
1/12/2023	406.02	402.60	3.42	31.80	0.108	down
2/20/2023	--	402.75	--	31.80	--	--
			Middle of screen elevation PZ-170			392.5
			Middle of screen elevation MW-370			360.7
			Top of screen elevation PZ-170			397.5
			Top of screen elevation MW-370			365.7

Date	PZ-182 Groundwater Elevation (ft NAVD88)	MW-382 Groundwater Elevation (ft NAVD88)	Head Change (ft)	Distance Change [1] (ft)	Vertical Hydraulic Gradient [2] (dh/dl)	
	UU (Equality)	BU				
10/25/2022	411.69	414.01	-2.32	-31.80	0.073	down
11/14/2022	412.84	414.34	-1.50	-31.80	0.047	down
12/12/2022	413.31	414.47	-1.16	-31.80	0.036	down
1/10/2023	414.31	414.69	-0.38	-31.80	0.012	down
3/14/2023	415.44	415.07	0.37	-31.80	-0.012	up
			Middle of screen elevation PZ-182			367.7
			Middle of screen elevation MW-382			399.5
			Top of screen elevation PZ-182			372.7
			Top of screen elevation MW-382			404.5

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Date	MW-192 Groundwater Elevation (ft NAVD88)	MW-392 Groundwater Elevation (ft NAVD88)	Head Change (ft)	Distance Change [1] (ft)	Vertical Hydraulic Gradient [2] (dh/dl)	
	UU (Equality)	BU				
10/27/2022	428.41	427.68	0.73	53.97	0.014	down
11/16/2022	428.57	428.08	0.49	53.97	0.009	down
12/13/2022	428.61	428.41	0.20	53.97	0.004	down
1/12/2023	428.91	428.61	0.30	53.97	0.006	down
2/20/2023	428.94	428.97	-0.03	53.97	-0.001	flat
			Middle of screen elevation MW-192			409.0
			Middle of screen elevation MW-392			355.1
			Top of screen elevation MW-192			414.0
			Top of screen elevation MW-392			360.1

Date	MW-193 Groundwater Elevation (ft NAVD88)	MW-393 Groundwater Elevation (ft NAVD88)	Head Change (ft)	Distance Change [1] (ft)	Vertical Hydraulic Gradient [2] (dh/dl)	
	UU (Equality)	BU				
10/27/2022	428.95	427.06	1.89	52.93	0.036	down
11/16/2022	429.02	429.29	-0.27	52.93	-0.005	up
12/13/2022	429.07	429.52	-0.45	52.93	-0.009	up
1/12/2023	429.30	429.51	-0.21	52.93	-0.004	up
2/20/2023	431.24	429.35	1.89	52.93	0.036	down
			Middle of screen elevation MW-193			407.5
			Middle of screen elevation MW-393			354.6
			Top of screen elevation MW-193			412.5
			Top of screen elevation MW-393			359.6

APPENDIX C. VERTICAL HYDRAULIC GRADIENTS

NATURE AND EXTENT REPORT

BALDWIN POWER PLANT

FLY ASH POND SYSTEM

BALDWIN, ILLINOIS

Date	MW-194 Groundwater Elevation (ft NAVD88)	MW-394 Groundwater Elevation (ft NAVD88)	Head Change (ft)	Distance Change [1] (ft)	Vertical Hydraulic Gradient [2] (dh/dl)	
	UU (Equality)	BU				
10/27/2022	430.43	431.52	-1.09	44.72	-0.024	up
11/16/2022	431.32	432.69	-1.37	44.72	-0.031	up
12/13/2022	431.39	433.18	-1.79	44.72	-0.040	up
1/12/2023	431.60	432.99	-1.39	44.72	-0.031	up
2/20/2023	431.69	432.91	-1.22	44.72	-0.027	up
			Middle of screen elevation MW-194			407.2
			Middle of screen elevation MW-394			362.5
			Middle of screen elevation MW-194			402.4
			Middle of screen elevation MW-394			357.5

[O: EGP 4/27/23, C: SSW 5/2/23]

Notes:

[1] Distance change was calculated using the midpoint of the piezometer screen and water table surface. If the water table surface was above the top of the monitoring well screen, then distance change was calculated using the midpoint of both screens.

[2] Vertical gradients between ±0.0015 are considered flat, and typically have less than 0.02 foot difference in groundwater elevation between wells.

BU = bedrock unit

dh = head change

dl = distance change

ft = foot/feet

NAVD88 = North American Vertical Datum of 1988

PMP = potential migration pathway

UU = upper unit

APPENDIX D
Off-Site Groundwater Quality Results (Kelron, 2012)

kelron1@comcast.net | 217 390.1503

April 16, 2012

Rick Diericx, Senior Director
Environmental Compliance Group
Dynegy Operating Company
604 Pierce Blvd
O'Fallon, IL 62269

Dear Mr. Diericx:

Subject: Off-Site Groundwater Quality Results
Baldwin Energy Complex, Baldwin, Illinois

This groundwater report has been prepared by Kelron Environmental (Kelron) on behalf of Dynegy Operating Company to present the results of an off-site groundwater quality investigation near the Baldwin Energy Complex's (BEC's) ash pond system, which is owned and operated by Dynegy Midwest Generation, LLC. The purpose of the investigation was to assess shallow off-site groundwater quality for the presence of inorganic parameters related to coal combustion residuals (CCRs).

METHODS OF INVESTIGATION

This investigation was targeted specifically to assess groundwater quality off-site to the south and southwest of the BEC's ash pond system. A total of eight shallow temporary piezometers were installed – six to the south of existing on-site monitoring well MW-152 and two to the west and southwest of on-site monitoring well MW-150. The temporary piezometers were installed on March 5 and 6, 2012 using an AMS PowerProbe 9500-VTR rig using direct push methods for both soil sampling and temporary piezometer installation. All drilling and well installations were performed by Terra Drill, Inc. of Dupo, Illinois under the direct supervision of Kelron. Each direct-push probe hole was continuously sampled to determine the geology and into each a 1-inch diameter pre-packed screened piezometer was installed and completed with a flushmount well vault. The pre-pack well screens consisted of 5-foot lengths of Schedule 40 polyvinyl chloride (PVC) with 0.010-inch slots and a pre-pack of ultrafine (120 mesh) silica sand with two layers of nylon mesh. Total open area of each well screen was approximately 2 percent. The boring and temporary piezometer logs are provided in Attachment 3. Well construction details are summarized on Table 1 (Attachment 1).

Following completion of all eight piezometers they were located in the field with a handheld GPS system and surveyed for elevation to an accuracy of 0.01 foot relative to the nearest benchmarks at the BEC. Due to the very low permeability of the predominantly clay materials within which most of the piezometers were installed, groundwater samples were not collected from the eight wells until static groundwater levels were reached. All wells were sampled on March 15, 2012 using a peristaltic pump with ¼-inch inner-diameter low density polyethylene (LDPE) tubing. During pumping of each well the groundwater was monitored for the field parameters of temperature, specific conductance, pH, and groundwater depth, with all data recorded on field data sheets (Attachment 4). A field duplicate (sample identification BPZ93) was collected from temporary piezometer BPZ3 for quality assurance/quality control purposes. Groundwater samples were collected in laboratory prepared bottles with the appropriate preservatives, placed in an iced cooler, and delivered to Teklab, Inc. in Collinsville, Illinois for analysis of total boron, total sulfate,

and total dissolved solids (TDS). The laboratory analytical report and chain of custody are provided in Attachment 5.

PIEZOMETER LOCATIONS AND GROUNDWATER LEVELS

The off-site temporary piezometer locations are shown on Figure 1 (Attachment 2) relative to the approximate property boundary of the BEC. Two north-south lines of temporary piezometers were installed along Magnolia Drive (BPZ1, BPZ2, BPZ3) to the east, and Ruby Lane (BPZ4, BPZ5, BPZ6) to the west, of on-site monitoring well nest MW-152, MW-252, and MW-352. Two temporary piezometers were installed along Conservation Road to the southwest (BPZ7) and northwest (BPZ8) of on-site monitoring well nest MW-150 and MW-350. An elevation cross-section of the eight temporary piezometers (Figure 2 [Attachment 2]) shows that ground surface elevation decreases significantly from south to north towards the BEC property along both Magnolia Drive and Ruby Lane. In order to intercept groundwater the piezometer screens were installed to successively greater depths from south to north towards the BEC.

Groundwater levels were measured on three occasions (Table 2 [Attachment 1]): following completion of the eight temporary piezometers (March 6, 2012); approximately 24 hours after installation (March 7, 2012); and prior to sampling on March 15, 2012. Upon initial completion five of the eight piezometers were dry, with no groundwater in the wells. One day after completion there was still one dry piezometer (BPZ5), four with very deep and non-static water levels (i.e., groundwater levels still recovering), and three with static water levels. Nine days after installation the groundwater levels in all eight temporary piezometers had reached static levels, at which time they were all measured for groundwater elevation prior to collection of groundwater samples.

The shallow groundwater elevation map shown on Figure 3 (Attachment 2) was prepared utilizing groundwater levels measured at both the BEC ash pond system network of monitoring wells and the eight off-site temporary piezometers. Groundwater elevations at temporary piezometers BPZ1 through BPZ6 decrease from south to north and from east to west, with the shallow groundwater flow direction towards the west and northwest. Groundwater flow in the vicinity of the south-central property boundary of the BEC converges towards a perennial earthen drainage channel that is present north of the railroad tracks and south of the ash pond system. The drainage channel and low lying area south of the ash ponds and adjacent to the railroad tracks acts as a groundwater capture zone for topographically higher areas to the north (i.e., ash ponds) and south of the railroad tracks.

Groundwater flow in the vicinity of off-site temporary piezometers BPZ7 and BPZ8 is towards the west and southwest.

GROUNDWATER QUALITY RESULTS

Table 3 (Attachment 1) summarizes the groundwater quality data for the eight temporary piezometers for the March 15, 2012 sampling event. The concentrations for the field measured parameter of pH and the laboratory analyzed parameters of total sulfate, total boron, and total dissolved solids are provided on the table and compared to the State of Illinois groundwater quality standards for Class I potable resource groundwater (IAC 35 Part 620 Section 410). The Class I standards were exceeded in groundwater at two temporary piezometers. Piezometer BPZ4 exceeded the sulfate standard with a concentration of 817 milligrams per Liter (mg/L) versus the Class I standard of 400 mg/L, and the TDS standard with a concentration of 1,640 mg/L versus the Class I standard of 1,200 mg/L. Piezometer BPZ7 exceeded the TDS standard with a concentration of 1,220 mg/L. No other parameters at any other piezometers exceeded Class I standards.

With the exception of piezometer BPZ4, all other samples collected from the piezometers along Magnolia Drive and Ruby Lane were below the total sulfate and TDS standards. Total boron concentrations, the primary indicator of the presence of CCR leachate, were below the Class I standard in the samples collected from all six piezometers along Magnolia Drive and Ruby Lane and were similar to what has been analyzed at groundwater monitoring wells MW-104S and MW-104D, which are upgradient to the BEC ash pond system. Groundwater elevations in the area along the BEC south property line and railroad tracks reflect the ground surface topography, with the dominant groundwater flow direction being from both the north and the south towards the earthen east-west drainage channel between the railroad tracks and ash ponds. Groundwater flow within the low-lying area south of the ash ponds and adjacent to the railroad tracks is toward the west-northwest, with the low topographic area along the drainage channel acting as a groundwater capture zone. Piezometer BPZ4 is topographically the lowest of all the piezometers as it is nearest to this drainage channel. The other five piezometers are at higher topographic elevations and upgradient from the railroad tracks and drainage channel. No potable or non-potable water wells have been documented in the area south of the BEC ash pond system.

The other location with a Class I groundwater exceedance was at temporary piezometer BPZ7, which had a TDS concentration (1,220 mg/L) slightly greater than the groundwater standard (1,200 mg/L). All other parameter concentrations in the groundwater at this location and BPZ8 were less than Class I standards. The geology in the vicinity of these piezometers is characterized by low permeability clay and shale-limestone bedrock within 25 feet of ground surface. No potable or non-potable water wells have been documented in this area southwest of the BEC ash pond system.

Should you have any questions about the material presented in this summary letter, please contact us at your convenience.

Sincerely,

Stuart J. Cravens

Stuart J. Cravens, ILPG / CGWP
Senior Hydrogeologist

Attachments:
1. Tables
2. Figures
3. Boring and Temporary Piezometer Logs
4. Water Sample Field Data Sheets
5. Laboratory Analytical Report and Chain of Custody

ATTACHMENT 1

Table 1. Temporary Piezometer Construction Details

Table 2. Groundwater Levels and Elevations: March 2012

Table 3. Groundwater Quality Data – March 15, 2012 Sampling Event

Table 1. Temporary Piezometer Construction Details
Off-Site Groundwater Quality Investigation - Baldwin Ash Pond System
Baldwin Energy Complex; Baldwin, IL

Temporary Piezometer Number	Installation Date	Driller	Piezometer Top Elevation	Ground Elevation	Screen Top Depth (BGS)	Screen Bottom Depth (BGS)	Screen Top Elevation	Screen Bottom Elevation	Screen Length	Probehole Depth from Ground Surface	Bottom of Probehole Elevation	Piezometer Depth from Ground Surface	Piezometer Depth from Top of Casing
BPZ1	03/06/12	Terra Drill	434.53	434.77	12.88	17.88	421.89	416.89	5.00	20.0	414.8	17.98	17.74
BPZ2	03/06/12	Terra Drill	439.84	440.10	9.41	14.41	430.69	425.69	5.00	15.0	425.1	14.51	14.25
BPZ3	03/06/12	Terra Drill	450.39	450.58	14.77	19.77	435.81	430.81	5.00	20.0	430.6	19.87	19.68
BPZ4	03/06/12	Terra Drill	429.01	429.32	18.08	23.08	411.24	406.24	5.00	30.0	399.3	23.18	22.87
BPZ5	03/06/12	Terra Drill	432.49	432.65	14.61	19.61	418.04	413.04	5.00	20.0	412.7	19.71	19.55
BPZ6	03/06/12	Terra Drill	437.48	437.73	14.47	19.47	423.26	418.26	5.00	20.0	417.7	19.57	19.32
BPZ7	03/05/12	Terra Drill	397.39	397.70	17.53	22.53	380.17	375.17	5.00	25.0	372.7	22.63	22.32
BPZ8	03/05/12	Terra Drill	393.06	393.51	10.67	15.67	382.84	377.84	5.00	18.0	375.5	15.77	15.32

Notes:

All depth and elevation measurements are in feet.

All elevations as measured on 03/09/12.

All piezometers constructed with Schedule 40 PVC, 1-inch diameter, 10-slot screens with pre-pack of ultrafine (120 mesh) silica sand with 2 layers of nylon mesh; open area = 2%.

Table 2. Groundwater Levels and Elevations: March 2012
Off-Site Groundwater Quality Investigation - Baldwin Ash Pond System
Baldwin Energy Complex, Baldwin, Illinois

Temporary Piezometer Number	Ground Surface Elevation (feet NGVD)	Measuring Point Elevation (feet NGVD)	Piezometer Depth from Top of Casing (feet)	Groundwater Depth (feet below MP)			Groundwater Elevation (feet NGVD)		
				1 03/06/12 15:10 - 15:40	2 03/07/12 14:50 - 16:02	3 03/15/12 09:00 - 12:00	1 03/06/12 15:10 - 15:40	2 03/07/12 14:50 - 16:02	3 03/15/12 09:00 - 12:00
BPZ1	434.77	434.53	17.74	Dry	14.66 ns	6.62	- -	- -	427.91
BPZ2	440.10	439.84	14.25	3.40	1.37	1.21	436.44	438.47	438.63
BPZ3	450.58	450.39	19.68	4.45	1.76	1.65	445.94	448.63	448.74
BPZ4	429.32	429.01	22.87	Dry	21.79 ns	17.59	- -	- -	411.42
BPZ5	432.65	432.49	19.55	Dry	Dry	14.67	- -	- -	417.82
BPZ6	437.73	437.48	19.32	Dry	17.51 ns	11.47	- -	- -	426.01
BPZ7	397.70	397.39	22.32	Dry	22.19 ns	19.03	- -	- -	378.36
BPZ8	393.51	393.06	15.32	2.90	3.00	3.04	390.16	390.06	390.02

Notes:
All depth and elevation measurements are in feet.

- -	No groundwater elevation provided for non-static groundwater level.
MP	Measuring Point (top of well casing).
NGVD	Vertical elevation relative to the National Geodetic Vertical Datum.
ns	Non-static water level.

Table 3. Groundwater Quality Data - March 15, 2012 Sampling Event
Off-Site Groundwater Quality Investigation - Baldwin Ash Pond System
Baldwin Energy Complex; Baldwin, Illinois

Parameter, Unit	Class I Groundwater Standard[1]	Temporary Piezometer Number							
		BPZ1	BPZ2	BPZ3	BPZ4	BPZ5	BPZ6	BPZ7	BPZ8
Field Parameters									
pH (standard units)	6.5 / 9.0*	7.48	7.21	6.96	7.14	7.39	7.30	6.85	7.55
General Chemistry Parameters									
Total Sulfate (mg/L)	400	119	92	85	817	27	70	215	76
Total Dissolved Solids, mg/L	1,200	502	676	500	1,640	394	664	1,220	434
Metals									
Total Boron (mg/l)	2.0	0.0096	0.012	0.011	0.0435	0.0314	0.010	0.252	0.0354

Notes:

[1] Groundwater quality standards for Class I: Potable Resource Groundwater (IAC 35 Part 620 Section 410).

* Lower and Upper limits for pH is the Class I groundwater quality standard of 6.5 and 9.0 Standard Units.

< = Below method reporting limit.

mg/L = milligrams per Liter.

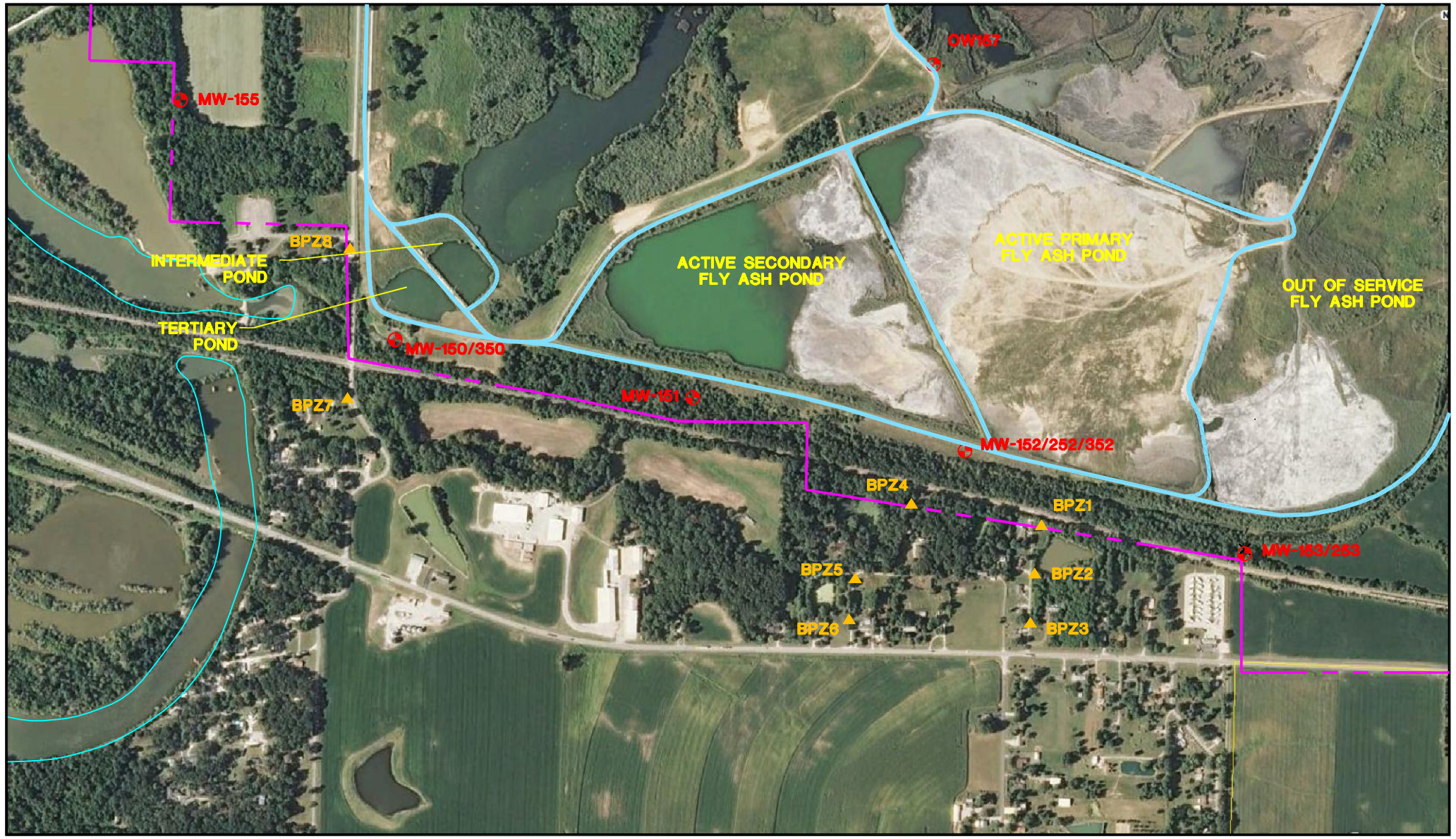
Exceeds Class I Groundwater Quality Standard.

ATTACHMENT 2

Figure 1. Temporary Off-Site Piezometer Locations

Figure 2. Temporary Piezometer Screen Elevations

Figure 3. Baldwin Ash Pond System Shallow Groundwater Elevation Map: March 6 – 15, 2012



LEGEND

MW-111	MONITORING WELL LOCATION AND NUMBER
BPZ1	TEMPORARY PIEZOMETER LOCATION AND NUMBER
	ASH POND
	APPROXIMATE PROPERTY BOUNDARY, BALDWIN ENERGY COMPLEX, BALDWIN, ILLINOIS

0 800
FEET

N

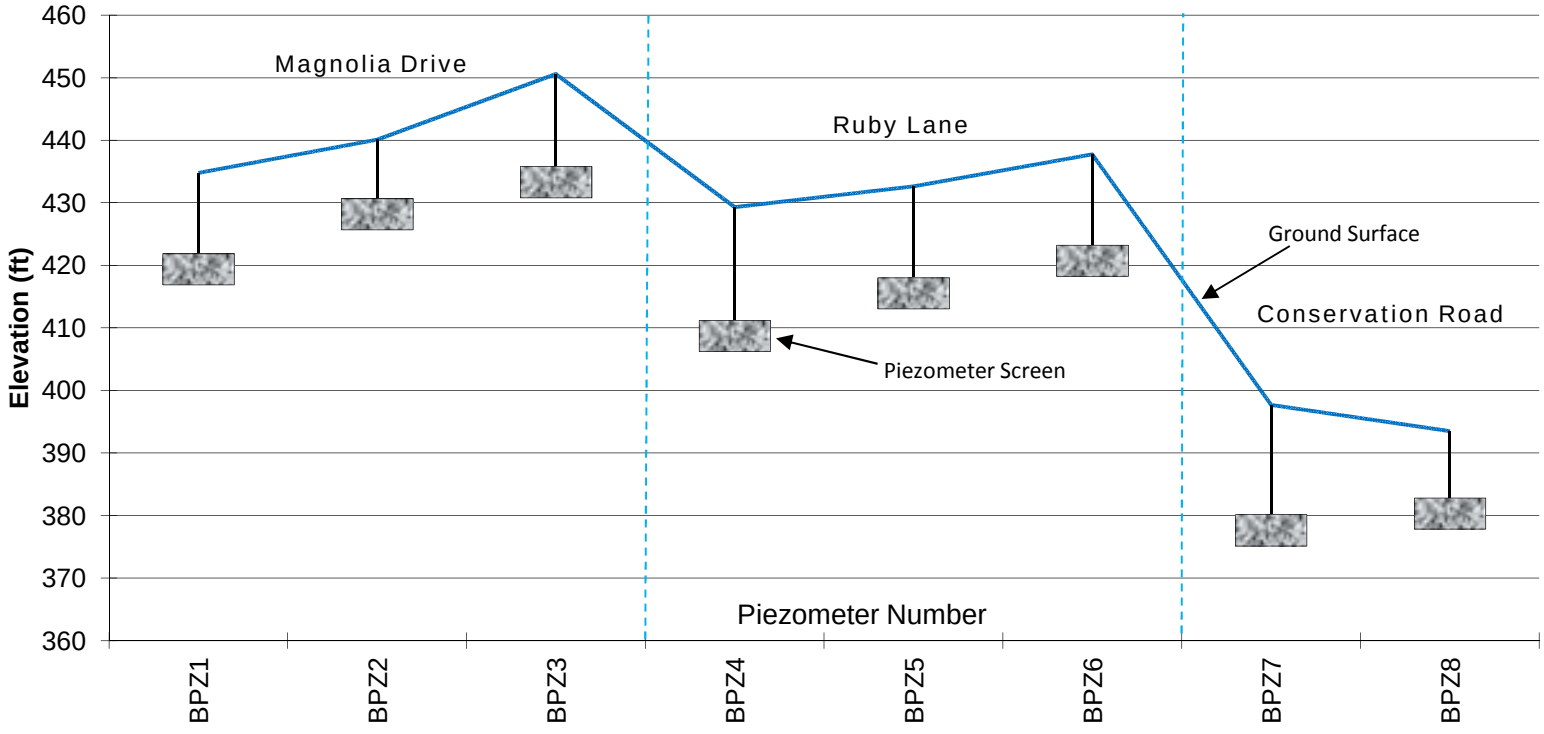
COL. 62410\020011A-008

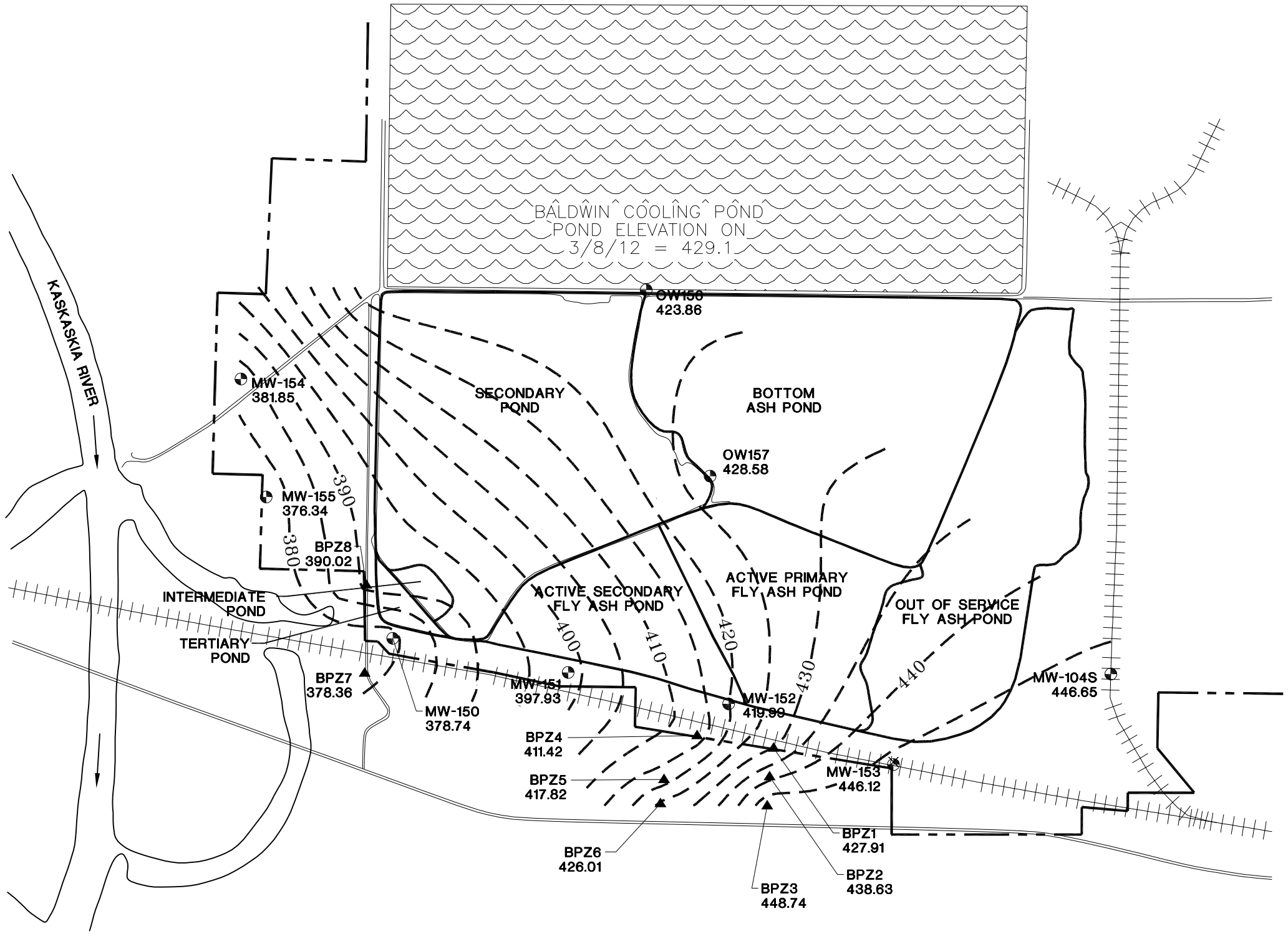
KELRON environmental

TITLE:
TEMPORARY OFF-SITE PIEZOMETER LOCATIONS
BALDWIN ASH POND SYSTEM
BALDWIN, ILLINOIS

DWN: TMM	DES: SC	PROJECT NO: 62410020011	
CHKD:	APPD:	DYNEGY MIDWEST GENERATION, LLC. BALDWIN, ILLINOIS	
DATE: 3/22/12	REV: 0	FIGURE 1	

Figure 2. Temporary Piezometer Screen Elevations
Off-Site Groundwater Quality Investigation - Baldwin Ash Pond System
Baldwin Energy Complex; Baldwin, Illinois
Dynegy Midwest Generation, LLC





LEGEND

- MW-111 — MONITORING WELL LOCATION AND NUMBER
- BPZ1 — TEMPORARY PIEZOMETER LOCATION AND NUMBER
- 444 — POTENTIOMETRIC SURFACE CONTOUR (FEET)
- APPROXIMATE PROPERTY BOUNDARY, BALDWIN ENERGY COMPLEX, BALDWIN, ILLINOIS

NOTES:
1. Elevations are in feet with respect to Mean Sea Level.
2. Elevation contours are based on interpolation between widely spaced well locations. Only at the well is the elevation actually known.

0 1200
FEET

N

KELRON environmental

TITLE:
BALDWIN ASH POND SYSTEM SHALLOW GROUNDWATER ELEVATION MAP – MARCH 6–15, 2012

DWN:	DES:	PROJECT NO: 62410020011
TMM	SC	DYNEGY MIDWEST GENERATION, LLC. BALDWIN, ILLINOIS
CHKD:	APPD:	
DATE: 3/22/12	REV: 0	FIGURE 3

COL. 62410\020011A-007

ATTACHMENT 3

Boring and Temporary Piezometer Logs

KELRON ENVIRONMENTAL
INCORPORATED

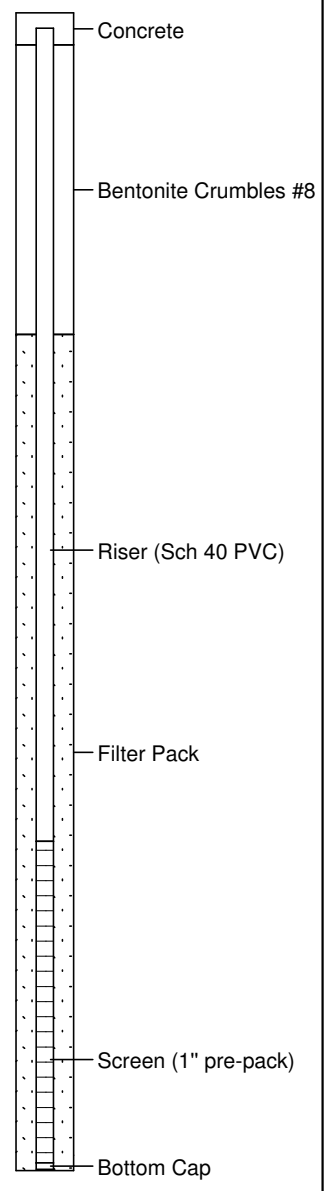
LOG OF BORING BPZ1

Off-Site Groundwater Quality Investigtion
BaldwinAsh Pond System
Baldwin Energy Complex, Baldwin, IL
Dynegy Midwest Generation,LLC

Date Completed	: 03/06/2012	Driller	: Jim Dittmaier
Hole Diameter	: 2.75"	Geologist	: S. Cravens (Kelron Env)
Drilling Method	: AMS PowerProbe 9500-VTR	Land Surface Elevation	: 434.77
Sampling Method	: MacroCore (1.25" ID)	Top of Casing Elevation	434.53
Drilling Company	: Terra Drill	X,Y Coordinates	:

Depth in Feet	DESCRIPTION	Surf. Elev. 434.77	Samples	Recovery inches	USCS	GRAPHIC
0	SILTY CLAY, very soft, high plasticity, olive brown, moist		1	13/48	CL	
		432				
	- stiff, light gray w/ brown mottling (10-25%)		2	48/48		
5						
		427				
	- soft to very soft					
	- trace sand, stiff to very stiff, medium to high plasticity, moist		3	48/48		
10						
	- olive brown					
		422	4	48/48		
	SILTY CLAY, trace sand and gravel (fine-crse), very stiff to hard, medium to high plasticity, light gray w/ brown mottling (10-25%), moist (TILL)					
15	- 25-75% brown mottling					
		417	5	48/48	CL	
	END BOREHOLE AT 20 FEET BLS					
20						

Well: BPZ1
Elev.: 434.53



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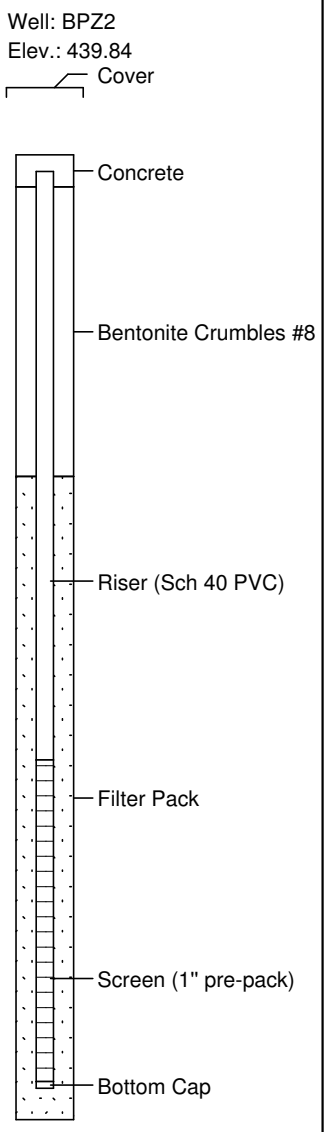
KELRON ENVIRONMENTAL
INCORPORATED

LOG OF BORING BPZ2

Off-Site Groundwater Quality Investigtion
BaldwinAsh Pond System
Baldwin Energy Complex, Baldwin, IL
Dynegy Midwest Generation,LLC

Date Completed	: 03/06/2012	Driller	: Jim Dittmaier
Hole Diameter	: 2.75"	Geologist	: S. Cravens (Kelron Env)
Drilling Method	: AMS PowerProbe 9500-VTR	Land Surface Elevation	: 440.10
Sampling Method	: MacroCore (1.25" ID)	Top of Casing Elevation	439.84
Drilling Company	: Terra Drill	X,Y Coordinates	:

Depth in Feet	DESCRIPTION	Surf. Elev. 440.10	Samples	Recovery inches	USCS	GRAPHIC
0	SILTY CLAY, very soft, high plasticity, yellow brown, moist	440				
	- light gray w/ brown mottling (10-25%)		1	36/48	CL	
5	SANDY CLAY (fine-crse sand), yellow-brown, wet	435	2	34/48	CL	
	SILTY CLAY, trace sand, very soft, high plasticity, light gray w/ brown mottling, moist					
	- stiff to very stiff		3	42/48	CL	
10		430				
			4	36/36		
15	END BOREHOLE AT 15 FEET BLS	425				
20						



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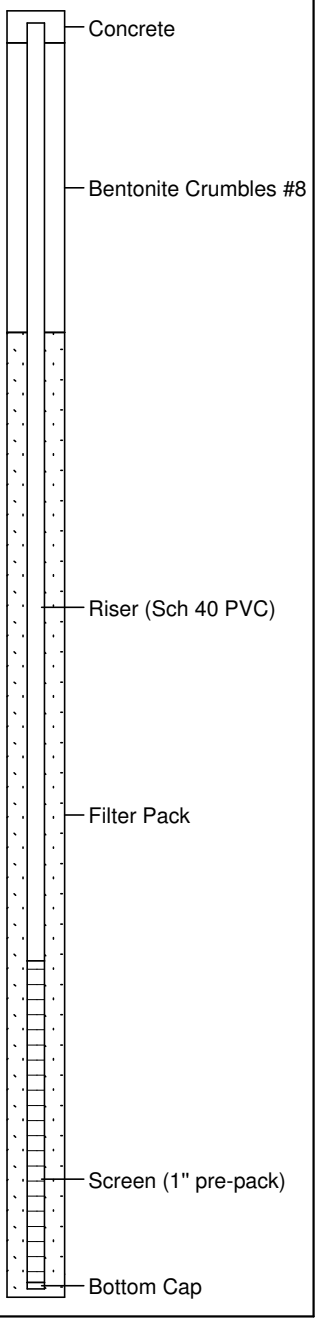
KELRON ENVIRONMENTAL
INCORPORATED

LOG OF BORING BPZ3

Off-Site Groundwater Quality Investigtion
BaldwinAsh Pond System
Baldwin Energy Complex, Baldwin, IL
Dynegy Midwest Generation,LLC

Date Completed	: 03/06/2012	Driller	: Jim Dittmaier
Hole Diameter	: 2.75"	Geologist	: S. Cravens (Kelron Env)
Drilling Method	: AMS PowerProbe 9500-VTR	Land Surface Elevation	: 450.58
Sampling Method	: MacroCore (1.25" ID)	Top of Casing Elevation	450.39
Drilling Company	: Terra Drill	X,Y Coordinates	:

Depth in Feet	DESCRIPTION	Surf. Elev. 450.58	Samples	Recovery inches	USCS	GRAPHIC
0	SILTY CLAY, high organics, soft to very soft, high plasticity, olive brown, moist	450				
	- stiff, light gray w/ brown mottling (10-25%)		1	30/48		
	- soft to very soft					
5		445	2	42/48		
	- brown grading to olive brown				CL	
	- trace sand, stiff to very stiff, medium plasticity					
10		440	3	48/48		
			4	48/48		
	- light gray w/ brown mottling					
15	SILTY CLAY, few sand and gravel (fine-crse, angular to sub-angular), hard, medium to low plasticity, light gray w/ brown mottling grading to yellow-brown highly oxidized, moist (TILL)	435				
	- very soft, high plasticity, olive brown					
			5	48/48	CL	
	- trace sand and gravel, very stiff to hard, medium to high plasticity, light gray w/ brown mottling (50-90%)					
	END BOREHOLE AT 20 FEET BLS					
20						



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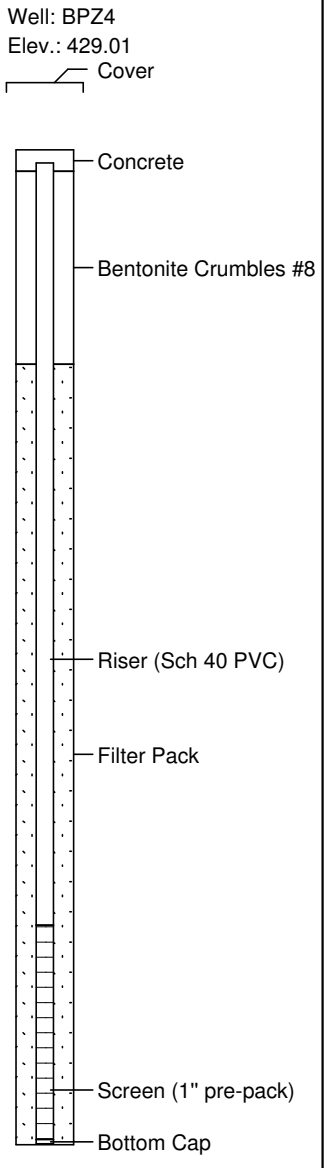
KELRON ENVIRONMENTAL
INCORPORATED

LOG OF BORING BPZ4

Off-Site Groundwater Quality Investigtion
BaldwinAsh Pond System
Baldwin Energy Complex, Baldwin, IL
Dynegy Midwest Generation,LLC

Date Completed	: 03/06/2012	Driller	: Jim Dittmaier
Hole Diameter	: 2.75"	Geologist	: S. Cravens (Kelron Env)
Drilling Method	: AMS PowerProbe 9500-VTR	Land Surface Elevation	: 429.32
Sampling Method	: MacroCore (1.25" ID)	Top of Casing Elevation	429.01
Drilling Company	: Terra Drill	X,Y Coordinates	:

Depth in Feet	DESCRIPTION	Surf. Elev. 429.32	Samples	Recovery inches	USCS	GRAPHIC
0	SILTY CLAY, medium soft, medium to high plasticity, yellow brown, moist	428	1	48/48	CL	
5	- soft, high plasticity, light gray w/ brown mottling	423	2	48/48		
10	- light gray w/ brown mottling	418	3	48/48		
	- very soft, brown		4	48/48		
15	SILTY CLAY, trace sand, high organics, medium to stiff, medium plasticity, moist (TILL)	413	5	48/48		
20		408	6	48/48	CL	
25	- very stiff to hard	403	7	48/48		
	- trace sand and gravel, soft to medium, medium to high plasticity, light gray w/ brown mottling		8	24/24		
30	END BOREHOLE AT 30 FEET BLS					



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KELRON ENVIRONMENTAL
INCORPORATED

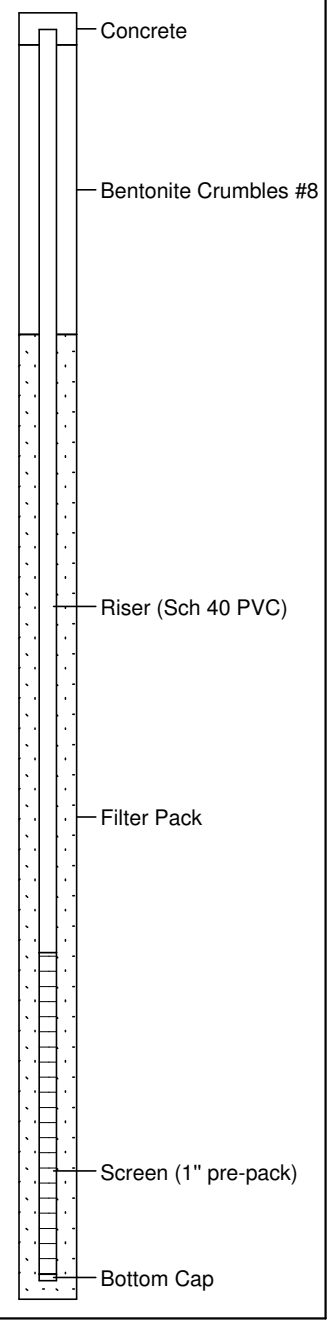
LOG OF BORING BPZ5

Off-Site Groundwater Quality Investigtion
BaldwinAsh Pond System
Baldwin Energy Complex, Baldwin, IL
Dynegy Midwest Generation,LLC

Date Completed	: 03/06/2012	Driller	: Jim Dittmaier
Hole Diameter	: 2.75"	Geologist	: S. Cravens (Kelron Env)
Drilling Method	: AMS PowerProbe 9500-VTR	Land Surface Elevation	: 432.65
Sampling Method	: MacroCore (1.25" ID)	Top of Casing Elevation	432.49
Drilling Company	: Terra Drill	X,Y Coordinates	:

Depth in Feet	DESCRIPTION	Surf. Elev. 432.65	Samples	Recovery inches	USCS	GRAPHIC
0	SILTY CLAY, trace sand, medium hardness, high plasticity, light gray w/ brown mottling, moist		1	39/48		
		430				
5			2	44/48		
		425				
	- soft, medium to high plasticity		3	48/48	CL	
10	- stiff to very stiff, medium plasticity					
		420				
	- very soft, hight plasticity		4	48/48		
15						
	SILTY CLAY, few sand and gravel (fine-crse), very stiff, medium plasticity, light gray w/ brown mottling, moist (TILL)	415	5	48/48	CL	
20	END BOREHOLE AT 20 FEET BLS					

Well: BPZ5
Elev.: 432.49



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KELRON ENVIRONMENTAL
INCORPORATED

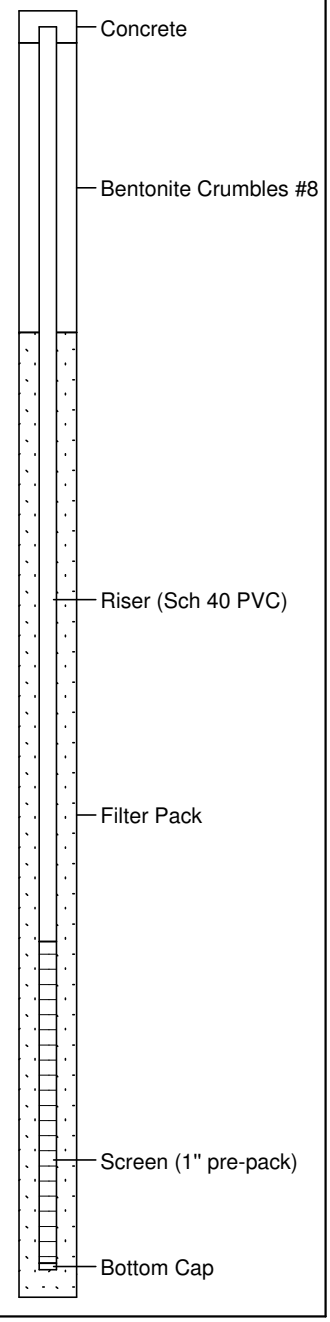
LOG OF BORING BPZ6

Off-Site Groundwater Quality Investigtion
BaldwinAsh Pond System
Baldwin Energy Complex, Baldwin, IL
Dynegy Midwest Generation,LLC

Date Completed	: 03/06/2012	Driller	: Jim Dittmaier
Hole Diameter	: 2.75"	Geologist	: S. Cravens (Kelron Env)
Drilling Method	: AMS PowerProbe 9500-VTR	Land Surface Elevation	: 437.73
Sampling Method	: MacroCore (1.25" ID)	Top of Casing Elevation	437.48
Drilling Company	: Terra Drill	X,Y Coordinates	:

Depth in Feet	DESCRIPTION	Surf. Elev. 437.73	Samples	Recovery inches	USCS	GRAPHIC
0	SILTY CLAY, soft, high plasticity, light gray w/ brown mottling, moist		1	26/48		
		435				
5			2	44/48		
		430				
	- medium to stiff, medium plasticity					
	- trace sand and gravel, stiff to very stiff, medium to high plasticity, light gray w/ brown mottling (25-50%), moist		3	48/48	CL	
10	- few sand and gravel					
	- very stiff to hard					
		425	4	48/48		
15						
	SANDY CLAY, few gravel (fine), soft, low to medium plasticity, light gray w/ brown mottling, moist	420	5	48/48	CL	
	- wet at 19.4'					
20	END BOREHOLE AT 20 FEET BLS					

Well: BPZ6
Elev.: 437.48



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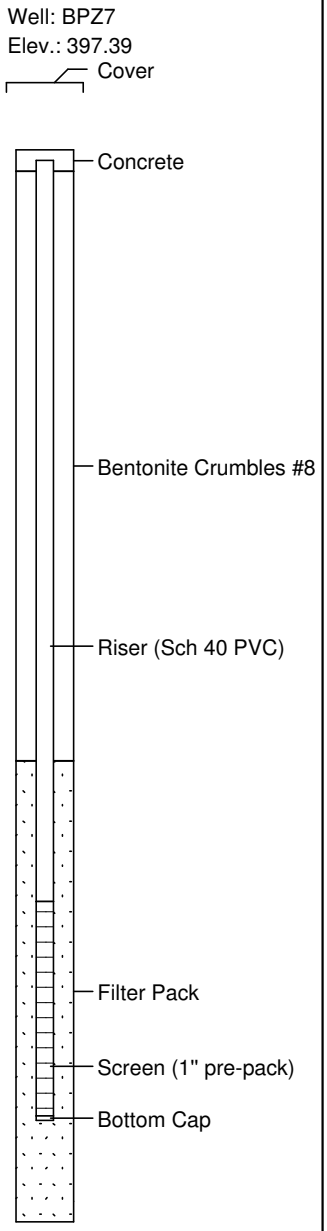
KELRON ENVIRONMENTAL
INCORPORATED

LOG OF BORING BPZ7

Off-Site Groundwater Quality Investigtion
BaldwinAsh Pond System
Baldwin Energy Complex, Baldwin, IL
Dynegy Midwest Generation,LLC

Date Completed	: 03/05/2012	Driller	: Jim Dittmaier
Hole Diameter	: 2.75"	Geologist	: S. Cravens (Kelron Env)
Drilling Method	: AMS PowerProbe 9500-VTR	Land Surface Elevation	: 397.70
Sampling Method	: MacroCore (1.25" ID)	Top of Casing Elevation	397.39
Drilling Company	: Terra Drill	X,Y Coordinates	:

Depth in Feet	DESCRIPTION	Surf. Elev. 397.70	Samples	Recovery inches	USCS	GRAPHIC
0	FILL - gravel and clay - silty clay with sand, trace gravel, dry, moist		1	30/60		
5	- brown, wet	395	2	4/60	FL	
10	- olive brown to black - slag and coal	390	3	60/60		
15	CLAY, medium hardness, high plasticity, olive brown grading to light gray, moist	385	4	41/60	CL	
20	SILTY CLAY, very soft, high plasticity, light gray with brown mottling, moist	380	5	40/60	CL	
25	SHALE, weathered, gray, dry LIMESTONE, very hard, light gray END BOREHOLE AT 25 FEET BLS	375			SH LS	
30		370				



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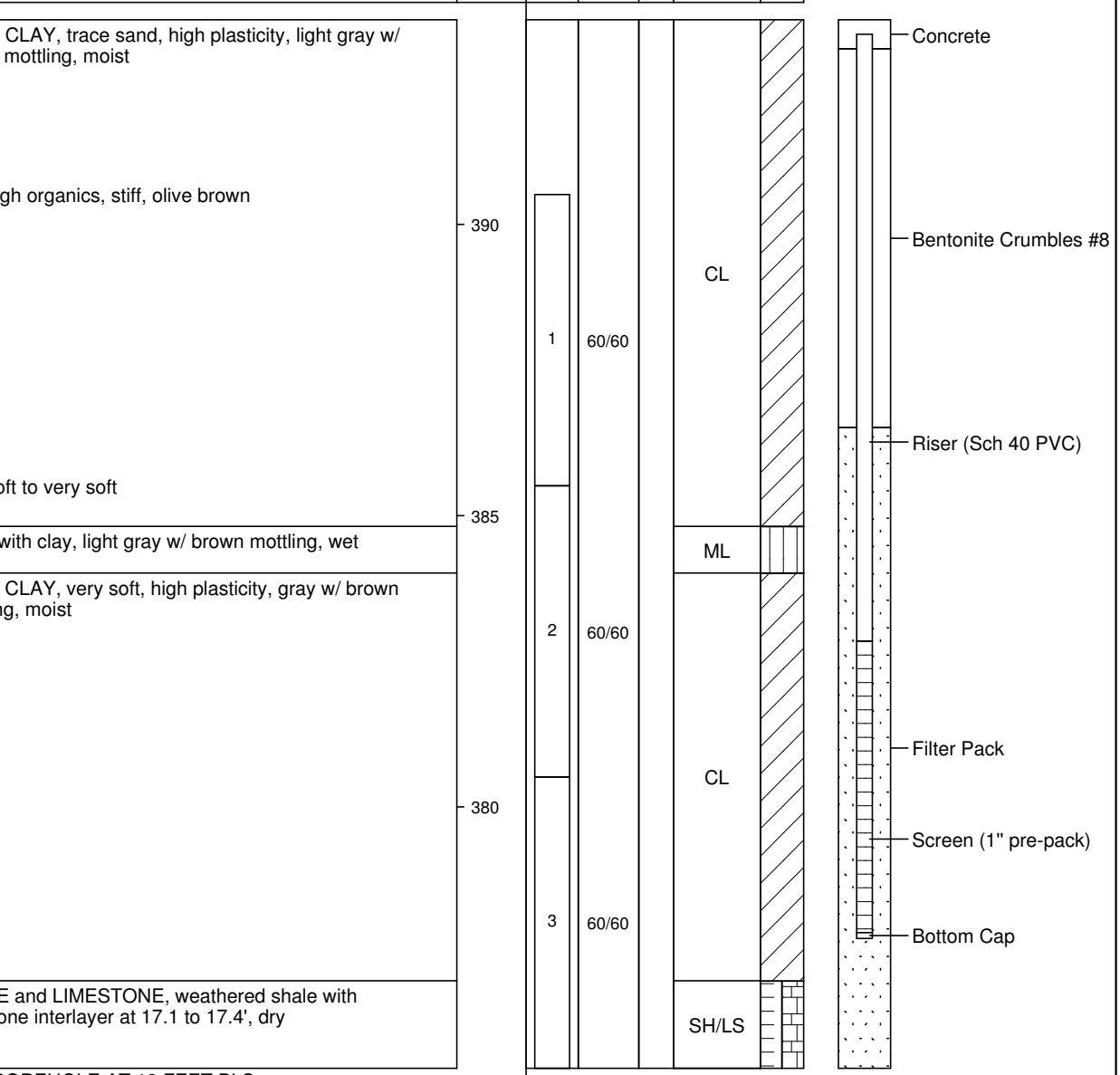
KELRON ENVIRONMENTAL
INCORPORATED

LOG OF BORING BPZ8

Off-Site Groundwater Quality Investigtion
BaldwinAsh Pond System
Baldwin Energy Complex, Baldwin, IL
Dynegy Midwest Generation,LLC

Date Completed	: 03/05/2012	Driller	: Jim Dittmaier
Hole Diameter	: 2.75"	Geologist	: S. Cravens (Kelron Env)
Drilling Method	: AMS PowerProbe 9500-VTR	Land Surface Elevation	: 393.51
Sampling Method	: MacroCore (1.25" ID)	Top of Casing Elevation	393.06
Drilling Company	: Terra Drill	X,Y Coordinates	:

Depth in Feet	DESCRIPTION	Surf. Elev. 393.51
0	SILTY CLAY, trace sand, high plasticity, light gray w/ brown mottling, moist	
	- high organics, stiff, olive brown	390
5		
	- soft to very soft	385
	SILT, with clay, light gray w/ brown mottling, wet	
10	SILTY CLAY, very soft, high plasticity, gray w/ brown mottling, moist	
		380
15		
	SHALE and LIMESTONE, weathered shale with limestone interlayer at 17.1 to 17.4', dry	
	END BOREHOLE AT 18 FEET BLS	375
20		



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ATTACHMENT 4

Water Sample Field Data Sheets

Location No. BPZ1

WATER SAMPLING DATA

Sample Type: ☒ Groundwater ☐ Surface Water ☐ Other _____ Date 3/15/12

Project Name BEC Off-Site Groundwater Investigation Project No. 47602

Project Manager Stuart Cravens Phase Task No. _____

Site Address ☐ Ruby Lane ☒ Magnolia Drive ☐ Conservation Road Baldwin, Illinois

Sampling Specifications

Requested Sampling Depth Interval (feet) _____

Requested Wait Following Development/Purging (hours) _____

Initial Measurements

Time Elapsed From Final Development/Purging (hours) _____

Initial Water Depth (feet) 6.62 mp @ 1000

Nonaqueous Liquids Present (Describe) _____

Water Quality/Water Collection

Spec Cond. = Specific Conductivity

Date	Time	Sampler Initials	Water Quality Readings				Water Collection Data					Notes (Explain in Comments Below)
			Temp. (°C)	pH		Spec Cond. (µmhos/cm)	Volume Removed (gallons)	Removal Rate (gal/min)	Pump Intake Depth (ft)	Bail	Final Water Depth ft)	
3/15/12	1004	SJC	18.2	7.66		899	0.10		17.6'		—	Clear
"	1008	SJC	18.0	7.63		891	0.20		↓		—	SAA
"	1018	SJC	15.2	7.48		611	0.50		↓		13.55'	SAA

Container Type: G = Clear Glass; A = Amber Glass; P = Plastic; V = VOA Vial (Glass); O = Other (Specify)

Sample Containers

Preservatives: H = HCl; N = HNO_3; S = H_2SO_4; A = NaOH; O = Other (Specify); — = None

Analytical Parameter List	Container			Field Filtered		Preserved	Cooled During Collection		Comments
	Number	Type	Volume (mL)	Yes	No		Yes	No	
SO4/TDS	1	500P	500		X	—	X		Sample BPZ1@1018
BUNA	1	250P	250		X	N	X		

Filter Type _____ Chain-of-Custody Form Number _____

Comments well Depth = 17.74' mp

Signature _____ Date 3/15/12 Reviewer _____ Date _____

Location No. BPZ2

WATER SAMPLING DATA

Sample Type: ☒ Groundwater ☐ Surface Water ☐ Other _____ Date 3/15/12

Project Name BEC Off-Site Groundwater Investigation Project No. 47602

Project Manager Stuart Cravens Phase Task No. _____

Site Address ☐ Ruby Lane ☒ Magnolia Drive ☐ Conservation Road Baldwin, Illinois

Sampling Specifications

Requested Sampling Depth Interval (feet) _____

Requested Wait Following Development/Purging (hours) _____

Initial Measurements

Time Elapsed From Final Development/Purging (hours) _____

Initial Water Depth (feet) 10.21' mp @ 0935

Nonaqueous Liquids Present (Describe) _____

Water Quality/Water Collection

Spec Cond. = Specific Conductivity

Date	Time	Sampler Initials	Water Quality Readings				Water Collection Data					Notes (Explain in Comments Below)
			Temp. (°C)	pH		Spec Cond. (µmhos/cm)	Volume Removed (gallons)	Removal Rate (gal/min)	Pump Intake Depth (ft)	Bail	Final Water Depth ft)	
3/15/12	0934	SJZ	13.5	7.44		—	0.10		13.25'			Clear
"	0942	SJZ	13.0	7.32		1,120	0.25		↓			Lt. brown
"	0944	SJZ	13.3	7.21		1,117	0.40		↓		11.77	SAA

Container Type: G = Clear Glass; A = Amber Glass; P = Plastic; V = VOA Vial (Glass); O = Other (Specify)

Sample Containers

Preservatives: H = HCl; N = HNO_3; S = H_2SO_4; A = NaOH; O = Other (Specify); — = None

Analytical Parameter List	Container			Field Filtered		Preserved	Cooled During Collection		Comments
	Number	Type	Volume (mL)	Yes	No		Yes	No	
SO4/TDS	1	500	P		X	—	X		Sample BPZ2@0944
Boron	1	250	P		X	N	X		

Filter Type _____ Chain-of-Custody Form Number _____

Comments well Depth = 14.25' mp

Signature _____ Date 3/15/12 Reviewer _____ Date _____

Location No. BPZ 3

WATER SAMPLING DATA

Sample Type: ☒ Groundwater ☐ Surface Water ☐ Other _____ Date 3-15-12

Project Name BEC Off-Site Groundwater Investigation Project No. 47602

Project Manager Stuart Cravens Phase Task No. _____

Site Address ☐ Ruby Lane ☒ Magnolia Drive ☐ Conservation Road Baldwin, Illinois

Sampling Specifications

Requested Sampling Depth Interval (feet) _____

Requested Wait Following Development/Purging (hours) _____

Initial Measurements

Time Elapsed From Final Development/Purging (hours) _____

Initial Water Depth (feet) 1.65' mp e 0900

Nonaqueous Liquids Present (Describe) _____

Water Quality/Water Collection

Spec Cond. = Specific Conductivity

Date	Time	Sampler Initials	Water Quality Readings				Water Collection Data					Notes (Explain in Comments Below)
			Temp. (°C)	pH		Spec Cond. (µmhos/cm)	Volume Removed (gallons)	Removal Rate (gal/min)	Pump Intake Depth (ft)	Bail	Final Water Depth ft	
3-15-12	0900	SJC	—	—		—	0		19.5			
"	0903	SJC	18.2	7.16		898	0.25		↓			clear
"	0910	SJC	17.9	6.96		1,080	0.50				11.07'	clear

Container Type: G = Clear Glass; A = Amber Glass; P = Plastic; V = VOA Vial (Glass); O = Other (Specify)

Sample Containers

Preservatives: H = HCl; N = HNO_3; S = H_2SO_4; A = NaOH; O = Other (Specify); — = None

Analytical Parameter List	Container			Field Filtered		Preserved	Cooled During Collection		Comments
	Number	Type	Volume (mL)	Yes	No		Yes	No	
SO4/TDS	1	HDPE	500		X	—	X		Sample BPZ3@0918
Boron	1	HDPE	250		X	N	X		Sample BPZ 93@0920
SO4/TDS	1	P	500		X	—	X		
Boron	1	P	250		X	N	X		

Filter Type _____ Chain-of-Custody Form Number _____

Comments weather - cldy, ~ 68°F, wind < 5 mph

well depth = 19.68' mp

Signature _____ Date 3/15/12 Reviewer _____ Date _____

Location No. BP24

WATER SAMPLING DATA

Sample Type: ☒ Groundwater ☐ Surface Water ☐ Other _____ Date 3/15/12

Project Name BEC Off-Site Groundwater Investigation Project No. 47602

Project Manager Stuart Cravens Phase Task No. _____

Site Address ☒ Ruby Lane ☐ Magnolia Drive ☐ Conservation Road Baldwin, Illinois

Sampling Specifications

Requested Sampling Depth Interval (feet) _____

Requested Wait Following Development/Purging (hours) _____

Initial Measurements

Time Elapsed From Final Development/Purging (hours) _____

Initial Water Depth (feet) 17.59' mp @ 1103

Nonaqueous Liquids Present (Describe) _____

Water Quality/Water Collection

Spec Cond. = Specific Conductivity

Date	Time	Sampler Initials	Water Quality Readings				Water Collection Data					Notes (Explain in Comments Below)
			Temp. (°C)	pH		Spec Cond. (µmhos/cm)	Volume Removed (gallons)	Removal Rate (gal/min)	Pump Intake Depth (ft)	Bail	Final Water Depth ft)	
3/15/12	1108	SJC	17.1	7.41		2,165	0.1		22.7'			Clear
"	1110	SJC	17.0	7.38		2,160	0.25		11			Clear
"	1112	SJC	17.4	7.44		3,082	—		11		20.79	Clear

Container Type: G = Clear Glass; A = Amber Glass; P = Plastic; V = VOA Vial (Glass); O = Other (Specify)

Sample Containers

Preservatives: H = HCl; N = HNO_3; S = H_2SO_4; A = NaOH; O = Other (Specify); — = None

Analytical Parameter List	Container			Field Filtered		Preserved	Cooled During Collection		Comments
	Number	Type	Volume (mL)	Yes	No		Yes	No	
SO4/TDS	1	P	500		X	—	X		Sample BP24
Boron	1	P	250		X	N	X		@ 1110

Filter Type _____ Chain-of-Custody Form Number _____

Comments Cldy, Rain/Thunder, ~70°F, wind S-10 S, Well Depth = 22.87' mp

Signature _____ Date 3/15/12 Reviewer _____ Date _____

Location No. BPZ5

WATER SAMPLING DATA

Sample Type: ☒ Groundwater ☐ Surface Water ☐ Other _____ Date 3-15-12

Project Name BEC Off-Site Groundwater Investigation Project No. 47602

Project Manager Stuart Cravens Phase Task No. _____

Site Address ☒ Ruby Lane ☐ Magnolia Drive ☐ Conservation Road Baldwin, Illinois

Sampling Specifications

Requested Sampling Depth Interval (feet) _____

Requested Wait Following Development/Purging (hours) _____

Initial Measurements

Time Elapsed From Final Development/Purging (hours) _____

Initial Water Depth (feet) 14.67' mp @ 1042

Nonaqueous Liquids Present (Describe) _____

Water Quality/Water Collection

Spec Cond. = Specific Conductivity

Date	Time	Sampler Initials	Water Quality Readings				Water Collection Data					Notes (Explain in Comments Below)
			Temp. (°C)	pH		Spec Cond. (µmhos/cm)	Volume Removed (gallons)	Removal Rate (gal/min)	Pump Intake Depth (ft)	Bail	Final Water Depth ft	
3-15-12	1044	SJC	17.2	7.54		882	20.0		19.0'		—	clear
3-15-12	1048	SJC	16.9	7.39		567	0.25		"		18.25	clear

Container Type: G = Clear Glass; A = Amber Glass; P = Plastic; V = VOA Vial (Glass); O = Other (Specify)

Sample Containers

Preservatives: H = HCl; N = HNO_3; S = H_2SO_4; A = NaOH; O = Other (Specify); — = None

Analytical Parameter List	Container			Field Filtered		Preserved	Cooled During Collection		Comments
	Number	Type	Volume (mL)	Yes	No		Yes	No	
SO4/TDS	1	P	500		X	—	X		Sample BPZ5
Boron	1	P	250		X	N	X		@ 1048

Filter Type _____ Chain-of-Custody Form Number _____

Comments Cldy, Rain/thunder, 70°F, wind S-10S. well depth = 19.55' mp

Signature _____ Date 3/15/12 Reviewer _____ Date _____

Location No. BP26

WATER SAMPLING DATA

Sample Type: ☒ Groundwater ☐ Surface Water ☐ Other _____ Date 3-15-12

Project Name BEC Off-Site Groundwater Investigation Project No. 47602

Project Manager Stuart Cravens Phase Task No. _____

Site Address ☒ Ruby Lane ☐ Magnolia Drive ☐ Conservation Road Baldwin, Illinois

Sampling Specifications

Requested Sampling Depth Interval (feet) _____

Requested Wait Following Development/Purging (hours) _____

Initial Measurements

Time Elapsed From Final Development/Purging (hours) _____

Initial Water Depth (feet) 11.47 @ 1022

Nonaqueous Liquids Present (Describe) _____

Water Quality/Water Collection

Spec Cond. = Specific Conductivity

Date	Time	Sampler Initials	Water Quality Readings				Water Collection Data					Notes (Explain in Comments Below)
			Temp. (°C)	pH		Spec Cond. (µmhos/cm)	Volume Removed (gallons)	Removal Rate (gal/min)	Pump Intake Depth (ft)	Bail	Final Water Depth ft	
3-15-12	1026	SJZ	17.2	7.60		1,049	0.25		14.8'			clear
"	1031	SJZ	15.4	7.30		1,053	0.40		"		18.05	cldy

Container Type: G = Clear Glass; A = Amber Glass; P = Plastic; V = VOA Vial (Glass); O = Other (Specify)

Sample Containers

Preservatives: H = HCl; N = HNO_3; S = H_2SO_4; A = NaOH; O = Other (Specify); — = None

Analytical Parameter List	Container			Field Filtered		Preserved	Cooled During Collection		Comments
	Number	Type	Volume (mL)	Yes	No		Yes	No	
SO4/TDS	1	P	500		X	—	X		Sample BP26 @ 1032
Boron	1	P	250		X	N	X		

Filter Type _____ Chain-of-Custody Form Number _____

Comments Drizzle, ~72°F, SE 5 mph wind, well Depth = 19.32' mp

Signature _____ Date 3/15/12 Reviewer _____ Date _____

Location No. BP27

WATER SAMPLING DATA

Sample Type: ☒ Groundwater ☐ Surface Water ☐ Other _____ Date 3-15-12

Project Name BEC Off-Site Groundwater Investigation Project No. 47602

Project Manager Stuart Cravens Phase Task No. _____

Site Address ☐ Ruby Lane ☐ Magnolia Drive ☒ Conservation Road Baldwin, Illinois

Sampling Specifications

Requested Sampling Depth Interval (feet) _____

Requested Wait Following Development/Purging (hours) _____

Initial Measurements

Time Elapsed From Final Development/Purging (hours) _____

Initial Water Depth (feet) 19.03' mp @ 1149

Nonaqueous Liquids Present (Describe) _____

Water Quality/Water Collection

Spec Cond. = Specific Conductivity

Date	Time	Sampler Initials	Water Quality Readings				Water Collection Data					Notes (Explain in Comments Below)
			Temp. (°C)	pH		Spec Cond. (µmhos/cm)	Volume Removed (~~gallons~~)	Removal Rate (gal/min)	Pump Intake Depth (ft)	Bail	Final Water Depth ft)	
3/15/12	1153	SJR	18.0	7.01		1,749	100mL		22			Clear
"	1155	SJR	17.7	6.85		1,721	240mL		"		21.53	Clear

Container Type: G = Clear Glass; A = Amber Glass; P = Plastic; V = VOA Vial (Glass); O = Other (Specify)

Sample Containers

Preservatives: H = HCl; N = HNO_3; S = H_2SO_4; A = NaOH; O = Other (Specify); — = None

Analytical Parameter List	Container			Field Filtered		Preserved	Cooled During Collection		Comments
	Number	Type	Volume (mL)	Yes	No		Yes	No	
SO4/TDS	1	P	500		X	—	X		Sample BP27
Boron	1	P	250		X	N	X		@ 1155

Filter Type _____ Chain-of-Custody Form Number _____

Comments Cldy, 78°F, wind < 5mph SW. well depth = 22.32' mp.

Signature _____ Date 3/15/12 Reviewer _____ Date _____

Location No. BP28

WATER SAMPLING DATA

Sample Type: ☒ Groundwater ☐ Surface Water ☐ Other _____ Date 3-15-12

Project Name BEC Off-Site Groundwater Investigation Project No. 47602

Project Manager Stuart Cravens Phase Task No. _____

Site Address ☐ Ruby Lane ☐ Magnolia Drive ☒ Conservation Road Baldwin, Illinois

Sampling Specifications

Requested Sampling Depth Interval (feet) _____

Requested Wait Following Development/Purging (hours) _____

Initial Measurements

Time Elapsed From Final Development/Purging (hours) _____

Initial Water Depth (feet) 3.04' mp @ 1131

Nonaqueous Liquids Present (Describe) _____

Water Quality/Water Collection

Spec Cond. = Specific Conductivity

Date	Time	Sampler Initials	Water Quality Readings				Water Collection Data					Notes (Explain in Comments Below)
			Temp. (°C)	pH		Spec Cond. (µmhos/cm)	Volume Removed (gallons)	Removal Rate (gal/min)	Pump Intake Depth (ft)	Bail	Final Water Depth ft	
3/15/12	1135	SJZ	17.2	7.64		705	0.25		15.0'		—	clear
"	1137	SJZ	15.1	7.55		694	0.50		11		13.76	Cldy

Container Type: G = Clear Glass; A = Amber Glass; P = Plastic; V = VOA Vial (Glass); O = Other (Specify)

Sample Containers

Preservatives: H = HCl; N = HNO_3; S = H_2SO_4; A = NaOH; O = Other (Specify); — = None

Analytical Parameter List	Container			Field Filtered		Preserved	Cooled During Collection		Comments
	Number	Type	Volume (mL)	Yes	No		Yes	No	
SO4/TDS	1	P	500		X	—	X		Samp BP28
BOD5	1	P	250		X	N	X		@ 1138

Filter Type _____ Chain-of-Custody Form Number _____

Comments Cldy, 73°F, wind 15 mph SW. well depth = 15.32' mp

Signature _____ Date 3/15/12 Reviewer _____ Date _____

ATTACHMENT 5

Laboratory Analytical Report and Chain of Custody

March 23, 2012

Stu Cravens
Kelron Environmental
1213 Dorchester
Champaign, IL 61821
TEL: (217) 390-1503
FAX: (217) 355-1385

RE: BEC Offsite/47602 **WorkOrder:** 12030744

Dear Stu Cravens:

TEKLAB, INC received 9 samples on 3/15/2012 2:41:00 PM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Elizabeth A. Hurley
Project Manager
(618)344-1004 ex 33
ehurley@teklabinc.com

Client: Kelron Environmental

Work Order: 12030744

Client Project: BEC Offsite/47602

Report Date: 23-Mar-12

Abbr Definition

CCV	Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
DF	Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilutions factors.
DNI	Did not ignite
DUP	Laboratory duplicate is an aliquot of a sample taken from the same container under laboratory conditions for independent processing and analysis independently of the original aliquot.
ICV	Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
IDPH	IL Dept. of Public Health
LCS	Laboratory control sample, spiked with verified known amounts of analytes, is analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. The acceptable recovery range is in the QC Package (provided upon request).
LCSD	Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MB	Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
MDL	Method detection limit means the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.
MS	Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
MSD	Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
MW	Molecular weight
ND	Not Detected at the Reporting Limit
NELAP	NELAP Accredited
PQL	Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. The acceptable recovery range is listed in the QC Package (provided upon request).
RL	The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
RPD	Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
SPK	The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
Surr	Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
TNTC	Too numerous to count (> 200 CFU)

Qualifiers

# -	Unknown hydrocarbon	B -	Analyte detected in associated Method Blank
E -	Value above quantitation range	H -	Holding times exceeded
J -	Analyte detected below quantitation limits	M -	Manual Integration used to determine area response
ND -	Not Detected at the Reporting Limit	R -	RPD outside accepted recovery limits
S -	Spike Recovery outside recovery limits	X -	Value exceeds Maximum Contaminant Level

Client: Kelron Environmental

Work Order: 12030744

Client Project: BEC Offsite/47602

Report Date: 23-Mar-12

Cooler Receipt Temp: 5.8 °C

Locations and Accreditations

Collinsville

Address 5445 Horseshoe Lake Road
Collinsville, IL 62234-7425
Phone (618) 344-1004
Fax (618) 344-1005
Email jhriley@teklabinc.com

Springfield

Address 3920 Pintail Dr
Springfield, IL 62711-9415
Phone (217) 698-1004
Fax (217) 698-1005
Email kmcclain@teklabinc.com

Kansas City

Address 8421 Nieman Road
Lenexa, KS 66214
Phone (913) 541-1998
Fax (913) 541-1998
Email dthompson@teklabinc.com

State	Dept	Cert #	NELAP	Exp Date	Lab
Illinois	IEPA	100226	NELAP	1/31/2013	Collinsville
Kansas	KDHE	E-10374	NELAP	1/31/2013	Collinsville
Louisiana	LDEQ	166493	NELAP	6/30/2012	Collinsville
Louisiana	LDEQ	166578	NELAP	6/30/2012	Springfield
Arkansas	ADEQ	88-0966		3/14/2012	Collinsville
Illinois	IDPH	17584		4/30/2012	Collinsville
Kentucky	UST	0073		5/26/2012	Collinsville
Missouri	MDNR	00930		4/13/2013	Collinsville
Oklahoma	ODEQ	9978		8/31/2012	Collinsville

Client: Kelron Environmental
Work Order: 12030744
Client Project: BEC Offsite/47602
Report Date: 23-Mar-12
Lab ID: 12030744-001
Client Sample ID: BPZ3
Matrix: AQUEOUS
Collection Date: 03/15/2012 9:18

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 18TH ED. 2540 C (TOTAL)								
Total Dissolved Solids	NELAP	20		**500**	mg/L	1	03/16/2012 10:29	R161252
SW-846 9036 (TOTAL)								
Sulfate	NELAP	75		**85**	mg/L	1	03/19/2012 12:17	R161318
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.0200	J	**0.011**	mg/L	1	03/19/2012 17:13	76111

Client: Kelron Environmental
Work Order: 12030744
Client Project: BEC Offsite/47602
Report Date: 23-Mar-12
Lab ID: 12030744-002
Client Sample ID: BPZ93
Matrix: AQUEOUS
Collection Date: 03/15/2012 9:20

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 18TH ED. 2540 C (TOTAL)								
Total Dissolved Solids	NELAP	20		**500**	mg/L	1	03/16/2012 10:29	R161252
SW-846 9036 (TOTAL)								
Sulfate	NELAP	75		**87**	mg/L	1	03/19/2012 12:19	R161318
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.0200	J	**0.016**	mg/L	1	03/19/2012 17:30	76111

Client: Kelron Environmental
Work Order: 12030744
Client Project: BEC Offsite/47602
Report Date: 23-Mar-12
Lab ID: 12030744-003
Client Sample ID: BPZ2
Matrix: AQUEOUS
Collection Date: 03/15/2012 9:44

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 18TH ED. 2540 C (TOTAL)								
Total Dissolved Solids	NELAP	20		**676**	mg/L	1	03/16/2012 10:30	R161252
SW-846 9036 (TOTAL)								
Sulfate	NELAP	75		**92**	mg/L	1	03/19/2012 12:25	R161318
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.0200	J	**0.012**	mg/L	1	03/19/2012 17:35	76111

Client: Kelron Environmental
Work Order: 12030744
Client Project: BEC Offsite/47602
Report Date: 23-Mar-12
Lab ID: 12030744-004
Client Sample ID: BPZ1
Matrix: AQUEOUS
Collection Date: 03/15/2012 10:10

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 18TH ED. 2540 C (TOTAL)								
Total Dissolved Solids	NELAP	20		**502**	mg/L	1	03/16/2012 10:30	R161252
SW-846 9036 (TOTAL)								
Sulfate	NELAP	75		**119**	mg/L	1	03/19/2012 12:27	R161318
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.0200	J	**0.0096**	mg/L	1	03/19/2012 17:41	76111

Client: Kelron Environmental
Work Order: 12030744
Client Project: BEC Offsite/47602
Report Date: 23-Mar-12
Lab ID: 12030744-005
Client Sample ID: BPZ6
Matrix: AQUEOUS
Collection Date: 03/15/2012 10:32

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 18TH ED. 2540 C (TOTAL)								
Total Dissolved Solids	NELAP	20		**664**	mg/L	1	03/16/2012 10:31	R161252
SW-846 9036 (TOTAL)								
Sulfate	NELAP	75	J	**70**	mg/L	1	03/19/2012 12:30	R161318
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.0200	J	**0.010**	mg/L	1	03/19/2012 17:46	76111

Client: Kelron Environmental
Work Order: 12030744
Client Project: BEC Offsite/47602
Report Date: 23-Mar-12
Lab ID: 12030744-006
Client Sample ID: BPZ5
Matrix: AQUEOUS
Collection Date: 03/15/2012 10:48

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 18TH ED. 2540 C (TOTAL)								
Total Dissolved Solids	NELAP	20		**394**	mg/L	1	03/16/2012 10:32	R161252
SW-846 9036 (TOTAL)								
Sulfate	NELAP	20		**27**	mg/L	2	03/22/2012 16:31	R161459
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.0200		**0.0314**	mg/L	1	03/19/2012 17:52	76111

Client: Kelron Environmental
Work Order: 12030744
Client Project: BEC Offsite/47602
Report Date: 23-Mar-12
Lab ID: 12030744-007
Client Sample ID: BPZ4
Matrix: AQUEOUS
Collection Date: 03/15/2012 11:10

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 18TH ED. 2540 C (TOTAL)								
Total Dissolved Solids	NELAP	20		**1640**	mg/L	1	03/16/2012 10:33	R161252
SW-846 9036 (TOTAL)								
Sulfate	NELAP	750		**817**	mg/L	10	03/19/2012 13:23	R161318
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.0200		**0.0435**	mg/L	1	03/19/2012 18:08	76111

Client: Kelron Environmental
Work Order: 12030744
Client Project: BEC Offsite/47602
Report Date: 23-Mar-12
Lab ID: 12030744-008
Client Sample ID: BPZ8
Matrix: AQUEOUS
Collection Date: 03/15/2012 11:38

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 18TH ED. 2540 C (TOTAL)								
Total Dissolved Solids	NELAP	20		**434**	mg/L	1	03/16/2012 10:39	R161252
SW-846 9036 (TOTAL)								
Sulfate	NELAP	75		**76**	mg/L	1	03/19/2012 12:41	R161318
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.0200		**0.0354**	mg/L	1	03/19/2012 18:13	76111

Client: Kelron Environmental
Work Order: 12030744
Client Project: BEC Offsite/47602
Report Date: 23-Mar-12
Lab ID: 12030744-009
Client Sample ID: BPZ7
Matrix: AQUEOUS
Collection Date: 03/15/2012 11:55

Analyses	Certification	RL	Qual	Result	Units	DF	Date Analyzed	Batch
STANDARD METHODS 18TH ED. 2540 C (TOTAL)								
Total Dissolved Solids	NELAP	20		**1220**	mg/L	1	03/16/2012 10:40	R161252
SW-846 9036 (TOTAL)								
Sulfate	NELAP	75		**215**	mg/L	1	03/19/2012 12:46	R161318
SW-846 3005A, 6010B, METALS BY ICP (TOTAL)								
Boron	NELAP	0.0200		**0.252**	mg/L	1	03/19/2012 18:19	76111

Receiving Check List

http://www.teklabinc.com/

Client: Kelron Environmental

Work Order: 12030744

Client Project: BEC Offsite/47602

Report Date: 23-Mar-12

Carrier: Employee

Received By: HLR

Completed by: Timothy W. Mathis
On: 15-Mar-12

Reviewed by: Michael L. Austin
On: 15-Mar-12

Pages to follow: Chain of custody 1 Extra pages included 0

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	Temp °C	5.8	
Type of thermal preservation?	None ☐	Ice ☑	Blue Ice ☐	Dry Ice	☐	
Chain of custody present?	Yes ☑	No ☐				
Chain of custody signed when relinquished and received?	Yes ☑	No ☐				
Chain of custody agrees with sample labels?	Yes ☑	No ☐				
Samples in proper container/bottle?	Yes ☑	No ☐				
Sample containers intact?	Yes ☑	No ☐				
Sufficient sample volume for indicated test?	Yes ☑	No ☐				
All samples received within holding time?	Yes ☑	No ☐				
Reported field parameters measured:	Field ☐	Lab ☐	NA ☑			
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐				

When thermal preservation is required, samples are compliant with a temperature between 0.1°C - 6.0°C, or when samples are received on ice the same day as collected.

Water – at least one vial per sample has zero headspace?	Yes ☐	No ☐	No VOA vials	☑
Water - TOX containers have zero headspace?	Yes ☐	No ☐	No TOX containers	☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐		

Any No responses must be detailed below or on the COC.

CHAIN OF CUSTODY

pg. 1 of 1 Work Order # 2117 1203044

TEKLAB, INC. 5445 Horseshoe Lake Road ~ Collinsville, IL 62234 ~ Phone: (618) 344-1004 ~ Fax: (618) 344-1005

Client: Stuart Cravens
Address: Kelron Environmental, 1213 Dorchester Dr
City / State / Zip: Champaign, IL 61821-7031
Contact: Cravens Phone: 217-390-1503
E-Mail: kelron1@comcast.net Fax: —

Samples on: ☒ Ice ☐ Blue Ice ☐ No Ice 5.8 °C
Preserved in: ☐ Lab ☒ Field FOR LAB USE ONLY
Lab Notes: TM 3-15-12

Comments:

- Are these samples known to be involved in litigation? If yes, a surcharge will apply. ☐ Yes ☐ No
- Are these samples known to be hazardous? ☐ Yes ☐ No
- Are there any required reporting limits to be met on the requested analysis? If yes, please provide limits in comment section. ☐ Yes ☐ No

Project Name / Number: BEC OFFSITE / 47602
Sample Collector's Name: S. Cravens
Results Requested: ☒ Standard ☐ 1-2 Day (100% Surcharge) ☐ Other_____ ☐ 3 Day (50% Surcharge)
Billing Instructions: Kelron / Cravens

Lab Use Only	Sample Identification	Date/Time Sampled	# and Type of Containers: UNPRES	HNO_3	NaOH	H_2SO_4	HCL	MeOH	$NaHSO_4$	Other	MATRIX: Water	Drinking Water	Soil	Sludge	Sp. Waste	INDICATE ANALYSIS REQUESTED: Sulfate (T)	TDS	Boron (T)
1203044 001	BPZ 3	3-15-12 / 0918	1	1							X					X	X	X
002	BPZ 93	0920	1	1							X					X	X	X
003	BPZ 2	0944	1	1							X					X	X	X
004	BPZ 1	1010	1	1							X					X	X	X
005	BPZ 6	1032	1	1							X					X	X	X
006	BPZ 5	1048	1	1							X					X	X	X
007	BPZ 4	1110	1	1							X					X	X	X
008	BPZ 8	1138	1	1							X					X	X	X
009	BPZ 7	3-15-12 / 1155	1	1							X					X	X	X

Relinquished By	Date / Time	Received By	Date / Time
	3-15-12 / 1441		3/15/12 1441

The individual signing this agreement on behalf of client acknowledges that he/she has read and understands the terms and conditions of this agreement, on the reverse side, and that he/she has the authority to sign on behalf of client.

WHITE & YELLOW – LAB PINK – SAMPLER'S COPY

APPENDIX E
Geochemical Conceptual Site Model

Geosyntec consultants

engineers | scientists | innovators

Geochemical Conceptual Site Model

Baldwin Power Plant – Fly Ash Pond System

(CCR Unit #605)

Prepared for

Dynegy Midwest Generation, LLC
1500 Eastport Plaza Drive
Collinsville, Illinois 62234

Prepared by

Geosyntec Consultants, Inc.
134 N. Lasalle Street, Suite 300
Chicago, Illinois 60602

Project Number: GLP8068

April 2024

Geosyntec consultants

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ACRONYMS AND ABBREVIATIONS

BAP	Bottom Ash Pond
BPP	Baldwin Power Plant
bgs	below ground surface
CEC	cation exchange capacity
CCR	coal combustion residuals
cm/s	centimeters per second
COCs	constituents of concern
FAPS	Fly Ash Pond System
HSU	hydrostratigraphic unit
GCSM	geochemical conceptual site model
GWPS	groundwater protection standards
I.A.C.	Illinois Administrative Code
IEPA	Illinois Environmental Protection Agency
LOI	loss on ignition
meq/100 g	milliequivalents per 100 grams
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
N&E	nature and extent
ORP	oxidation-reduction potential
PMP	potential migration pathway
SEP	sequential extraction procedure
SU	standard units
UA	uppermost aquifer
USEPA	United States Environmental Protection Agency
UU	upper unit
XRD	X-Ray diffraction
XRF	X-Ray fluorescence

1. EXECUTIVE SUMMARY

This report documents the development of a geochemical conceptual site model (GCSM) to describe subsurface conditions at the Baldwin Power Plant (BPP) Fly Ash Pond System (FAPS) coal combustion residuals (CCR) unit (Unit #605). A GCSM describes the geochemical processes that contribute to the mobilization, distribution, and attenuation of chemicals in the environment. The GCSM was prepared in support of an evaluation of the nature and extent (N&E) of exceedances of constituents of concern (COCs) above the groundwater protection standards (GWPS) at the FAPS.

The exceedances observed at the FAPS were boron and sulfate. Constituents of concern (COC) exceedances are present in two hydrostratigraphic units at the site: the upper unit (UU) potential migration pathway (PMP), comprised predominantly of clay with silt and minor sand, silt layers, and occasional sand lenses, and the uppermost aquifer (UA), comprised of Pennsylvanian and Mississippian-aged interbedded shale and limestone bedrock.

The primary source of boron and sulfate to groundwaters of the UA and UU PMP within the monitoring network is the FAPS coal combustion residual porewater (i.e., CCR source water), based on COC concentrations within the source and relationships to hydrogeological patterns at the site. Boron was identified within UA solids at concentrations that suggest that aquifer solids could provide an additional potential natural geogenic source of boron to groundwater, and groundwater from background wells consistently exhibited boron concentrations consistent with a natural geogenic source. The observation of pyrite within solids of shale portions of the UA could provide an additional source of sulfate to groundwater via pyrite oxidation, as pyrite is not expected to be a stable mineral phase under observed groundwater redox conditions and sulfate concentrations at background wells are indicative of a potential additional natural source.

Boron and sulfate in the groundwater system may be attenuated via surface complexation reactions within portions of the UU PMP and the UA. Conditions within groundwater from both the UA and UU PMP are typically predicted to favor amorphous iron oxide stability at most locations, and the presence of iron oxides in some site solids supporting the occurrence of this mechanism. Limited variability in pH or redox conditions is observed between upgradient background and downgradient locations. Boron may be further attenuated via interactions with clay minerals, which are observed in solids across both the UU and UA. The observation of gypsum, although limited to the shale bedrock portions of the UA, indicates that precipitation of gypsum may be another potential attenuation mechanism for sulfate at locations near the FAPS.

2. INTRODUCTION

This report documents the development of a geochemical conceptual site model (GCSM) to describe subsurface conditions at the Baldwin Power Plant (BPP) Fly Ash Pond System (FAPS) coal combustion residuals (CCR) unit (Unit #605). A GCSM describes the geochemical processes that contribute to the mobilization, distribution, and attenuation of chemicals in the environment. The GCSM was prepared in support of an evaluation of the nature and extent (N&E) of exceedances of constituents of concern (COCs) above the groundwater protection standards (GWPS) at the FAPS. The document has been prepared as an appendix to the BPP FAPS N&E Report prepared by Ramboll Americas Engineering Solutions. Inc. (Ramboll). Parameters with exceedances above the GWPS at the Baldwin FAPS for the second, third, and fourth quarters of 2023 (Q2 2023, Q3, 2023, and Q4 2023) sampling events completed under Illinois Administrative Code (I.A.C.) Title 35 § 845.630 are boron and sulfate. Exceedances of boron were observed at compliance monitoring wells MW-150, MW-152, and MW-391 and an exceedance of sulfate was observed at MW-150. The boron and sulfate exceedances are present in the upper unit (UU) potential migration pathway (PMP) at MW-150 and for boron at MW-152. The boron exceedance at MW-391 is present within the uppermost aquifer (UA).

An exceedance of pH was observed at compliance monitoring well MW-252 during the Q3 2023 sampling event. However, an alternative source demonstration (ASD), as allowed by I.A.C. 845.650(e), was completed for the pH exceedance (Geosyntec 2024). The pH ASD was accepted by IEPA on March 7, 2024 (IEPA 2024); therefore, pH is not included as a COC in this GCSM.

3. SITE BACKGROUND

3.1 Site Overview

An overview of site characteristics and hydrogeology is presented in the BPP FAPS N&E Report. A site layout figure is provided in Attachment A.[1] Briefly, the Baldwin FAPS impoundment is located to the south of the Bottom Ash Pond (BAP) CCR unit (Unit # 601). The BPP property is bordered by Baldwin Road to the east; the village of Baldwin to the southeast; Illinois Central Gulf railroad tracks, State Road 154, and scattered residences to the south; the Kaskaskia River to the west; and farmland to the north. The FAPS was closed in-place in 2020 in accordance with the closure plan approved by the Illinois Environmental Protection Agency (IEPA) on August 16, 2016 (IEPA 2016). Prior to closure, the FAPS comprised the West Fly Ash Pond, East Fly Ash Pond, and Old East Fly Ash Pond.

A Supplemental Hydrogeologic Site Characterization and Groundwater Monitoring Plan (Natural Resource Technology, Inc. [NRT] 2016) and the Hydrogeologic Site Characterization Report (Ramboll 2021) have previously described the hydrostratigraphic units (HSUs) present in the vicinity of the BPP FAPS, which consist of the UU and a Bedrock Unit. The UU is predominantly clay with silt and minor sand, silt layers, and occasional sand lenses. The UU includes lithologies identified as the Cahokia Formation, Peoria Loess, Equality Formation, and Vandalia Till. Thin sand seams present at the contact between the UU and Bedrock Unit have been identified as potential migration pathways (PMPs) due to higher hydraulic conductivities in comparison to those in the surrounding clays (e.g., 10^{-4} centimeters per second [cm/s] in sands compared with 10^{-5} cm/s in clays) (Ramboll 2023a). Continuous sand seams have not been observed in the UU. Due to the predominance of clay and only thin and intermittent sand lenses, this unit is not considered a continuous aquifer unit within the site boundary (NRT 2016; Ramboll 2021).

Pennsylvanian and Mississippian-aged interbedded shale and limestone bedrock, which comprise the Bedrock Unit, continuously underlies the BPP and is considered the uppermost aquifer (UA) at the site. The top of the Bedrock Unit ranges from 12.5 feet below ground surface (bgs) near the Kaskaskia River to 70 feet bgs under the footprint of the former East Fly Ash Pond (part of the FAPS). The Bedrock Unit is the UA.

3.2 Groundwater Monitoring Network

A groundwater monitoring network was proposed in accordance with I.A.C. Title 35 Section 845.630 to monitor groundwater quality which passes the waste boundary as part of the Operating Permit application to IEPA for the FAPS (Ramboll 2023b). Monitoring well locations at the BPP, including those not included in the proposed groundwater monitoring network, are shown in Attachment B. Well construction information is provided in Attachment C.[2]

[1] This figure is also provided as Figure 2-1 of the BPP FAPS N&E Report.
[2] This table is also provided as Table 3-1 of the BPP FAPS N&E Report.

Groundwater flow in the UA is southwest to northwest in the east area of the FAPS until groundwater reaches the bedrock valley feature underlying the Secondary and Tertiary Ponds west of the FAPS, at which point the flow direction becomes southwest following this low bedrock surface. Groundwater flow directions are generally consistent across seasons. A detailed discussion of the hydrogeology of the Site is presented in Section 2 of the BPP FAPS N&E Report.

4. GEOCHEMICAL SITE CONDITIONS

4.1 Constituent Transport and Fate

Boron is primarily present in groundwater as boric acid (H_3BO_3) or borate ($B[OH]^{4-}$) (Bolan et al. 2023). The speciation of boron depends on pH: at pH below 9.2 standard units (SU), H_3BO_3 is the dominant species (NCBI 2024a). Boron is not subject to oxidation/reduction reactions (Lemarchand et al. 2015; Bolan et al. 2023). Boron primarily sorbs to positively charged sites on solid metal oxide phases, including iron and aluminum oxides (Goldberg and Glaubig 1985; Bolan et al. 2023). Boron sorbs most extensively to amorphous metal oxides between pH 7 SU and 8 SU (Goldberg and Glaubig, 1985). Boron can also sorb to organic surfaces such as humic acids or coal under favorable conditions, most extensively between pH 8 and 10 SU (LeMarchand et al. 2015). Clay minerals have been correlated with boron sorption in soils (Goldberg, 1997), with this sorption mechanism presenting an additional potential attenuation mechanism for boron under favorable geochemical conditions.

Sulfate is the primary form of oxidized sulfur (S(VI)) in the environment and is a divalent oxyanion at pH values greater than 2 SU (Stumm and Morgan 1996). Sulfate in groundwater may sorb onto positively charged sites on solid metal oxide phases, most commonly iron and manganese oxides (Brown et al. 1999). The extent and strength of sulfate sorption to metal oxide surfaces depends on pH, ionic strength, and oxide surface area available for sorption. Sulfate can also form insoluble complexes such as barite ($BaSO_4$) (NCBI 2024b). Sulfate in groundwater may be reduced to elemental sulfur (S(0)) or sulfide (S(-II)) under sufficiently reducing conditions, a process governed by local microbial communities (Stumm and Morgan 1996). Generally, reduced sulfur is less mobile in groundwater than sulfate. Reduced sulfur readily precipitates as metal sulfides and sorbs to solid phases such as iron and manganese oxides (Stumm and Morgan 1996).

4.2 Site Solids Characterization

Solid phase data were not collected from the CCR source material prior to completion of unit closure in 2020.

Solids from across the Site were characterized to determine the type and abundance of minerals present in the UU and the UA, their geochemical properties, and their effect on the geochemistry of the groundwater system. Solids were characterized using a variety of analytical techniques, the results of which are presented in Tables 1 through 5. Solids were collected from four locations adjacent to existing wells in the FAPS monitoring network as follows:

- MW-150/MW-350, a co-located well pair located downgradient and west of the FAPS. Solids were collected from two intervals within the UU that represent the PMP and two intervals to represent predominantly shale and limestone lithologies within the UA. Exceedances of boron and sulfate in groundwater were identified at MW-150 during the Q2 2023 statistical evaluation.

- MW-352, located downgradient and south of the FAPS. Solids were collected from two intervals that represent both predominantly shale and limestone lithologies within the UA. Samples were not collected from intervals representative of UU for the paired location MW-152, because the boron exceedance at MW-152 was first identified in the Q3 2023 statistical evaluation.

- MW-366, located downgradient of the FAPS and northwest of the former West Fly Ash Pond, with solids collected from the UA shale.

- MW-391, located downgradient and west of the FAPS, with solids collected from three intervals that represent predominantly shale, weathered shale, and limestone lithologies within the UA. An exceedance of boron was identified at MW-391 during the Q2 2023 statistical evaluation.

The monitoring well locations are shown on Attachment 2. Boring logs for these locations are provided in Attachment D.

Samples from four additional locations across the site were analyzed as part of investigations at the BPP BAP but the materials are representative of conditions within the same HSUs beneath the FAPS as these HSUs are observed continuously across the Site. These solids were collected from multiple intervals adjacent to existing wells, specifically:

- MW-358, located upgradient and east of the FAPS and representative of background conditions for both the FAPS and BAP. Solids were collected within three intervals – one from the UU which represents the PMP and two from shale of the UA ;

- MW-392, located sidegradient and north of the BAP, with solids collected from three intervals – one within clay/sand of the UU and two within the UA shale;

- MW-393, located sidegradient and north of the BAP, with solids collected from two intervals – one within clay/sand of the UU and one within the UA shale;

- MW-394, located sidegradient and north of the BAP, with solids collected from sand within the UU.

Boring logs for these locations are also provided in Attachment D.

4.2.1 Loss on Ignition, Total Organic Carbon, and Cation Exchange Capacity

Loss on ignition (LOI) represents the combustible portions of a solid material and is often used as an approximation of organic matter in a sample. This can also be estimated via measurement of total organic carbon (TOC). The cation exchange capacity (CEC) of a solid represents the total negative surface charge of that material, which is related to the material's surface potential to sorb cations. Amorphous iron hydroxides, organic matter, and clays all tend to possess high negative surface charges and therefore tend to contribute to higher CEC values. The CEC and LOI values

for solids are presented in Table 1 and laboratory analytical results are provided in Attachment E. CEC and LOI values are both consistently high in the vicinity of the FAPS (CEC: 12.94 – 173.79 milliequivalents per 100 g of sample [meq/100 g]; LOI: 8.4 – 40.5 percent by dry weight [% wt]), indicating that the solids have significant organic matter present, likely associated with the shale lithologies. Where measured, the TOC content for shale varied between 0.16 – 1.4 % wt (Table 1). Solids at MW-150 exhibited the lowest CEC and LOI values in the vicinity of the FAPS, consistent with the sandy clay substrate of the UU PMP. All other samples in the vicinity of the FAPS were collected from the UA solids. Samples collected from lithologies identified as predominantly limestone exhibit the highest CEC and LOI values (CEC: 164.7 – 173.79 meq/100g; LOI: 37.1 – 40.5% wt) analyzed at the site, which suggests significant contribution of organic matter from the observed interbedded thin shale layers within the limestone bedrock. UU PMP solids collected near the BAP exhibited similarly low LOI values, while shales collected at MW-392 displayed lower CEC values than those observed near the FAPS, which may be related to variable degrees of weathering within the HSUs.

4.2.2 Total Metals and Boron via Bulk Characterization

Total metals were analyzed to determine the major and trace metal content of the solids. Total iron concentrations in UA solids sampled from across the Site range from 5,300 milligrams per kilogram [mg/kg] to 23,000 mg/kg and total iron is observed to be elevated within the UU PMP solids (19,000 and 38,000 mg/kg) relative to UA solids (Table 2; Attachment E). UA samples from limestone lithologies have lower iron concentrations (5,300 mg/kg to 5,600 mg/kg) than shale samples (11,000 mg/kg to 23,000 mg/kg). The abundance of iron within the bulk solids matrix of both the UA and UU PMP indicates that iron-bearing minerals are likely present within the system. Total manganese concentrations are relatively low in UA solids (190 mg/kg to 1,200 mg/kg), and higher in UU solids (770 and 830 mg/kg) (Table 2; Attachment E). Total aluminum concentrations were lowest in limestone lithologies of the UA (4,800 to 5,900 mg/kg), and relatively higher in both shale lithologies of the UA (16,000 to 81,000 mg/kg) and the UU PMP (42,000 to 66,000 mg/kg) (Table 2; Attachment E). Boron concentrations within solids were analyzed in the vicinity of the BAP, with concentrations in the UA ranging from 11 to 16 mg/kg. Sulfate concentrations within UA solids, as measured in leachate after HCl digestion of solids for samples from MW-358 and MW-392, ranged between 50 to 620 mg/kg (Table 2, Attachment E).

X-Ray fluorescence (XRF) was conducted for identification of the bulk elemental composition of solids (Table 3; Attachment F). Solids from the UU PMP are predominantly composed of silicon (52.3 to 79.7 wt %) and aluminum (8.1 to 11.7 wt %) consistent with the sand and clay lithologies described for the UU. UA solids are predominantly composed of aluminum (1.0 to 19.2 wt %), silicon (6.7 to 59.6 wt %), and calcium (0.5 to 49.4 wt %), consistent with the shale and limestone expected within the bedrock locations. Iron is observed within all solid phase samples, ranging from 0.7 to 7.7 wt %. Manganese was observed in all UU solids and 12 out of 14 UA solids. Manganese was observed at low abundances in both the UU and UA, ranging from 0.02 to 0.18 wt %.

4.2.3 Sequential Extraction Procedure Analysis of Metals and Boron

Samples of composited material from select BAP-associated boring locations were submitted to SGS Canada (Lakefield, ON) for sequential extraction procedure (SEP). SEPs are chemical extractions used to dissolve metals from specific solid-associated phases. SEPs use progressively stronger reagents to solubilize metals from increasingly recalcitrant phases. Although these procedures do not identify the discrete solid phases in a soil/aquifer matrix, they do provide a means to evaluate the class of solids and relative stability in relation to general solubility, changes in oxidation/reduction (redox) potential, and pH fluctuations (Tessier et al. 1979, Kuo et al. 1983, Sposito et al. 1984, Hickey and Kittrick 1984, Gruebel et al. 1988). Therefore, SEP data are useful to infer the mechanism and potential reversibility of attenuation processes. The results of the 6-step extraction procedure and analysis are provided in Table 4 and Attachment G.

Boron was detected in the residual metals fraction of all samples (13 to 62 mg/kg, comprising 63 to 100% of the extracted boron), which may be associated with the presence of micas and clays within both the UA and UU. All UA solids also had detectable amounts of boron in the water soluble, carbonate-bound, iron or manganese oxide bound, and organic material bound fractions at relatively low proportions of the total boron (typically <10% in a given fraction). The observation of detectable concentrations of boron in relatively mobile fractions (e.g. water soluble and carbonate-bound) at the MW-358 background location is consistent with a potential native geogenic source of boron within the UA at the site.

The vast majority of iron within solids from both the UA (>87%) and UU PMP (>92%) is bound within the residual metals fraction, consistent across both background and compliance locations (Table 4). Iron was also identified in the fraction typically associated with iron or manganese oxides, with proportions ranging from 3.8 to 7.3% in UU PMP solids and 3.6 to 11.2% of total iron within UA solids. UA solids collected within shale lithologies also displayed iron associated with the organic material bound fraction (1.4 to 7.1%), consistent with the increased sorptive capacity associated with the organic matter content whose presence is indicated by the high LOI values of these solids.

4.2.4 Mineralogical Analysis

X-Ray diffraction (XRD) with Rietveld refinement was conducted for identification of minerals in solid samples. XRD is an analytical technique that provides information about the identity of the crystalline material within a sample but does not provide information about non-crystalline or amorphous phases. XRD results are normalized to 100% of the total weight, meaning that material not characterized by XRD is ignored in the percent calculation. Solids from the UU PMP (MW-150, MW-358, MW-392, MW-393, and MW-394) were predominantly composed of quartz, ranging from 32.4 to 64.1% of the minerals present (Table 5a; Attachment H). Muscovite (2.0 to 9.1%), feldspar minerals including albite (6.4 to 12.8%) and microcline (6.5 to 10.1%), and a variety of clays (10.4 to 15.9% total) were observed as additional primary crystalline mineral phases. These results are consistent with the field observations documented in the boring logs

provided in Attachment D. Low abundances of magnetite (detected to 0.9%) were observed, but otherwise crystalline forms of iron oxides were not observed in UU PMP solids. Combined with XRF data observations of iron abundances between 2.8 to 5.0 wt % in solids across the UU PMP and limited observations of other iron-bearing crystalline minerals (e.g. ankerite), these results provide evidence that the majority of iron within UU PMP solids is present as non-crystalline or amorphous phases. Diaspore, an aluminum oxide, was detected at low abundances (0.2 to 0.5%) within UU PMP solids, including at background well MW-358.

Solids from shale-dominated portions of the UA (MW-350, MW-352, MW-358, MW-366, MW-391, and MW-392) exhibited mixed mineral compositions, with significant proportions of clay minerals (3.4 to 41.2%), quartz (11.2 to 30.7%), muscovite (4.3 to 19.7%) and calcite (0.5 to 74.9%). Solids from limestone dominated portions of the UA (MW-350 and MW-391) were predominantly calcite (80.5 to 90.2 %) and quartz (5.2 to 10.7%), with low proportions of clays (1.6 to 3.5%) (Table 5b; Attachment H). These results are consistent with the field observations documented in the boring logs provided in Attachment D. Gypsum was observed at low abundance (1.92 wt %) in the shale bedrock at MW-350, which suggests that precipitation of sulfate is possible under some aquifer conditions. Iron oxides, including magnetite (0.2 to 1.4%) and hematite (0.2 – 0.4%) were observed in low abundances in the shale portions of the UA. No crystalline iron oxides were observed in the limestone dominated portions of the UA. Both ankerite (0.2 to 10.0%) and pyrite (0.1 to 1.6%) are observed in solids across the UA, suggesting that a significant portion of the total iron within UA solids could be associated with minerals other than crystalline iron oxides, consistent with observation of iron abundances between 0.7 to 7.7 wt % for UA XRF results. Rhodochrosite was observed at low abundance (0.7%) at MW-350 within a shale-dominated depth interval. Crystalline manganese-bearing mineral phases were not identified in other solid samples, consistent with the low elemental abundances of manganese observed in the XRF results for UA samples. While diaspore was detected at one location in the UA, MW-392, crystalline aluminum-oxide mineral phases do not appear to be widely distributed.

Kaolinite, montmorillonite, and illite have been correlated with boron retention in soils (Goldberg 1997). Of those three clay types, illite exhibits the greatest rate of boron adsorption, and was observed in each solid sample from both the UA and UU at abundances ranging from 0.6 to 15.0%. Montmorillonite and kaolinite were also present in the majority of solids (0.2 to 14.0% and 0.5 to 15.0%, respectively). The abundance of clay minerals within solids presents an additional potential attenuation mechanism for boron within the UA and UU.

4.3 Aqueous Geochemistry

FAPS porewater (i.e., CCR source water) and groundwater from wells across the UA and UU were analyzed for a range of geochemical parameters and presented in Figures 1a through 10b. FAPS porewater was collected and analyzed during two periods – prior to unit closure (September 2013 to June 2014) from three locations and a one-time collection of porewater from sumps during

closure activities in May 2020.[3] The United States Environmental Protection Agency (USEPA) considers the use of porewater data as the most appropriate approach to estimate constituent fluxes to groundwater from CCR surface impoundments. As per USEPA, "this is because porewater better represents the leachate seeping from the bottom of the impoundment than impoundment water samples" (USEPA 2015). For clarity in interpretation, the figures present data from the UA and UU well locations separately. UA well locations are shown with circular symbology on the figures, whereas UU locations are shown as triangles. The groundwater data used in the site evaluation is summarized in Attachment I.

An ASD, submitted on 8 February 2024 and accepted by IEPA on 7 March 2024, indicated that groundwater data from MW-253 was impacted by well construction issues, resulting in anomalously high pH values (~10-12 SU) (Geosyntec 2024). A review of groundwater data at the site found that background well MW-306 and downgradient compliance well MW-350 also appear to be impacted by well construction issues based on their anomalously high pH values. Because these infrastructure issues are anticipated to potentially impact groundwater geochemistry, these three wells (MW-253, MW-306, MW-350) have been excluded from the following discussion, tables, and figures.

4.3.1 Redox/pH Summary

The oxidation-reduction (redox) potential (ORP) and pH in aqueous systems are major controls on the speciation of redox-active chemicals such as iron, manganese, and sulfate.

Within the FAPS prior to closure, CCR porewater exhibited a wide range of pH values, from 7.7 to 11.9 SU (Table 6). In wells across the groundwater monitoring network, pH values appear to be stable and circumneutral (Figures 1a & 1b for the UA and UU PMP, respectively). UA groundwater pH values largely range between 7 to 8 SU, consistent with the high buffering capacity expected from the limestone lithologies of the bedrock. Background wells MW-304 and MW-358 range between pH 7.5 to 8.4 SU, similar to observations at downgradient compliance wells MW-375, MW-384, and MW-391 and above the range observed at downgradient compliance wells MW-366, MW-377, and MW-390, which exhibit pH values between 6.75 and 7.25 SU. UU well groundwater pH varies between 6.5 to 7.5 (Figure 1b), consistent with the lower buffering capacity expected with the sandy clay substrate of the UU PMP as compared to the shale and limestone lithologies of the UA.

Groundwater within the UA background well locations upgradient of the FAPS (MW-304 and MW-358) exhibits a range of redox conditions, with fluctuations between reducing and oxidizing conditions observed (Figure 2a). These fluctuating conditions within unaffected portions of UA groundwater do not appear to follow a seasonal pattern and have occurred at MW-304 for the entirety of the monitoring record (Figure 2a). Groundwater at all compliance wells downgradient of the FAPS within the UA follow a similar pattern, with fluctuations between reducing and

[3] FAPS porewater data are excluded from the time series graphs and provided in Table 6 due to the limited number of available data points and relevant constituents.

oxidizing conditions occurring frequently. Observation of this pattern across the UA monitoring network indicates that redox fluctuations are driven by HSU characteristics and are not reflective of FAPS porewater influences. Groundwater within the UU typically exhibits consistently oxidizing conditions, except for MW-150 which exhibits more variable redox conditions which may be related to the location of MW-150 downgradient of the Secondary and Tertiary Ponds. (Figure 2b).

4.3.2 Exceedance Parameters

4.3.2.1 FAPS Porewater

Prior to unit closure, FAPS porewater (i.e., CCR source water) exhibited total boron concentrations from 0.663 to 102 milligrams per liter (mg/L) and total sulfate concentrations that ranged from 750 to 2,630 mg/L, consistent with leachate from CCR units (Table 6) (EPRI 2017). Dissolved boron concentrations (ranging from 36.3 to 94.7 mg/L) and dissolved sulfate concentrations (495 to 2,820 mg/L) were similarly elevated where analyzed, indicating a majority of boron and sulfate within the porewater are in the dissolved fraction. Results for both total and dissolved boron are notably higher than concentrations reported in groundwater (Sections 4.3.2.2 and 4.3.2.3). Concentrations of both boron and sulfate were consistently lower at TPZ-163 (located within the Old East Fly Ash Pond portion of the FAPS); these lower concentrations may be related to an early cessation of material deposition within this portion of the FAPS. Porewater collected from sumps during closure exhibited similarly elevated total sulfate and boron concentrations (1,080 to 1,840 mg/L and 10.6 to 60.3 mg/L, respectively), except at Sump 13 (84 mg/L and 0.66 mg/L, respectively), suggesting potential dilution from unaffected waters during closure activities at this location.

4.3.2.2 UA

UA background wells MW-304 and MW-358 exhibited a range of boron concentrations in groundwater, with MW-304 exhibiting boron concentrations at or below the GWPS of 2.16 mg/L (1.27 to 2.16 mg/L), and MW-358 consistently below the GWPS (1.1 to 1.67 mg/L) (Figure 3a). Total boron concentrations in the UA remained generally stable through time across the site, with notable exceptions at MW-391, MW-390, and MW-366 as discussed below. Where analyzed, dissolved boron concentrations trends within the UA mirrored total boron concentration trends (Figure 3b).

Total sulfate concentration trends within UA background wells (MW-304 and MW-358) were consistent with those observed for boron concentrations, with MW-304 exhibiting relatively elevated concentrations (157 to 231 mg/L) and MW-358 exhibiting consistently lower concentrations (8 to 108 mg/L) (Figure 4a). Patterns of total sulfate concentrations in downgradient UA are generally consistent with those observed for total boron (Figure 4a). Where analyzed, dissolved sulfate concentrations within downgradient UA well locations were stable through time and relatively low, typically less than 250 mg/L (Figure 4b).

MW-391 exhibits a sharp increase in total boron (1.88 to 8.91 mg/L) and total sulfate (758 to 1,760 mg/L) concentrations between 2017 and 2018 sampling events. This is likely a result of water diversion activities completed as a part of dewatering within the FAPS during closure, as the increase in total boron and sulfate concentrations was concurrent with a change in groundwater elevation of nearly 40 feet at MW-391 (Figure 5a). The highest groundwater elevation at MW-391 (414.54 ft above mean sea level on 24 March 2020) is consistent with groundwater elevations recorded in the PMP (Figure 5b) and may have resulted in temporary connectivity with the UU PMP HSU.

Total sulfate concentrations in groundwater at MW-366 increased sharply (64 to 526 mg/L) over the same period as sulfate in MW-391 but did not show a similar change in total boron concentrations (1.66 to 1.53 mg/L). In contrast, MW-390 groundwater boron (1.3 to 0.21 mg/L) concentrations fell over the same period and remain low through recent sampling efforts, with sulfate concentrations remaining largely stable (233 to 141 mg/L). Neither MW-366 nor MW-390 exhibit changes in groundwater elevations concurrent with changes in sulfate and/or boron concentrations, but the location of all three of these monitoring locations on the northwest edge of the West Fly Ash Pond suggests that the geochemical changes observed are caused by a similar hydrologic driver.

4.3.2.3 UU PMP

Total boron data is limited to a few recent sampling events for UU PMP groundwater wells, but concentrations appear to be stable through time and well below the GWPS, except for at MW-150 where concentrations are above the GWPS (3.43 to 4.12 mg/L) (Figure 6a). Dissolved boron concentrations are also above the GWPS at MW-150 (Figure 6b), with observations of dissolved boron appearing to increase gradually over time. Dissolved boron concentrations are more than 50% of total boron concentrations at MW-150, such that dissolved boron is the predominant form of boron observed at this location. The gradual increase in dissolved boron concentrations in groundwater at MW-150 is being further evaluated to identify the primary source and transport mechanism but may be related to the low hydraulic conductivity in the UU PMP (Section 2.3.6 of the BPP FAPS N&E Report). Both total and dissolved sulfate concentrations within the UU PMP mirror patterns observed for boron (Figures 7a & 7b).

MW-152 currently exhibits a strong seasonal pattern with regard to dissolved boron and dissolved sulfate concentrations, with both analytes spiking well above the GWPS during September sampling efforts, then returning to much lower concentrations (below the GWPS for both boron and sulfate) by sampling during the following March. This pattern is observable in data from 2016 through the most recent sampling efforts. While statistically significant levels of sulfate have not been identified at MW-152 to date, a boron exceedance was noted during the Q3 2023 statistical evaluation. The observed pattern in concentrations correlates with groundwater elevations as discussed in Section 3.2.1 of the BPP N&E Report. A similar seasonal pattern is not observed at MW-352, the associated well within the UA.

4.3.3 Pourbaix Diagrams

Eh-pH (Pourbaix) diagrams can be used to illustrate the predicted stability of specific phases at thermodynamic equilibrium under the conditions observed for a groundwater sample. Select crystalline mineral species were suppressed to be representative of anticipated groundwater conditions (e.g. mineral formation not anticipated to be kinetically favored), except when identified in XRD data from solids in the site.

Using conditions observed at well MW-391 on 17 May 2023 to represent groundwater within the UA (Table 7), amorphous iron oxyhydroxides (represented by ferrihydrite) are predicted to be stable under groundwater conditions at some locations, while at other locations solid phase iron minerals are not expected to be stable (Figure 8a).[4] Conditions at MW-391, which had a boron exceedance, are favorable for ferrihydrite stability. Background well MW-304 exhibits conditions predicted to be stable for amorphous ferrihydrite formation for all recent monitoring events, while conditions at background well MW-358 indicate that groundwater at this well is experiencing dynamic equilibrium conditions in which chemical reactions between dissolved iron and amorphous iron oxyhydroxides can occur. This appears to be driven by the variable redox conditions observed across the UA (Section 4.3.1). Solids collected from background location MW-358 exhibited low abundances of magnetite (Table 5b), and when magnetite is not suppressed as a possible mineral species during modeling, magnetite is predicted to be stable at all locations across the UA (Figure 8b). Similarly, when hematite is not suppressed as a possible mineral phase during modeling, hematite is predicted to be stable across the UA (Figure 8c), consistent with the observation of low abundances of hematite in a subset of UA solids (Table 5b). Taken together, these modeling results suggest that iron oxides, whether amorphous or crystalline, are likely to be present in the UA under most aquifer conditions and may serve as reactive surfaces for potential attenuation. Neither ankerite nor pyrite, which were identified via XRD, are expected to be thermodynamically stable within the UA based upon the observed redox conditions (Figures 8a-8c), suggesting that dissolution of these minerals could provide a source of iron for formation of amorphous iron oxide coatings.

Similar aquifer conditions are predicted at locations within the UU PMP, modeled using groundwater conditions from MW-150 sampled on 18 May 2023 (Table 7; Figure 8d). As observed for the UA, ferrihydrite stability is variable, with stability predicted under HSU conditions at some locations (MW-151, MW-152, and MW-153), while at others amorphous iron minerals are not expected to be stable (MW-150 and MW-252). While variable boron and sulfate concentrations were observed at UU PMP well MW-152, these changes are not correlated to ferrihydrite stability at MW-152. Crystalline magnetite is expected to be stable at all PMP locations (Figure 8e), which is consistent with the low abundances of magnetite detected via XRD in solids near MW-150 (Table 5a). Ankerite is not expected to be thermodynamically stable within the UU PMP based upon the observed redox conditions; dissolution of ankerite could provide a source of iron for

[4] Field ORP measurements were converted to Eh by adding +200 millivolts to correct for the Ag/AgCl electrode.

formation of amorphous iron oxide coatings. Taken together, these modeling results suggest that iron oxides, whether amorphous or crystalline (e.g. magnetite), are present in the PMP under most groundwater conditions.

A review of Eh-pH conditions for manganese found that solid phase manganese minerals, including manganese oxides, are not predicted to be stable under conditions within either the UU PMP or UA across the site (Figures 9a and 9b, respectively).

4.3.4 Total and Dissolved Iron and Manganese Concentrations

The distribution of iron and manganese between total and dissolved phases can provide insights on site redox conditions and constituent behavior. A comparison of the total and dissolved iron and manganese data for the Q2 through Q4 2023 events is provided in Table 8. Total iron was detected at all locations analyzed during this time period, with reported values ranging from 0.014 mg/L at UA background well MW-304 to 25.2 mg/L at downgradient UU PMP well MW-151. UU PMP groundwaters exhibit greater total iron concentrations than UA wells, consistent with the greater concentrations of solid phase iron observed at these locations (Table 2). Background well MW-304 groundwater has consistently low total and dissolved iron, while background well MW-358 groundwater has some of the highest total iron concentrations observed for UA groundwaters (0.685 and 0.908 mg/L), with turbidity values similar at the two locations. This is consistent with the relatively high abundance of total iron in the solids at MW-358 (Table 3) and the greater relative stability of ferrihydrite at MW-358 (Figure 8a). Dissolved iron was detected at 8 of 15 locations analyzed, with reported values ranging from 0.024 mg/L to 0.619 mg/L. Where dissolved iron was detected, the dissolved concentration was typically less than 50% of the total iron value, providing evidence that iron is largely associated with particulates suspended in groundwater. This was not observed at MW-352, with dissolved iron a greater proportion of total iron at these locations, consistent with geochemical conditions which periodically favor dissolution of iron oxides (Figure 8a).

Total manganese was detected at all locations analyzed, with reported values ranging from 0.0028 mg/L at UU PMP well MW-150 to 1.68 mg/L at downgradient UA well MW-366 (Table 8). Dissolved manganese values ranged from 0.0013 mg/L at UA downgradient well MW-375 to 0.681 mg/L at downgradient UA well MW-390. At locations where dissolved manganese was detected, dissolved concentrations as percentage of total concentration varied widely across both the UU PMP (2 to 91 %) and UA (2 to greater than 100%). This is consistent with the predicted mobilization of manganese to the aqueous phase based on the Pourbaix diagrams (Figures 9a and 9b), and the lack of observed crystalline manganese-bearing minerals (like rhodochrosite) across most of the site (Tables 5a & 5b).

4.3.5 Major Ion Distribution and Groundwater Signatures

Piper diagrams were constructed using data from both HSUs to visualize major ion distributions in groundwater. Piper diagrams are a common tool for assessing geochemical similarities or differences in terms of the major ion distributions between aqueous samples. FAPS porewaters

exhibit major anion compositions that are sulfate-dominated (greater than 80%) and major cation compositions that are dominated by monovalent cations (sodium and potassium; Figures 10a & 10b). UA groundwaters exhibit a wider range of geochemical compositions than UU PMP waters, with many locations clustering near background wells MW-304 and MW-358 (Figure 10a). These wells are characterized by a major cation composition that is dominated by sodium and potassium, with relatively even proportions of major anions. MW-352, MW-366, MW-377 and MW-390 do not appear similar to this cluster of UA groundwaters, as they have greater contributions from divalent cations (magnesium and calcium). These wells do not have an identifiable shared hydrologic or geochemical characteristic that would alter the geochemical composition of the groundwater at these locations; they are dispersed across the Site, are screened within both shale and limestone lithologies, and do not exhibit redox conditions different from other locations within the UA.

UU PMP groundwaters exhibit relatively consistent major cation distributions with relatively even proportions of magnesium and calcium, and relatively lower proportions of sodium and potassium (Figure 10b). UU PMP groundwaters consistently have low contributions of chloride, but major anion compositions range from alkalinity-dominated (MW-151) to sulfate-dominated (MW-150), similar to FAPS porewater. The distribution of anions at MW-152 has variable contributions of sulfate and alkalinity, consistent with the observed seasonal variability in sulfate concentrations at this monitoring location (Figure 7b).

5. GEOCHEMICAL CONCEPTUAL SITE MODEL

5.1 Source and Mobilization Mechanisms

Boron is naturally abundant in coals and is concentrated within CCR, primarily as polyborate (B_2O_3) surface coatings on particles (EPRI 1998). Boron was identified in the CCR porewater at concentrations up to 102 mg/L. The likely primary source of boron to the UA and UU PMP is the FAPS CCR porewater based on boron concentrations within the source and relationships to hydrogeological patterns at the site (i.e., correlated increases between boron and groundwater elevation at MW-391). Boron was identified within UA solids at concentrations that suggest that aquifer solids could provide a secondary additional potential natural geogenic source of boron to groundwater, and groundwater from background wells consistently exhibited boron concentrations consistent with a natural geogenic source.

Reduced sulfur species (e.g. pyrite) can be naturally abundant in coals; after coal fly ash production, sulfate is the dominant sulfur species associated with fly ash. Sulfate is concentrated on the surface of fly ash particles and the majority of sulfate mineral phases are soluble under environmental conditions, such that sulfate associated with fly ash is leachable (Izquierdo and Querol 2012). The likely primary source of sulfate to the UA and UU is the FAPS CCR porewater. Sulfate was identified in the CCR porewater at concentrations up to 2,820 mg/L. Sulfate was identified within UA solids at background well locations at concentrations that indicate a potential natural source of sulfate to groundwater, although this sulfate was not observed in crystalline mineral phases at these locations. The observation of pyrite within solids of shale portions of the UA could provide a secondary additional source of sulfate to groundwater via pyrite oxidation, as pyrite is not expected to be a stable mineral phase under observed redox conditions (Figures 8a to 8c).

5.2 Potential and Observed Attenuation Mechanisms

Boron exceedances were identified in both the UA and PMP hydrologic units at the Site. Boron is anticipated to largely be present as the neutral $B(OH)_3$ boric acid species as groundwater pH values are below the pK_a for boric acid (9.2) in both HSUs. Conditions within groundwater from both the UA and UU PMP are typically predicted to favor amorphous ferrihydrite (iron oxide) stability at most locations, and the presence of iron oxides in some solids (Tables 5a & 5b) suggests a portion of the boron in the groundwater system may be attenuated via surface complexation reactions within portions of the UU PMP and the UA. Given the low abundance of total manganese in the solids (Table 1) and the predicted instability of solid manganese phases (Figures 5a and 5b), manganese oxides are not expected to be an important source of adsorption sites. Boron is also known to be attenuated via interactions with clay minerals (Goldberg 1997); the XRD results identified the presence of a number of clay minerals across both the UU and UA (Tables 5a & 5b). Observations of boron associated with the organic matter bound fraction in the SEP analysis (Table 4), as well as the high organic matter content inferred from LOI values indicates that organic matter could be an additional geosorbent for boron within both UU PMP and UA solids (Lemarchand et

al., 2015). Together, these factors suggest that chemical attenuation of boron via interactions with aquifer solid phases such as metal oxides or organic surfaces is possible at locations downgradient of the FAPS.

Sulfate exceedances are currently limited to MW-150, which is screened within the UU PMP. Sulfate is typically considered to be a conservative species within groundwater at circumneutral pH conditions, although precipitation of sulfate-containing mineral phases (e.g., gypsum) and sorption onto positively charged mineral surfaces are both potential attenuation mechanisms. Sulfate attenuation is expected to occur largely as the result of sorption onto iron oxides and oxyhydroxides associated with solids. Both SEP and XRD analyses (Tables 3, 5a, & 5b) support the presence of both crystalline and amorphous iron oxide phases across the Site in both the UU PMP and UA. While modeling of redox conditions within groundwater from MW-150 is not predicted to favor iron oxide stability, at most locations in both the UA and UU PMP redox conditions are typically predicted to favor iron oxide stability, including at background wells MW-304 and MW-358. The observation of gypsum, although limited to downgradient MW-350 in the shale bedrock portions of the UA, indicates that precipitation of gypsum may be another potential attenuation mechanism at locations near the FAPS.

6. REFERENCES

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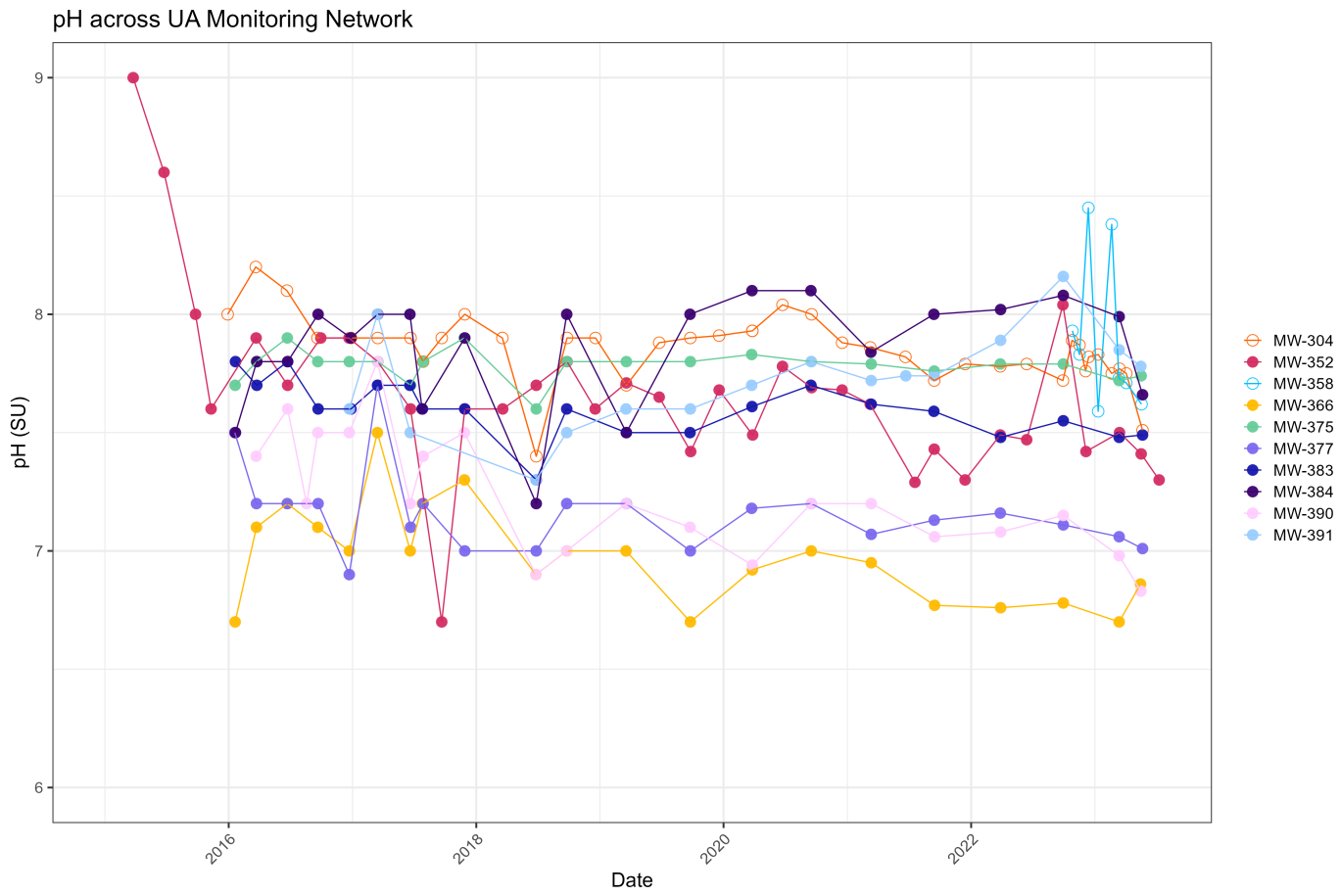
FIGURES



Notes:
SU: Standard Units
Background wells shown with open symbols.

pH Time Series – Uppermost Aquifer

Baldwin Power Plant – Fly Ash Pond System

Geosyntec consultants

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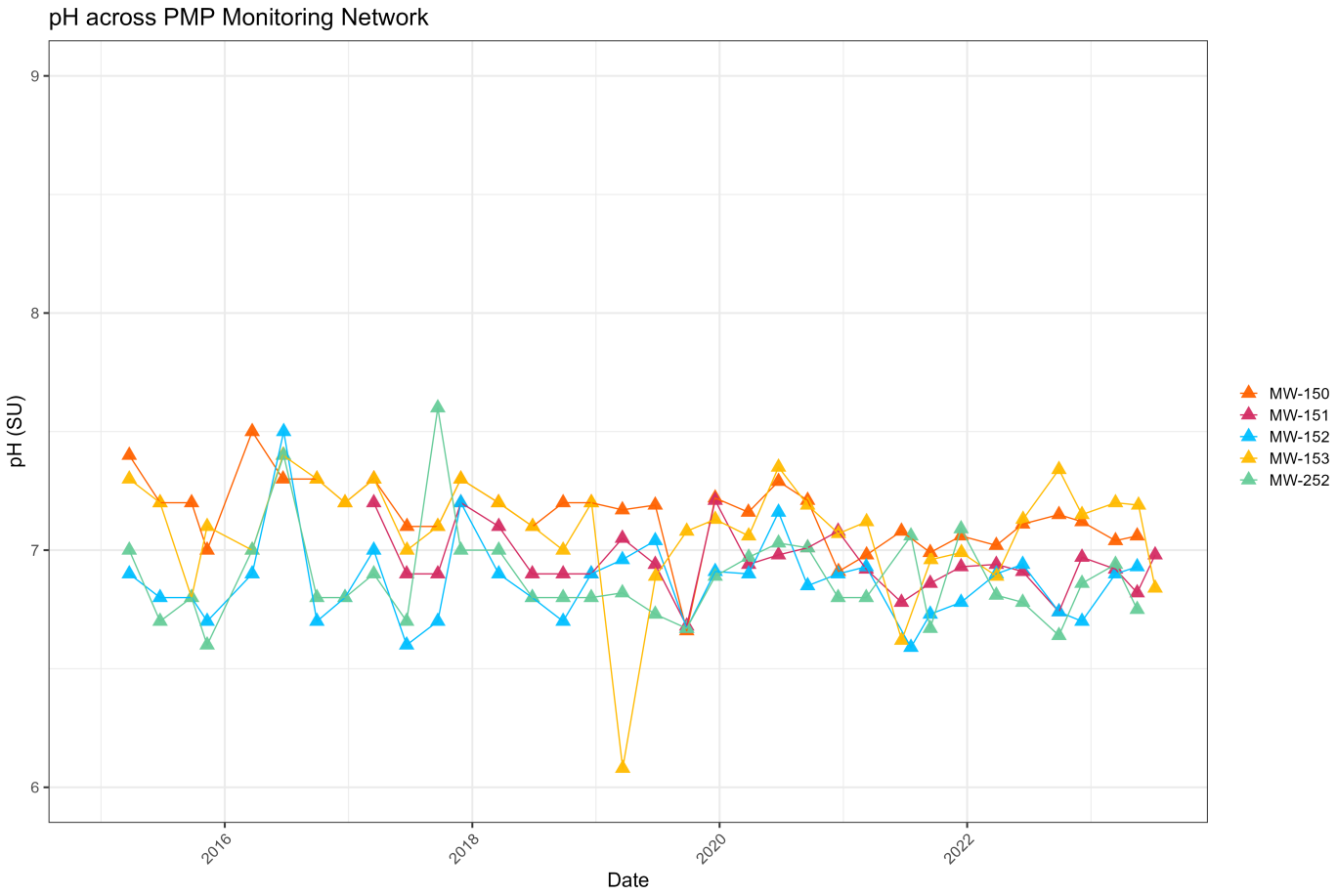
Figure **1a**



Notes:
SU: Standard Units

pH Time Series – Potential Migration Pathway
Baldwin Power Plant – Fly Ash Pond System

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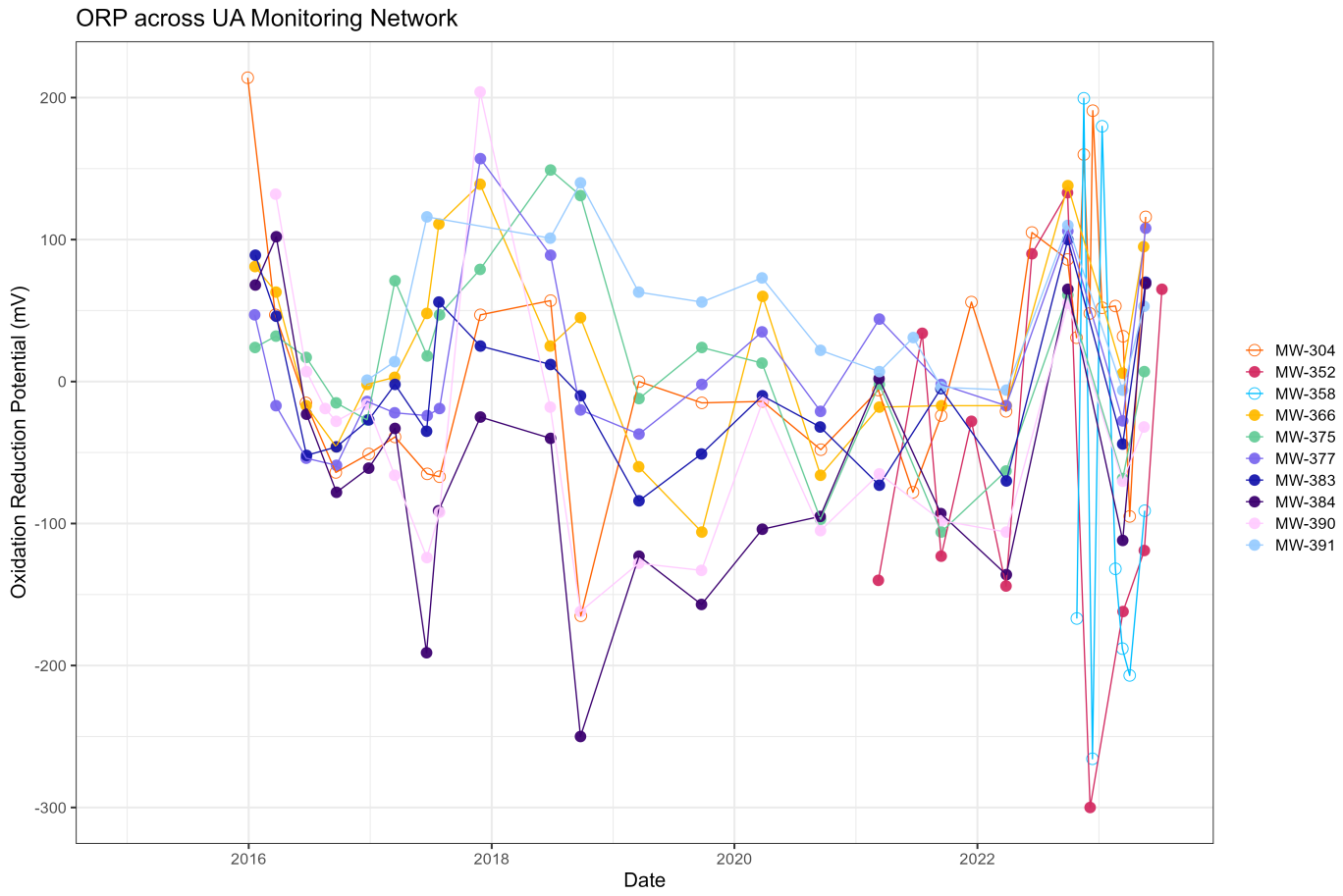
Figure **1b**



Notes:
mV: millivolts
Background wells shown with open symbols.

ORP Time Series – Uppermost Aquifer

Baldwin Power Plant – Fly Ash Pond System

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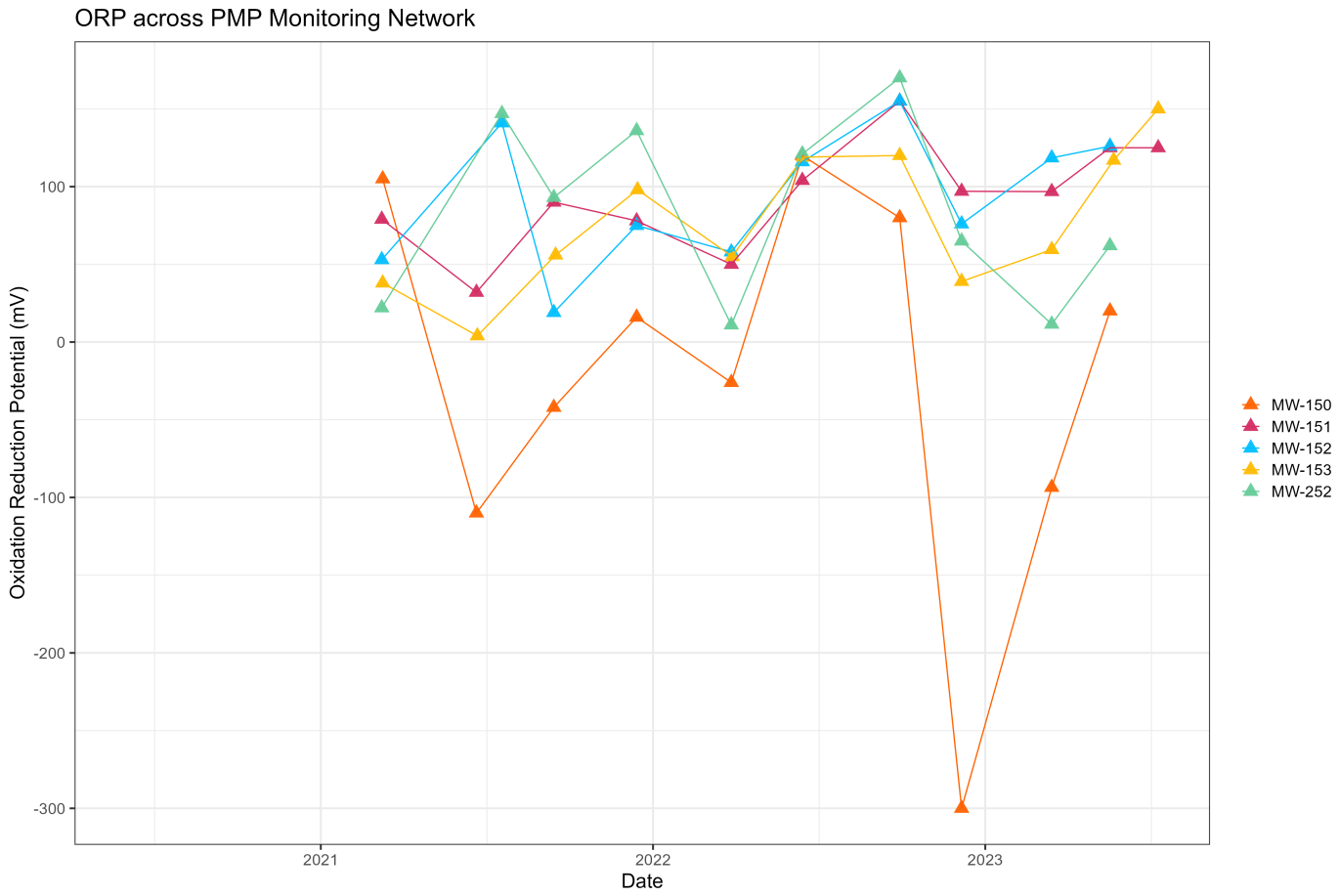
Figure **2a**



Notes:
mV: millivolts

ORP Time Series – Potential Migration Pathway
Baldwin Power Plant – Fly Ash Pond System

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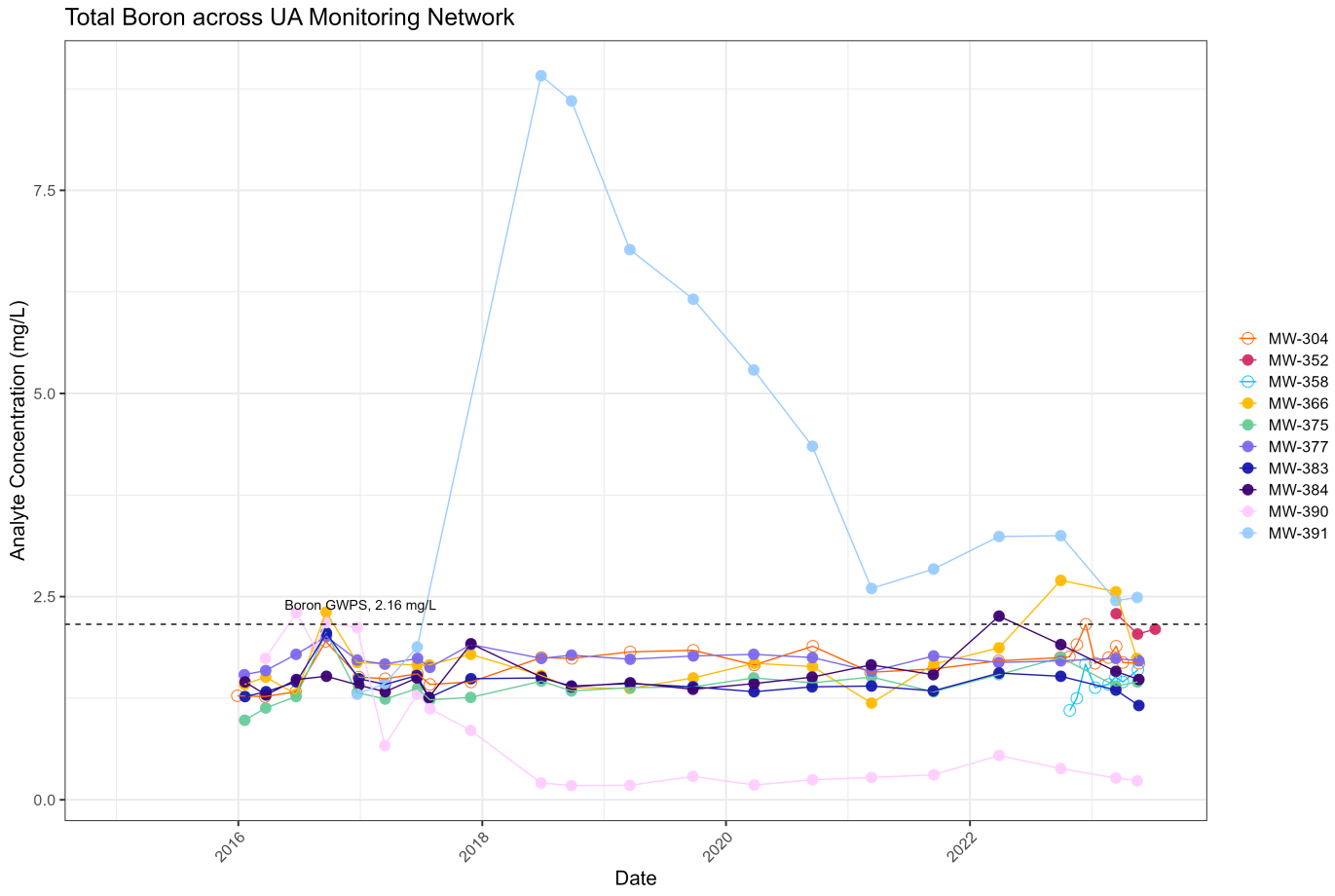
Figure **2b**



Notes:
mg/L: milligrams per liter
GWPS: Groundwater Protection Standard
Background wells shown with open symbols.

Boron Concentration Time Series – Uppermost Aquifer

Baldwin Power Plant – Fly Ash Pond System

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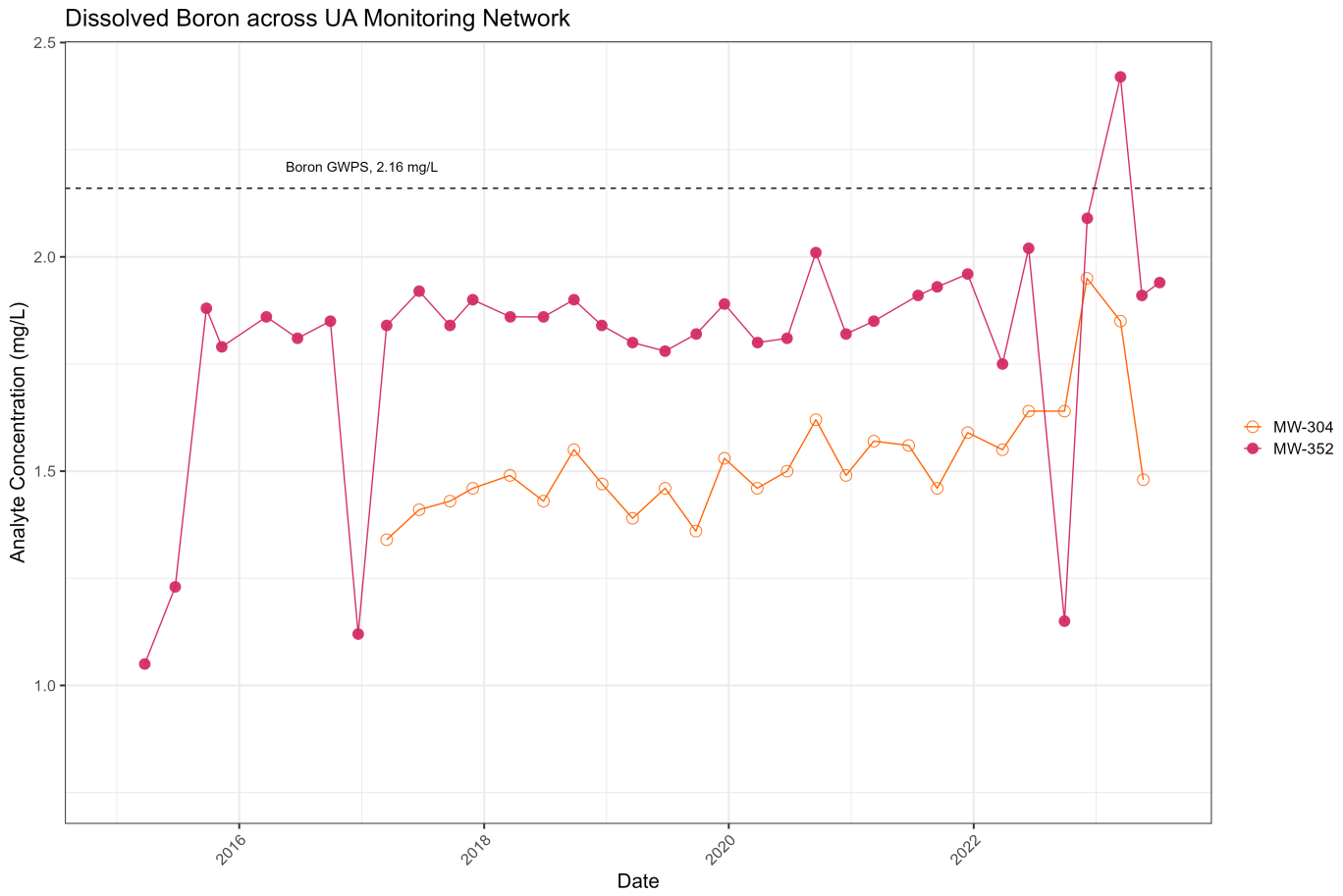
Figure **3a**



Notes:
mg/L: milligrams per liter
GWPS: Groundwater Protection Standard
Background wells shown with open symbols.

Dissolved Boron Concentration Time Series – Uppermost Aquifer

Baldwin Power Plant – Fly Ash Pond System

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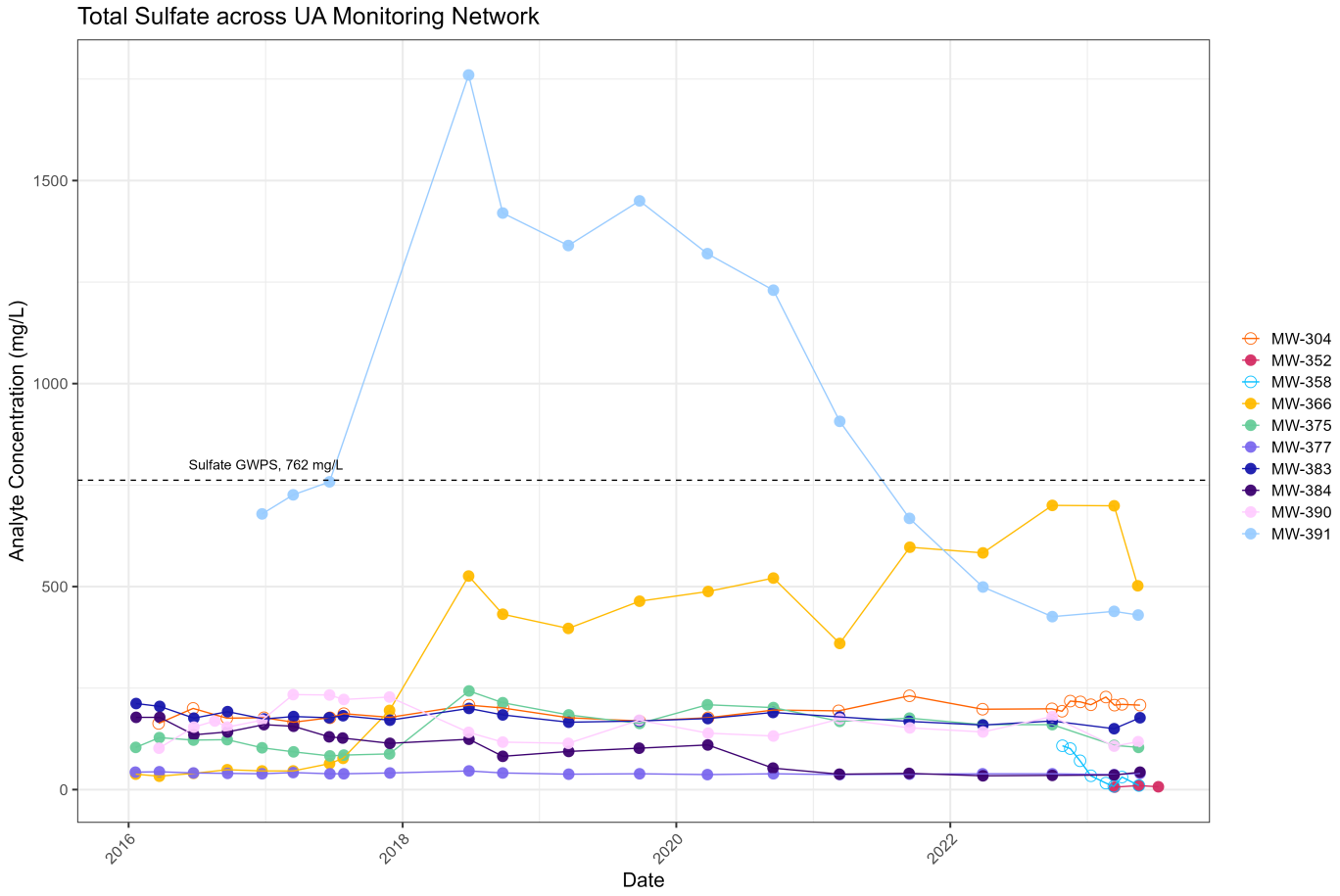
Figure **3b**



Notes:
mg/L: milligrams per liter
GWPS: Groundwater Protection Standard
Background wells shown with open symbols.

Sulfate Concentration Time Series – Uppermost Aquifer

Baldwin Power Plant – Fly Ash Pond System

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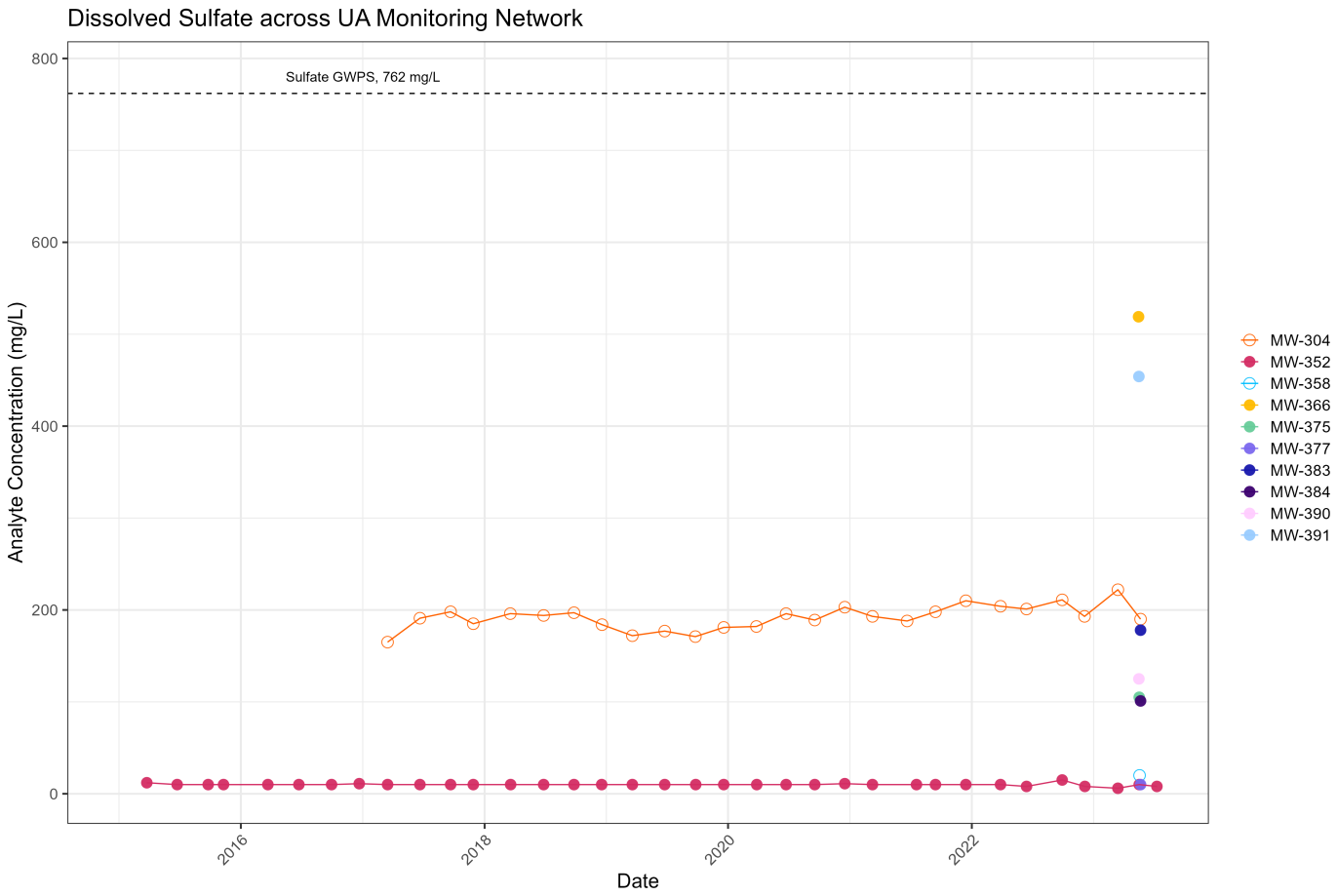
Figure **4a**



Notes:
mg/L: milligrams per liter
GWPS: Groundwater Protection Standard
Background wells shown with open symbols.

Dissolved Sulfate Concentration Time Series – Uppermost Aquifer

Baldwin Power Plant – Fly Ash Pond System

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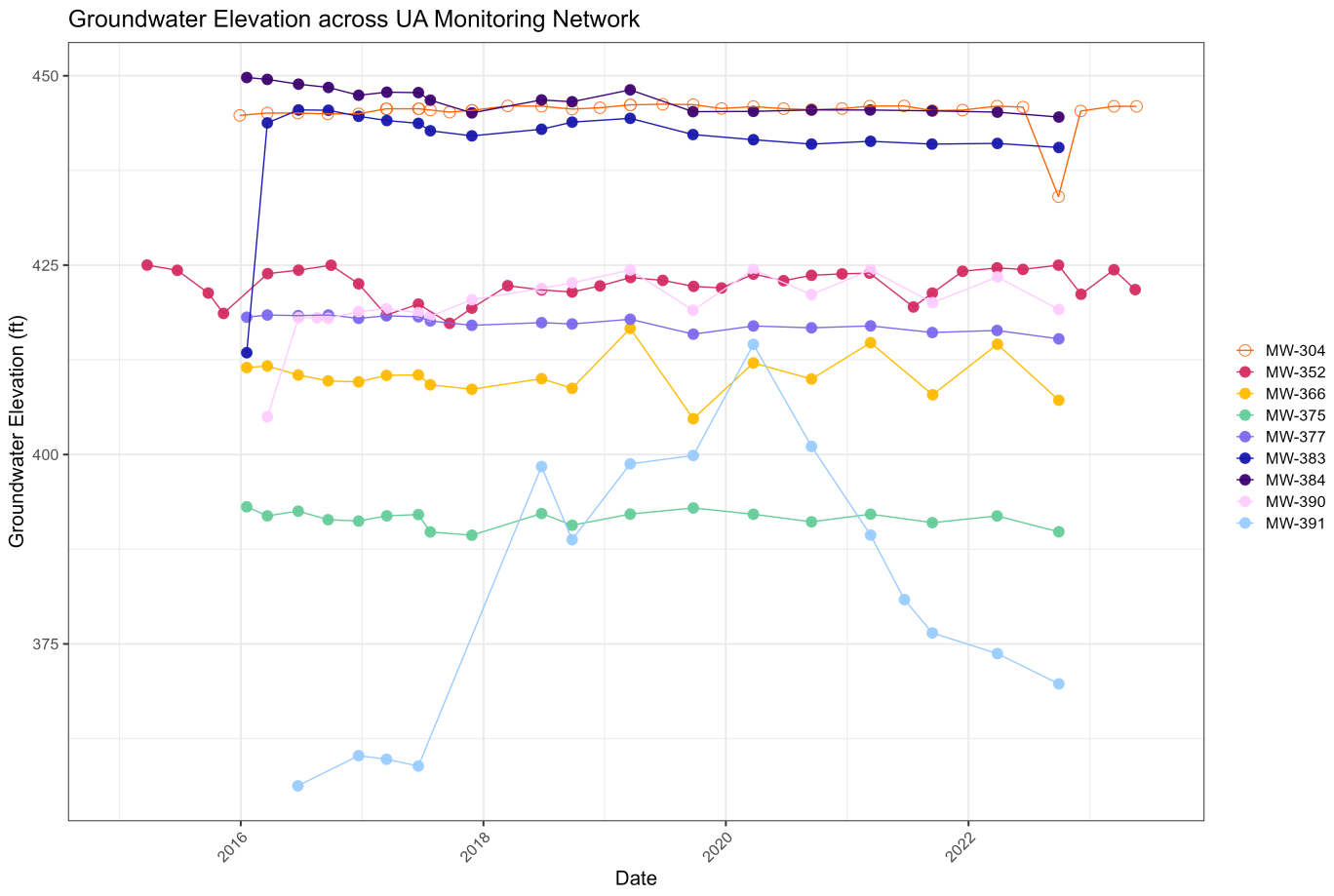
Figure **4b**



Notes:
ft: feet
Background wells shown with open symbols.

Groundwater Elevation Time Series – Uppermost Aquifer

Baldwin Power Plant – Fly Ash Pond System

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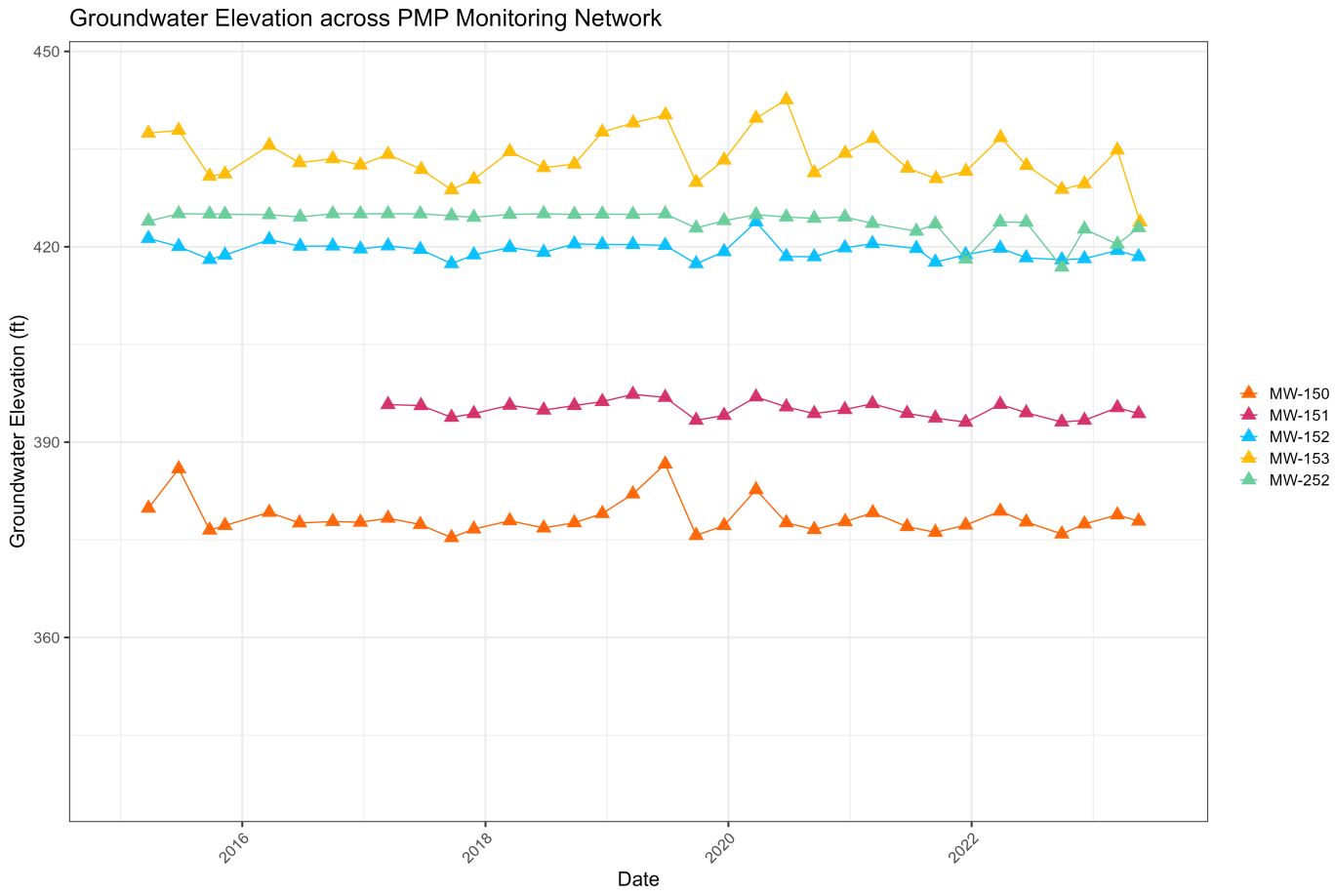
Figure **5a**



Notes:
ft: feet

Groundwater Elevation Time Series – Potential Migration Pathway

Baldwin Power Plant – Fly Ash Pond System

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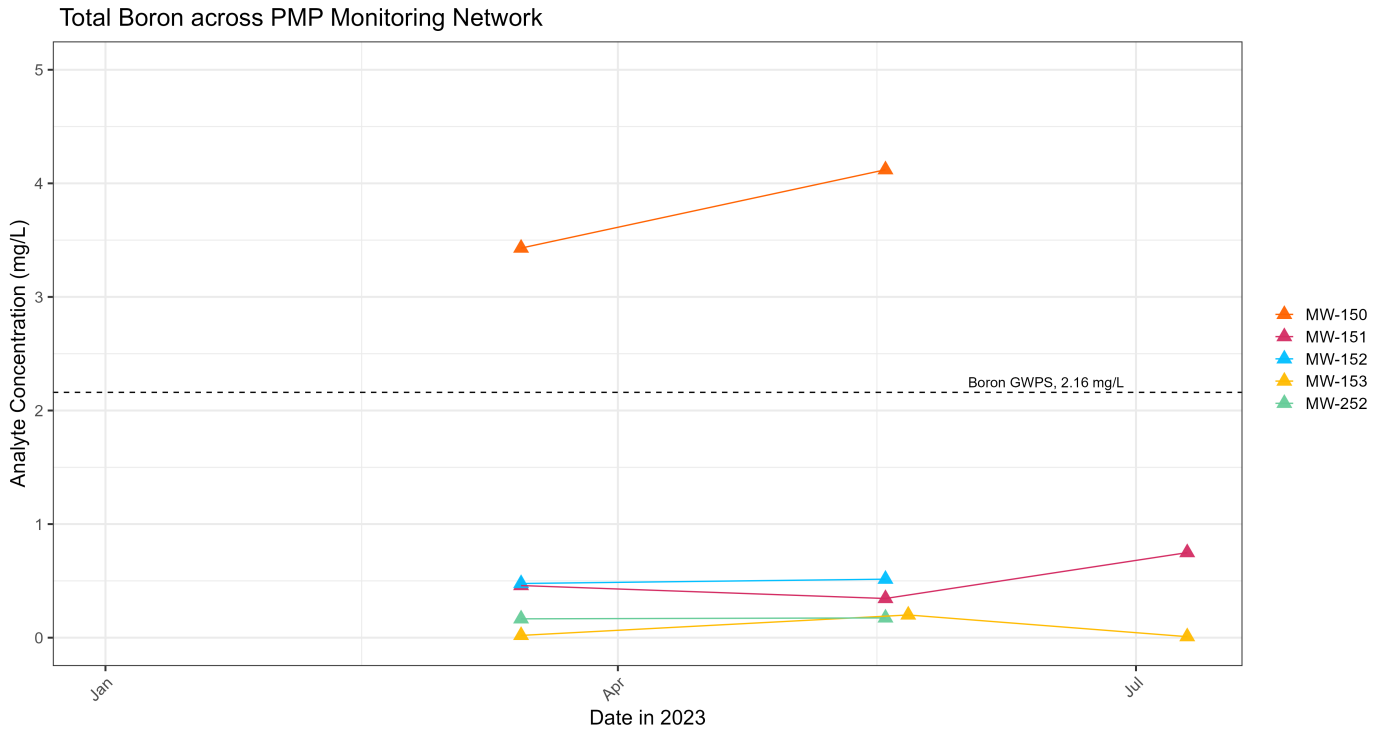
Figure **5b**



Notes:
mg/L: milligrams per liter
GWPS: Groundwater Protection Standard

Boron Concentration Time Series – Potential Migration Pathway
Baldwin Power Plant – Fly Ash Pond System

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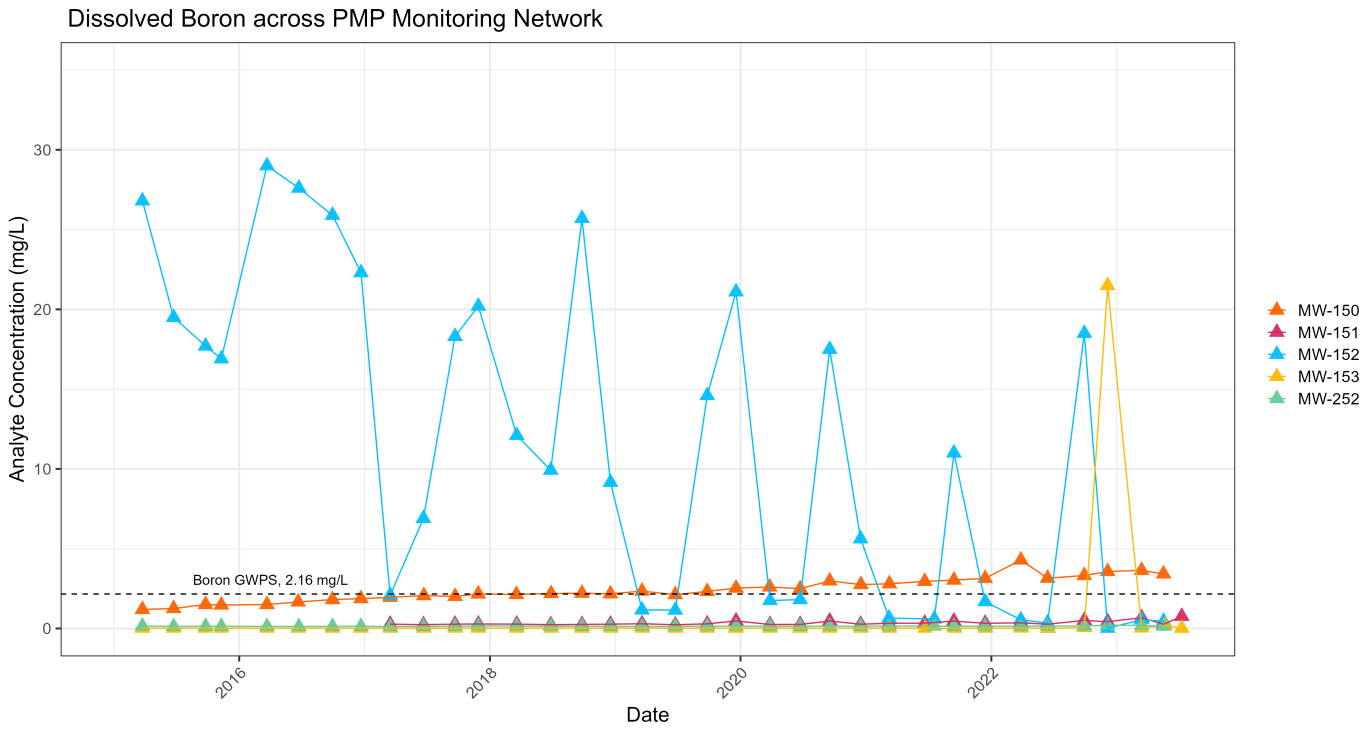
Figure **6a**



Notes:
mg/L: milligrams per liter
GWPS: Groundwater Protection Standard

Dissolved Boron Concentration Time Series – Potential Migration Pathway
Baldwin Power Plant – Fly Ash Pond System

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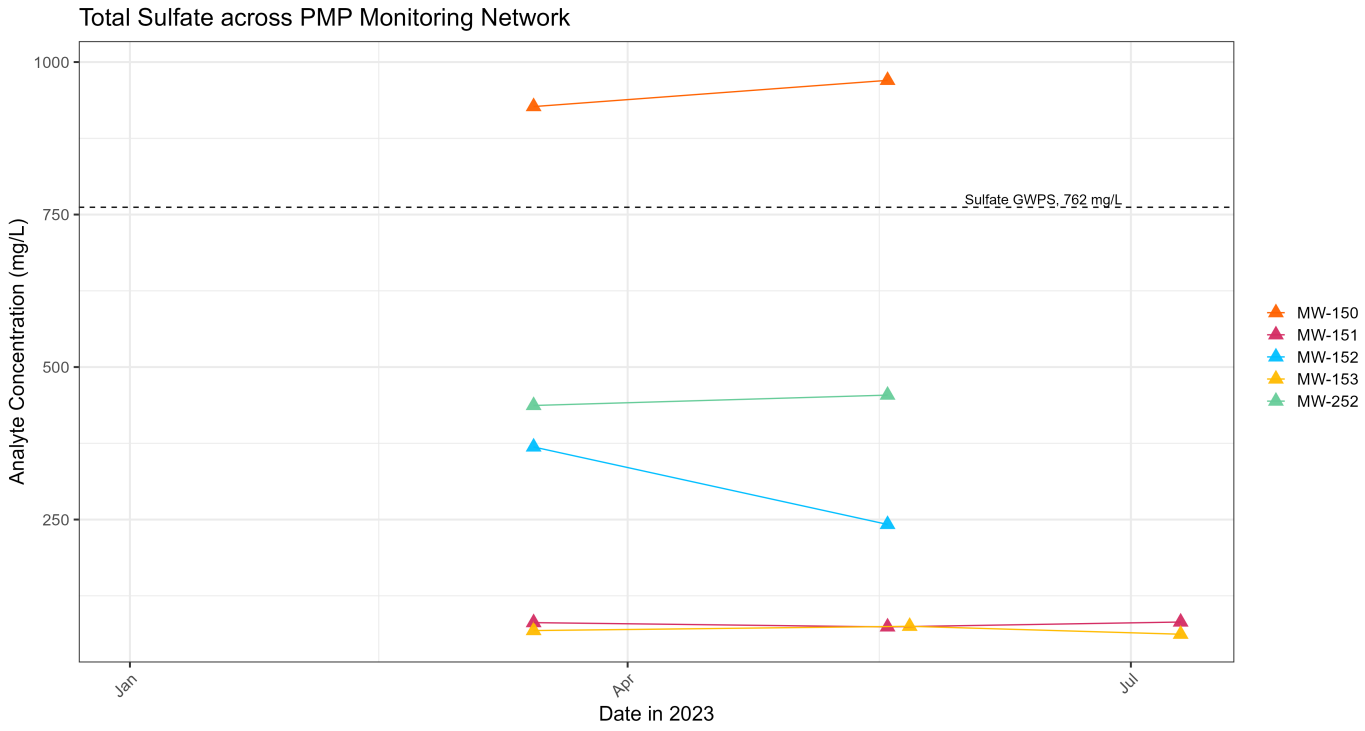
Figure **6b**



Notes:
mg/L: milligrams per liter
GWPS: Groundwater Protection Standard

Sulfate Concentration Time Series – Potential Migration Pathway
Baldwin Power Plant – Fly Ash Pond System

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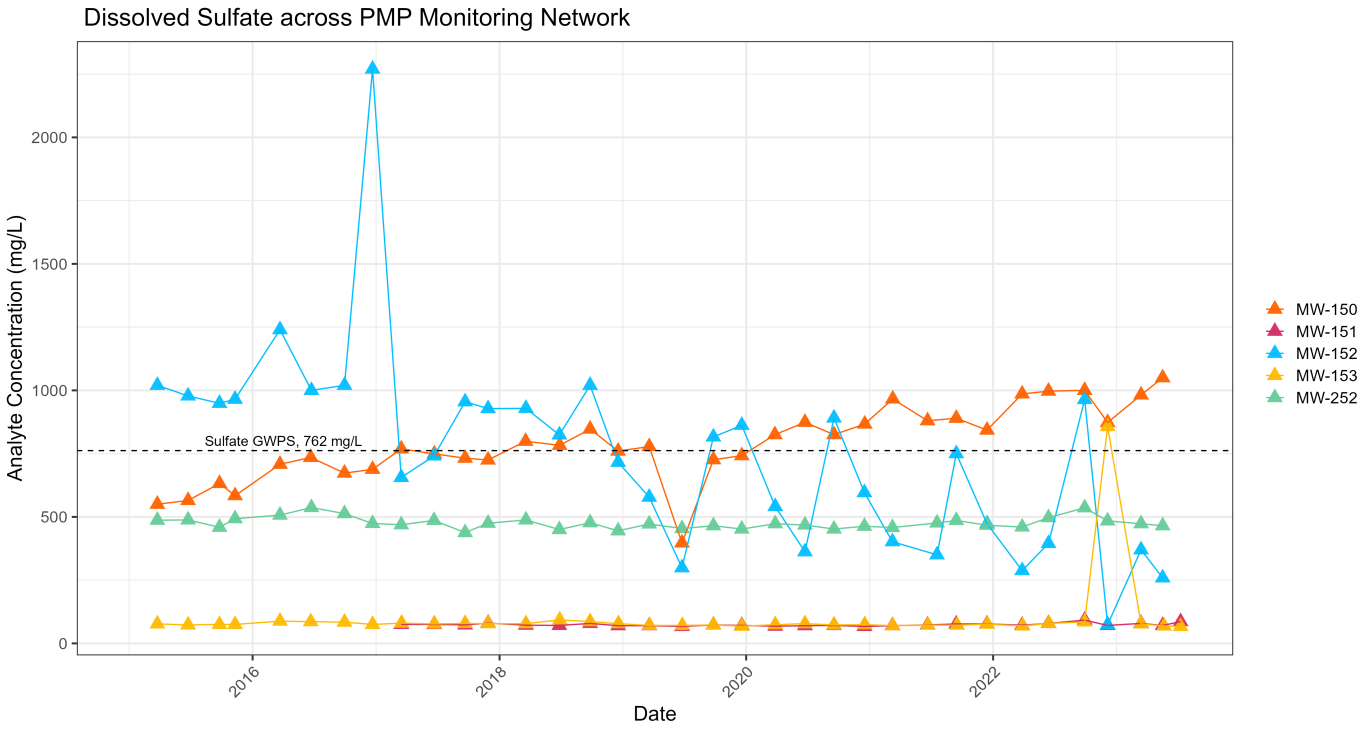
Figure **7a**



Notes:
mg/L: milligrams per liter
GWPS: Groundwater Protection Standard

Dissolved Sulfate Concentration Time Series – Potential Migration Pathway
Baldwin Power Plant – Fly Ash Pond System

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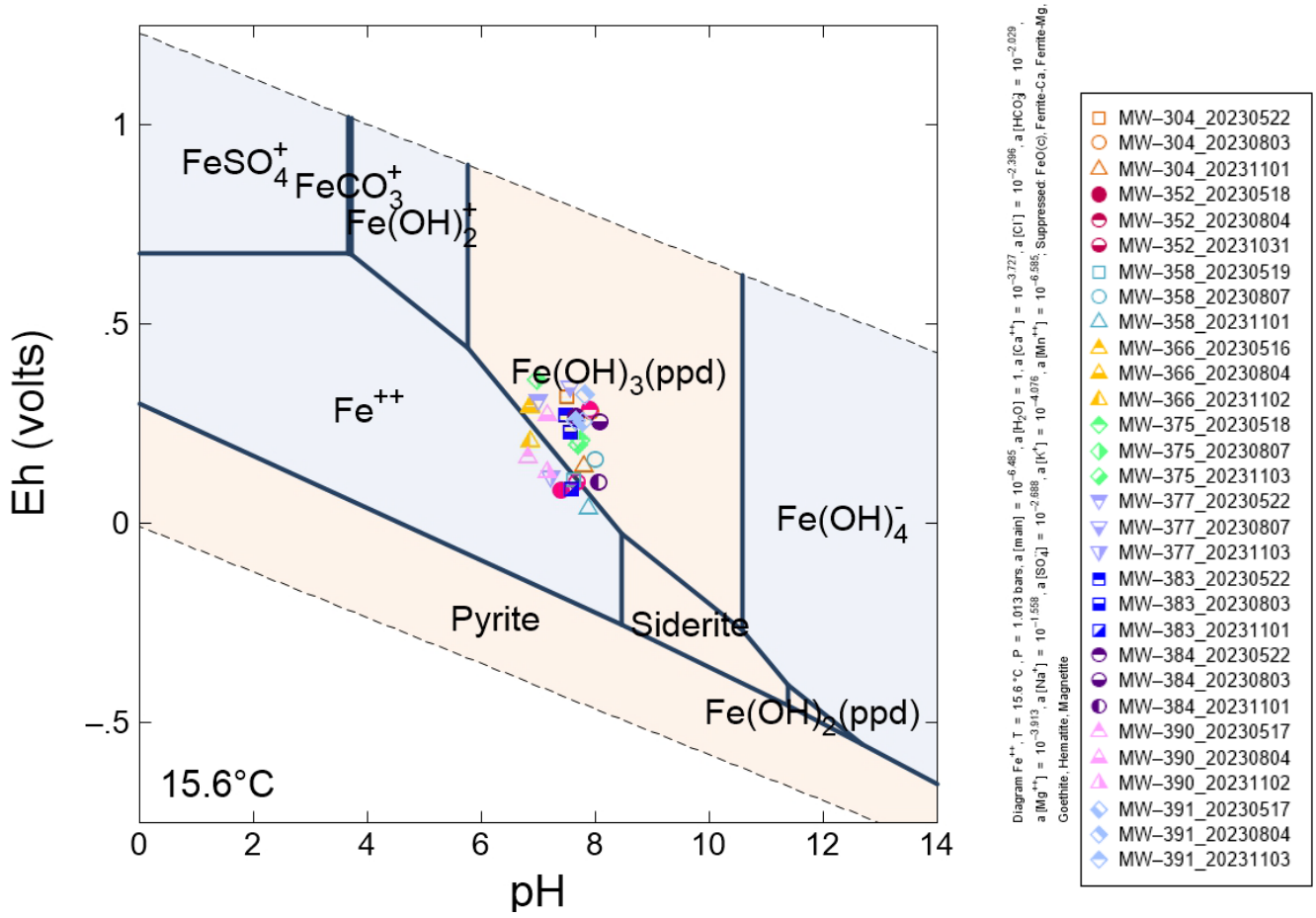
Figure **7b**



Notes:

1. Diagram was generated using conditions observed at well MW-391 on 5/17/23.
2. The three most recent available pH and ORP data points for each location are displayed.
3. Hematite, ferrite-Ca, ferrite-Mg, goethite, crystalline iron oxide, and magnetite were suppressed during model generation.

Iron Pourbaix Diagram, Ferrihydrite – Uppermost Aquifer

Baldwin Power Plant – Fly Ash Pond System

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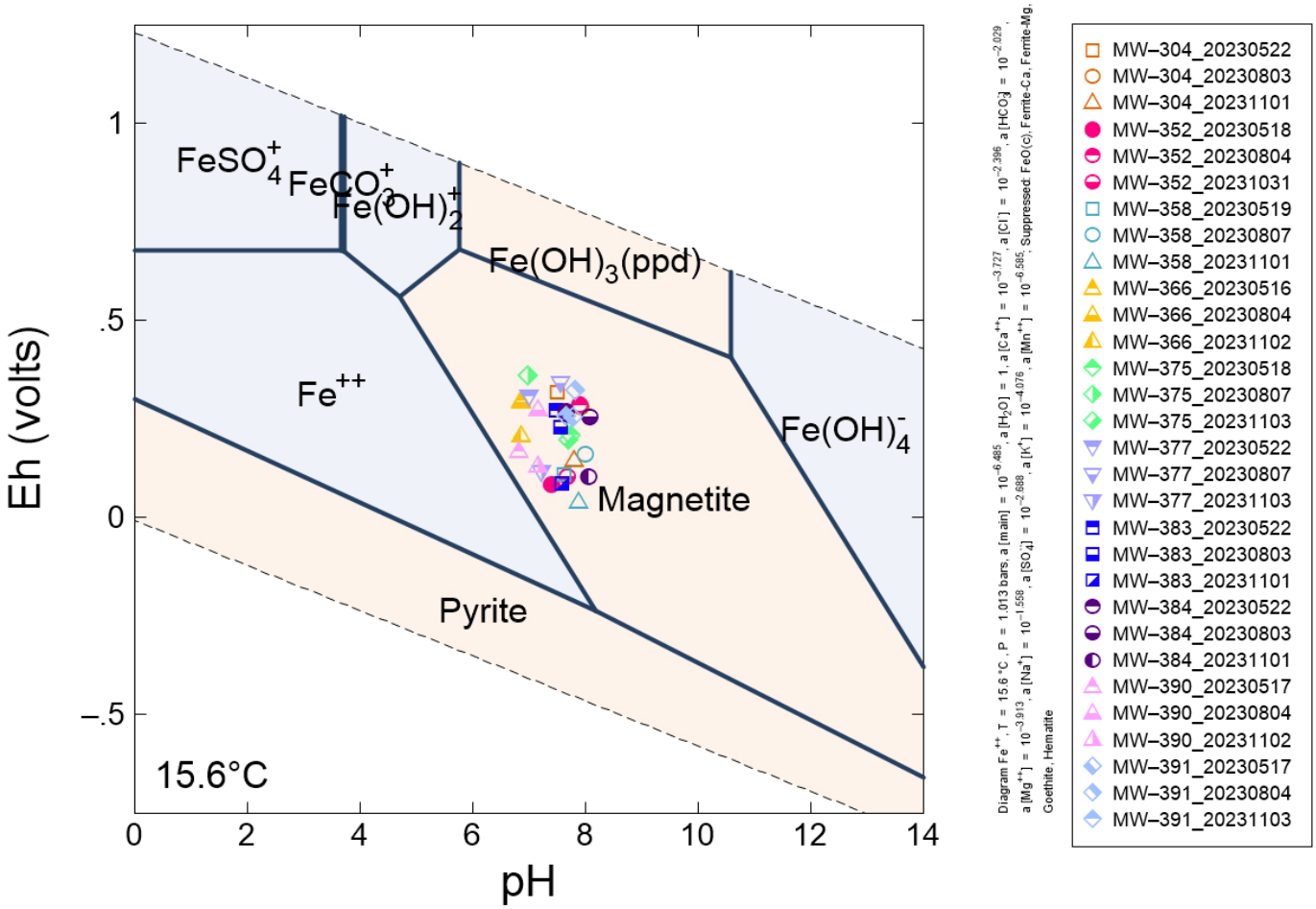
Figure **8a**



Notes:

1. Diagram was generated using conditions observed at well MW-391 on 5/17/23.
2. The three most recent available pH and ORP data points for each location are displayed.
3. Ferrite-Ca, ferrite-Mg, goethite, crystalline iron oxide, and hematite were suppressed during model generation.

Iron Pourbaix Diagram, Magnetite – Uppermost Aquifer

Baldwin Power Plant – Fly Ash Pond System

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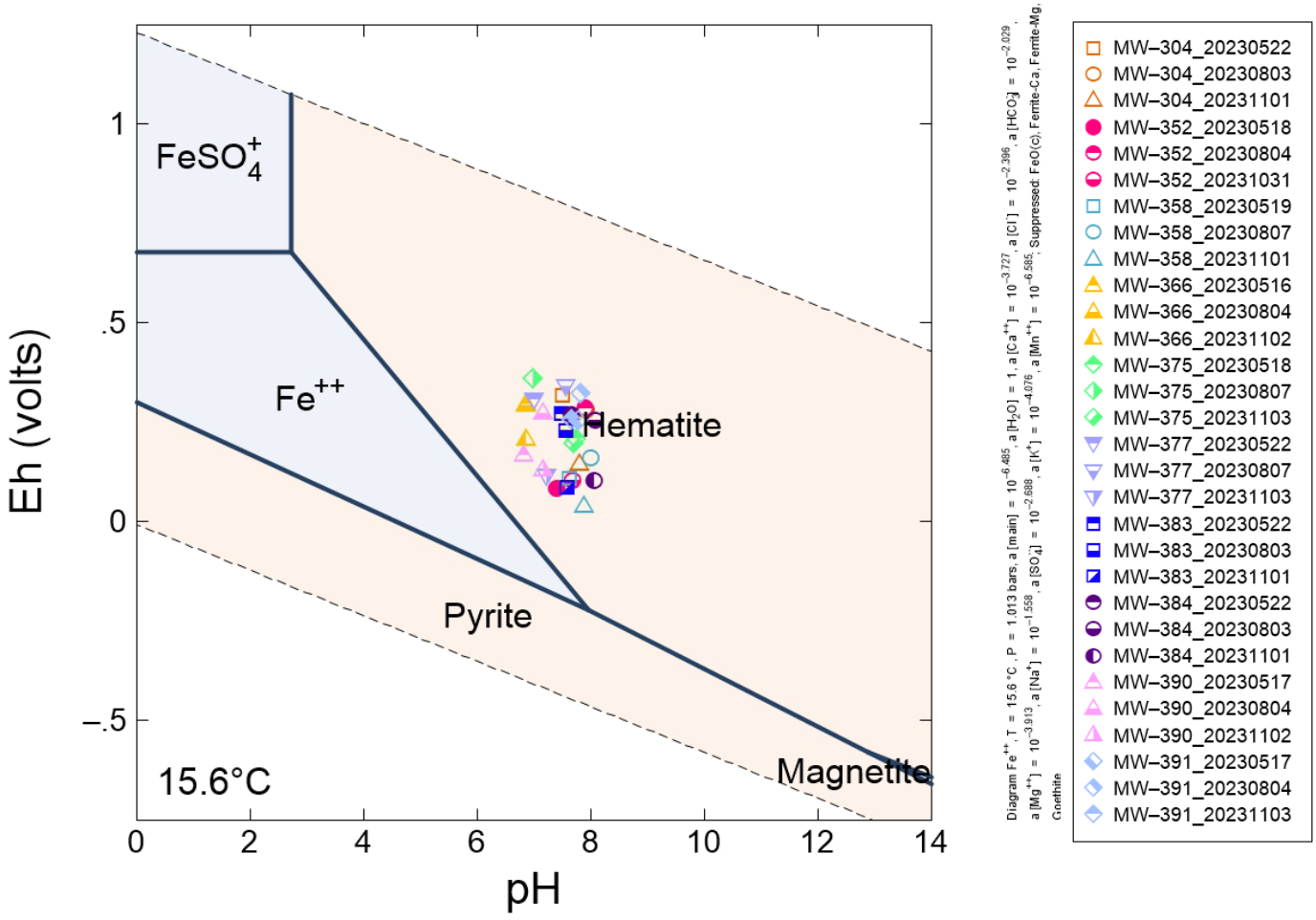
Figure **8b**



Notes:

1. Diagram was generated using conditions observed at well MW-391 on 5/17/23.
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3. Ferrite-Ca, ferrite-Mg, goethite, and crystalline iron oxide were suppressed during model generation.

Iron Pourbaix Diagram, Hematite – Uppermost Aquifer

Baldwin Power Plant – Fly Ash Pond System

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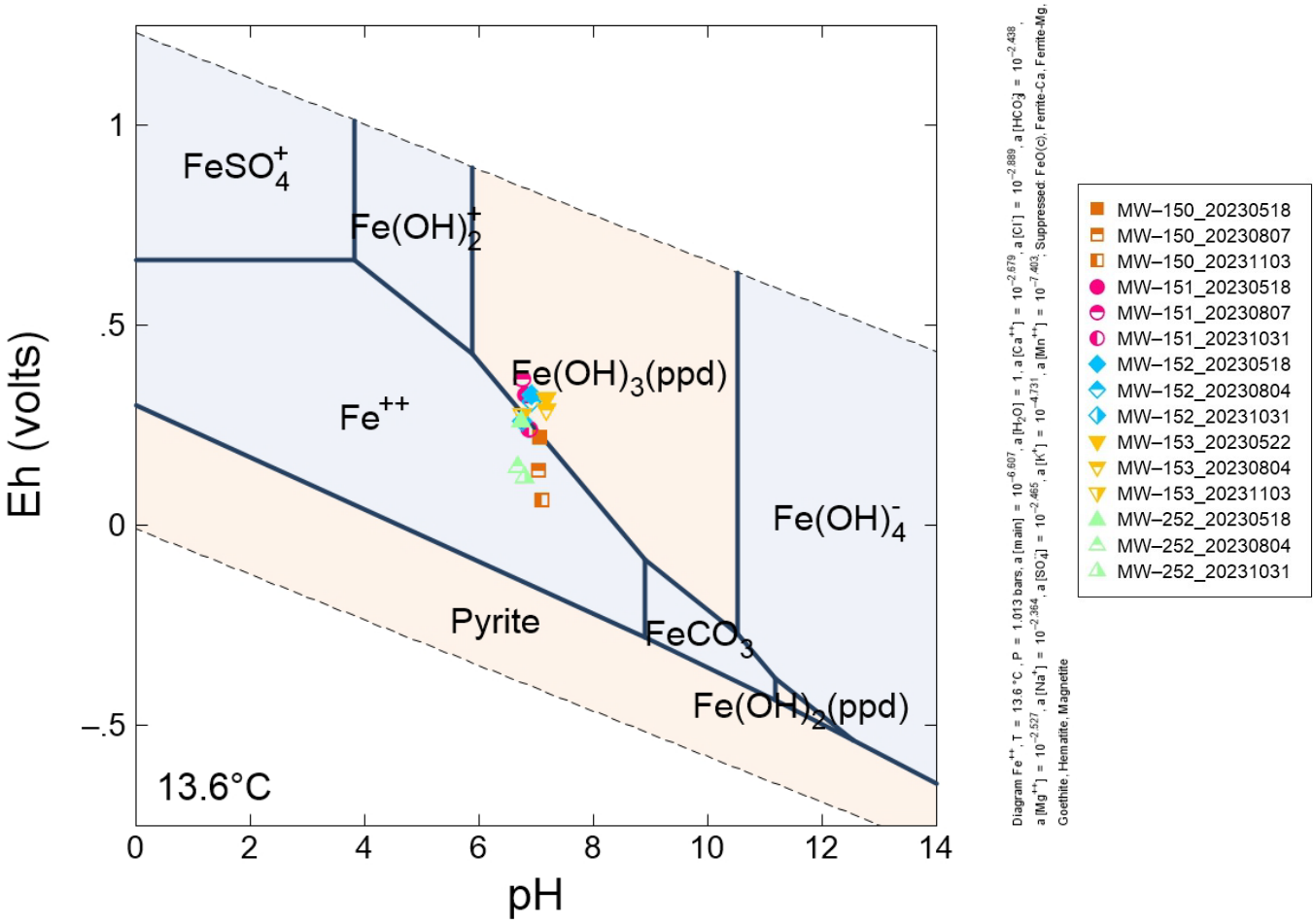
Figure **8c**



Notes:

1. Diagram was generated using conditions observed at well MW-150 on 5/18/23.
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3. Hematite, ferrite-Ca, ferrite-Mg, goethite, crystalline iron oxide, and magnetite were suppressed during model generation.

Iron Pourbaix Diagram, Ferrihydrite – Potential Migration Pathway

Baldwin Power Plant – Fly Ash Pond System

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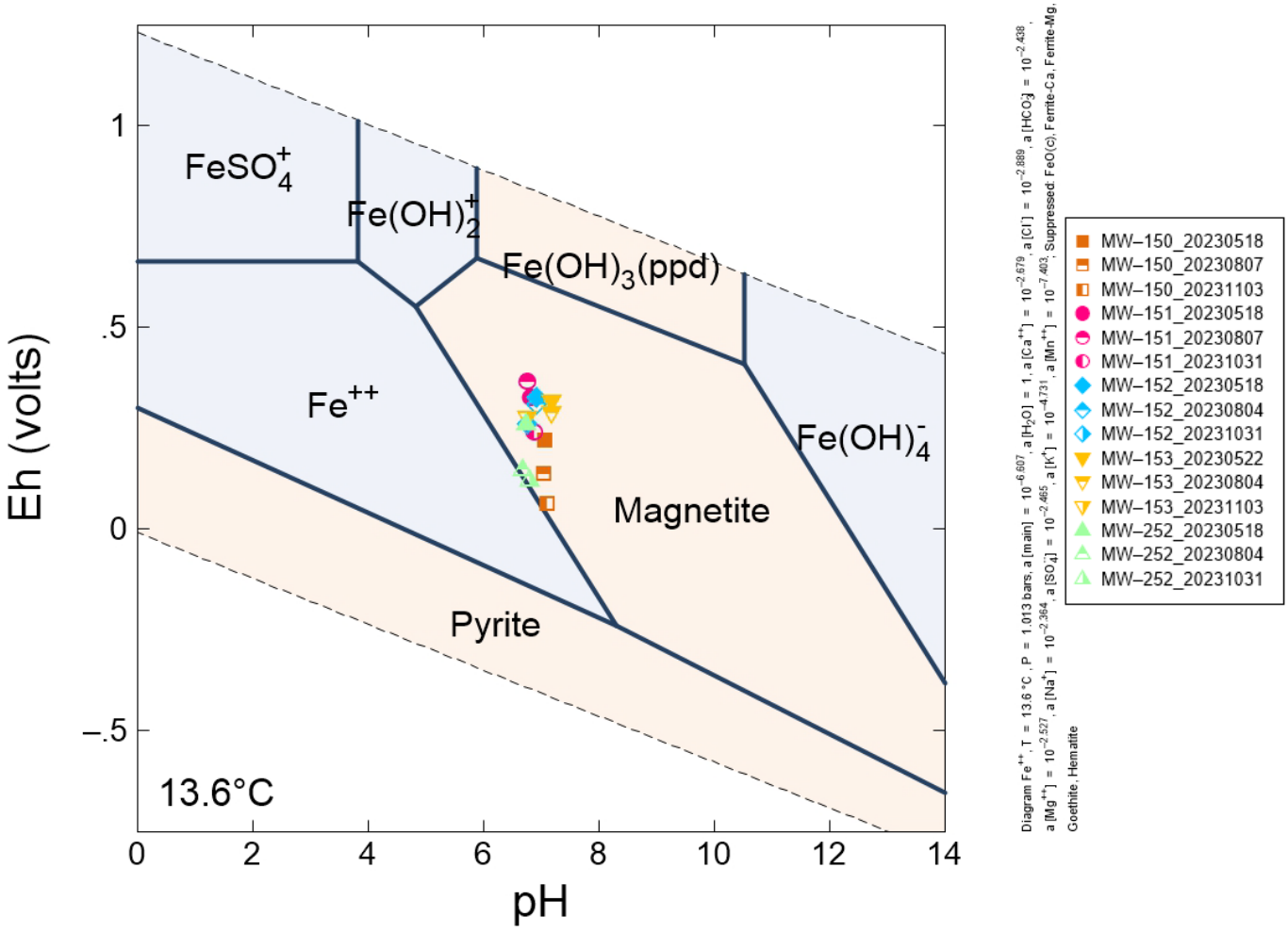
Figure **8d**



Notes:

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2. The three most recent available pH and ORP data points for each location are displayed.
3. Hematite, ferrite-Ca, ferrite-Mg, goethite, and crystalline iron oxide were suppressed during model generation.

Iron Pourbaix Diagram, Magnetite – Potential Migration Pathway

Baldwin Power Plant – Fly Ash Pond System

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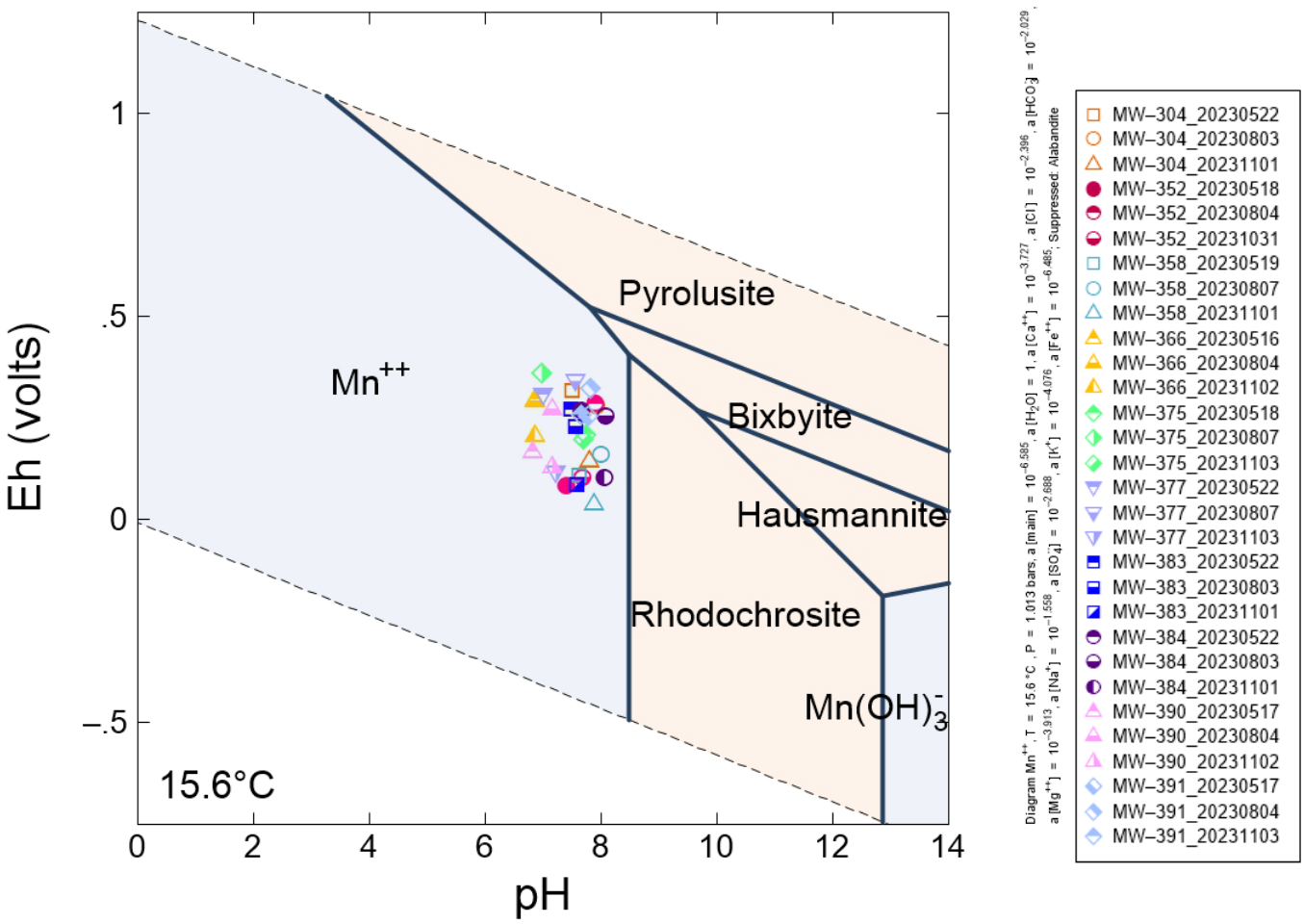
Figure **8e**



Notes:

1. Diagram was generated using conditions observed at well MW-391 on 5/17/23.
2. The three most recent available pH and ORP data points for each location are displayed.
3. Alabandite was suppressed during model generation.

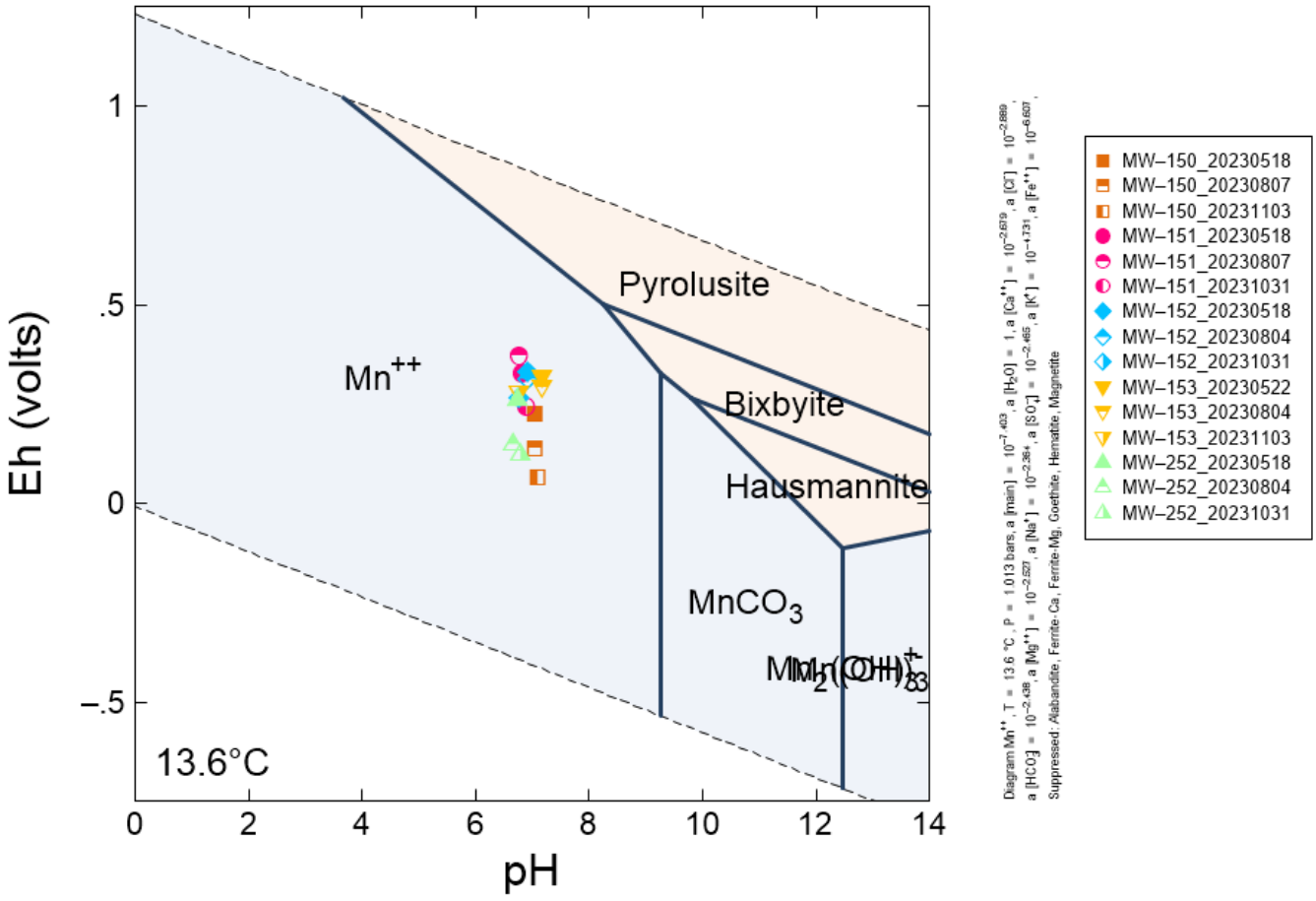
Manganese Pourbaix Diagram – Uppermost Aquifer

Baldwin Power Plant – Fly Ash Pond System

Geosyntec consultants

Columbus, Ohio | February 2024

Figure **9a**



Notes:

1. Diagram was generated using conditions observed at well MW-150 on 5/18/23.
2. The three most recent available pH and ORP data points for each location are displayed.
3. Alabandite was suppressed during model generation.

Manganese Pourbaix Diagram– Potential Migration Pathway
Baldwin Power Plant – Fly Ash Pond System

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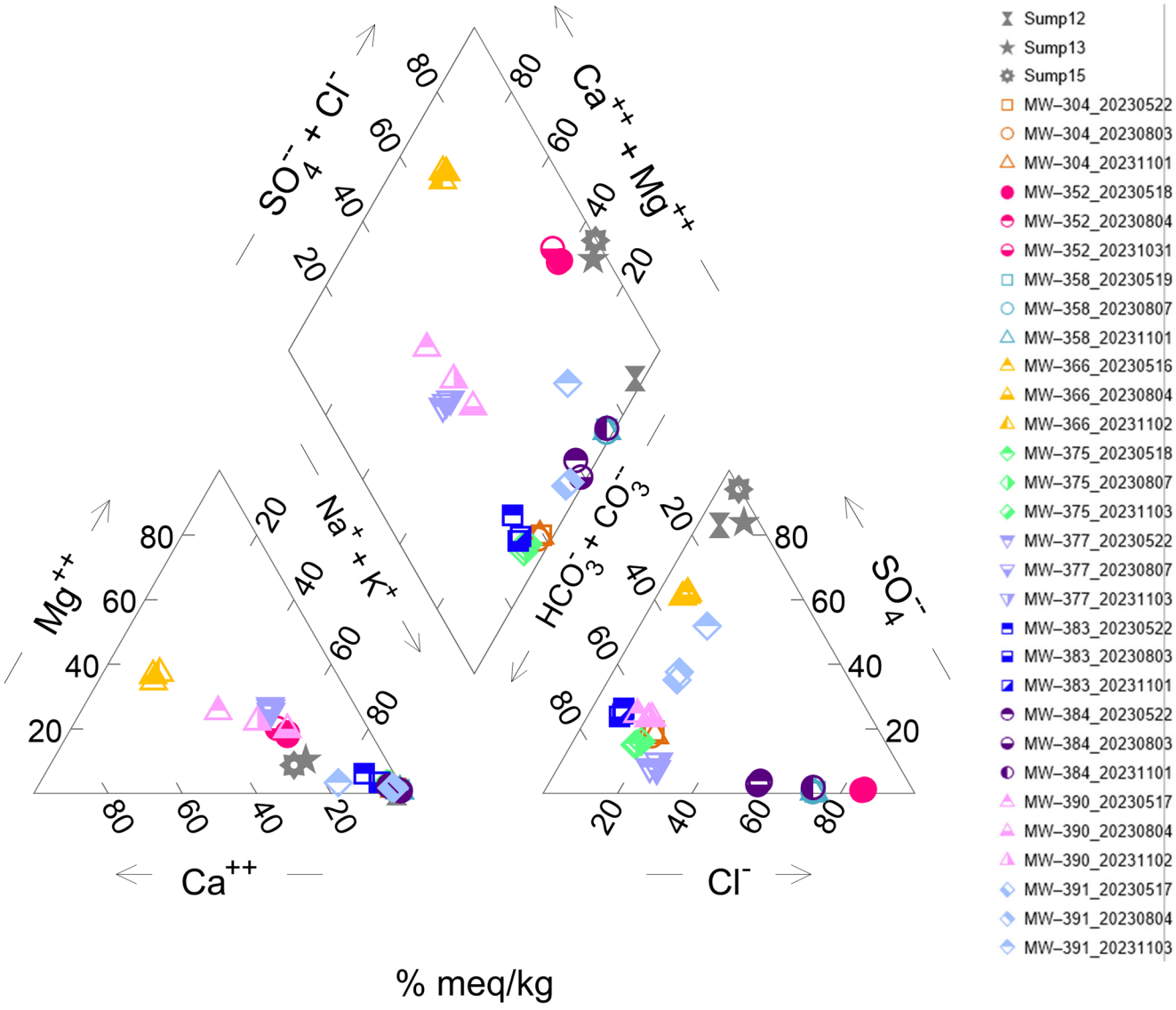
Figure **9b**



Notes:

1. The three most recent available data points for each location are displayed.
2. FAPS porewater locations Sump12, Sump13, and Sump 15 are shown with gray coloring and solid symbology

% meq/kg: percent milliequivalents per kilogram

Piper Diagram – UA Wells

Baldwin Power Plant – Fly Ash Pond System

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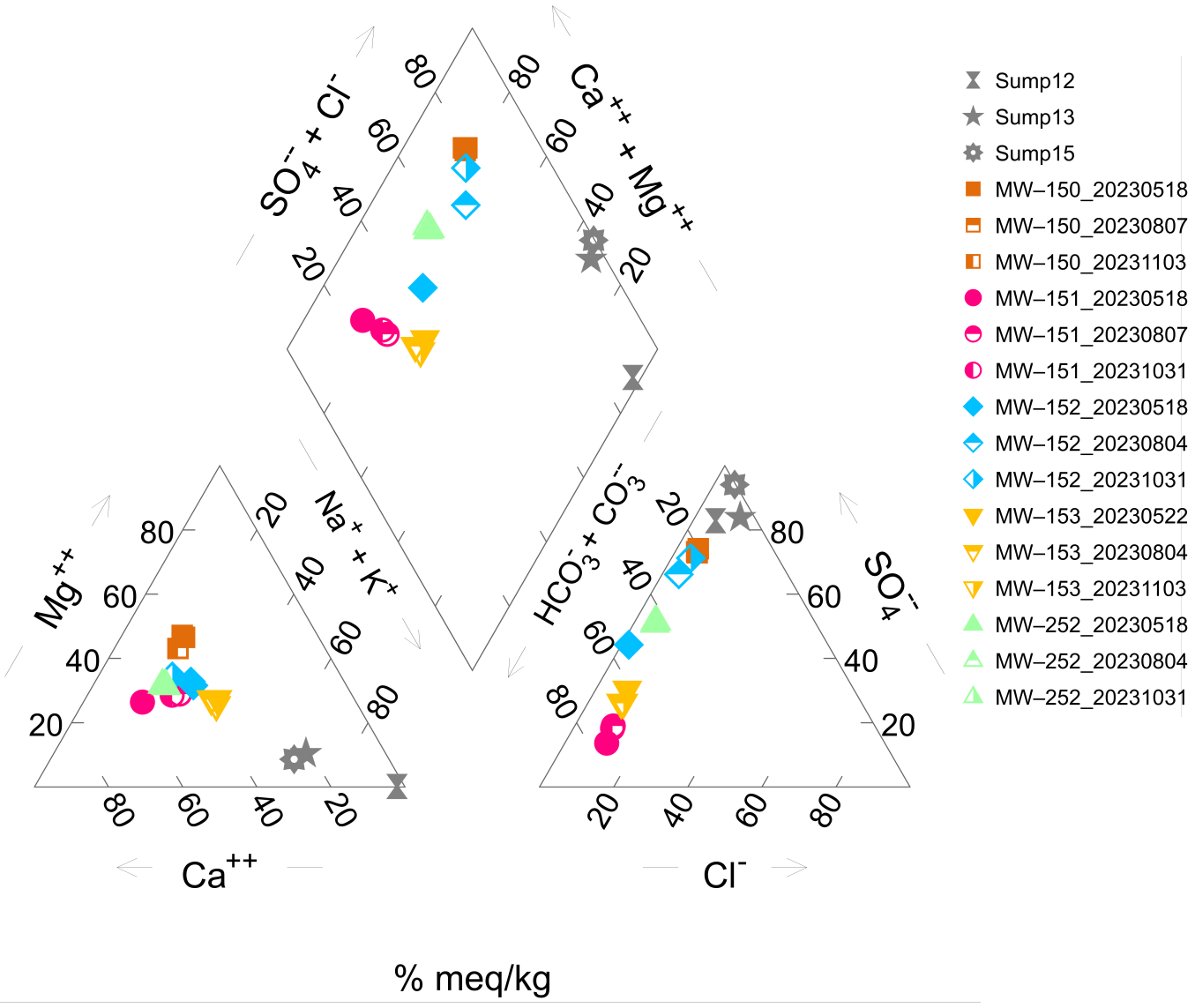
Figure **10a**



Notes:
1. The three most recent available data points for each location are displayed.
2. FAPS porewater locations Sump12, Sump13, and Sump 15 are shown with gray coloring and solid symbology.
% meq/kg: percent milliequivalents per kilogram

Piper Diagram – Potential Migration Pathway
Baldwin Power Plant – Fly Ash Pond System

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Figure **10b**

TABLES

Table 1. CEC and LOI of Site Solids
Geochemical Conceptual Site Model
Baldwin Power Plant - Fly Ash Pond System

Geosyntec Consultants, Inc.

Well ID	MW-150	MW-150	MW-350	MW-350	MW-350	MW-352	MW-352	MW-366	MW-391	REP MW-391
Depth (ft bgs)	(15-20)	(20-25)	(35-40)	(42-46)	(42-46)	(50-60)	(60-70)	(40-52)	(50-51)	(50-51)
Well Characterization	FAPS Compliance	FAPS Compliance	FAPS Compliance	FAPS Compliance	FAPS Compliance	FAPS Compliance	FAPS Compliance	FAPS Compliance	FAPS Compliance	FAPS Compliance
Sampled Aquifer Unit	PMP	PMP	UA	UA	UA	UA	UA	UA	UA	UA
Field Boring Log Description	Sandy clay	Sandy clay	Shale	Limestone	Limestone	Shale	Shale	Shale	Weathered shale	Weathered shale
CEC (meq/100 g solid)	12.94	18.94	67.49	173.79	173.68	134.55	146.45	71.09	53.7	-
LOI (%)	8.45	15.5	24.2	37.1	37.4	30.7	31.5	19.8	20.3	19.9
TOC (%)	-	-	-	-	-	-	-	-	-	-

Well ID	MW-391	MW-391	MW-358	MW-358	MW-358	MW-392	MW-392	MW-393	MW-394	MW-392
Depth (ft bgs)	(55-72)	(51-44)	(13-15)	(47-49)	(86-88)	(80-82)	(32-33.5)	(24-25.5)	(20.5-22)	(66-68)
Well Characterization	FAPS Compliance	FAPS Compliance	Background	Background	Background	BAP Compliance	BAP Compliance	BAP Compliance	BAP Compliance	BAP Compliance
Sampled Aquifer Unit	UA	UA	PMP	UA	UA	UA	PMP	PMP	PMP	UA
Field Boring Log Description	Limestone	Shale	Silty clay	Shallow shale	Deeper shale body	Shale transitioning to limestone	Clay with increasing sand content	Clayey sand	Silty sand	Shale
CEC (meq/100 g solid)	164.7	149.37	-	43.59	24.23	38.72	-	-	-	38.34
LOI (%)	40.5	33.2	5.47	9.79	9.74	21.6	6.15	3.82	5.09	13.8
TOC (%)	-	-	-	0.16	0.47	1.4	-	-	-	0.18

Notes
Sample depth is shown in feet below ground surface (ft bgs)
Dashes indicate sample was not analyzed for analyte
BAP: Bottom Ash Pond
CEC: cation exchange capacity
FAPS: Fly Ash Pond System
meq/100 g solid: milliequivalents per 100 grams solids
LOI: loss on ignition
PMP: potential migration pathway
TOC: total organic carbon
UA: uppermost aquifer

Table 2. Bulk Characterization of Site Solids
Geochemical Conceptual Site Model
Baldwin Power Plant - Fly Ash Pond System

Well ID	MW-150	MW-150	MW-350	MW-350	MW-350	MW-352	MW-352	MW-366	MW-391	MW-391	MW-391	MW-358	MW-358	MW-392	MW-392
Depth (ft bgs)	(15-20)	(20-25)	(35-40)	(42-46)	(42-46)	(50-60)	(60-70)	(40-52)	(50-51)	(51-55)	(55-72)	(47-49)	(86-88)	(80-82)	(66-68)
Well Characterization	FAPS Compliance	FAPS Compliance	FAPS Compliance	FAPS Compliance	FAPS Compliance	FAPS Compliance	FAPS Compliance	FAPS Compliance	FAPS Compliance	FAPS Compliance	FAPS Compliance	Background	Background	BAP Compliance	BAP Compliance
Sampled Aquifer Unit	PMP	PMP	UA	UA	UA	UA	UA	UA	UA	UA	UA	UA	UA	UA	UA
Field Boring Log Description	Sandy clay	Sandy clay	Shale	Limestone	Limestone	Shale	Shale	Shale	Weathered shale	Shale	Limestone	Shallow shale	Deeper shale body	Shale transitioning to limestone	Shale
Analyte	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Aluminum	42000	66000	56000	5900	5900	36000	16000	81000	61000	21000	4800	-	-	-	-
Antimony	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	-	-	-	-
Arsenic	4.3	11.0	6.1	1.9	1.6	5.3	7.5	4.9	8.8	4.0	3.2	2.1	11.0	17.0	1.0
Barium	500.0	560.0	150.0	59.0	46.0	73.0	45.0	180.0	160.0	64.0	19.0	140	45	40	21
Beryllium	1.1	1.9	1.6	0.2	0.3	1.0	0.5	2.3	2.1	0.6	0.2	0.9	0.7	0.9	0.7
Bismuth	0.1	0.2	0.2	< 0.09	< 0.09	0.1	< 0.09	0.3	0.2	< 0.09	< 0.09	-	-	-	-
Boron	-	-	-	-	-	-	-	-	-	-	-	11	16	16	13
Cadmium	0.2	0.3	0.3	0.3	0.4	0.1	0.9	0.6	0.1	0.2	0.7	< 0.02	< 0.02	0.4	0.1
Calcium	32000	57000	120000	320000	340000	190000	220000	95000	92000	260000	340000	-	-	-	-
Chromium	47.0	74.0	70.0	13.0	14.0	46.0	42.0	110.0	78.0	30.0	11.0	9.5	12	17	16.0
Cobalt	7.7	13.0	8.6	1.3	1.3	4.2	2.5	6.2	9.9	4.6	1.6	4.4	23	12	6.2
Copper	11.0	25.0	8.9	2.9	2.2	4.2	3.9	10.0	13.0	3.6	1.7	-	-	-	-
Iron	19000	38000	22000	5500	5300	16000	11000	23000	23000	12000	5600	-	-	-	-
Lead	13.0	17.0	10.0	3.0	3.0	6.0	5.0	17.0	20.0	7.0	4.0	5.7	9.6	17.0	4.9
Lithium	19.0	44.0	31.0	4.8	4.7	14.0	16.0	37.0	16.0	7.4	3.6	6.0	20.0	8.0	15.0
Magnesium	15000	21000	22000	4600	4600	16000	24000	12000	10000	5700	4500	-	-	-	-
Manganese	770	830	190	270	270	330	200	220	370	1200	590	-	-	-	-
Mercury	-	-	-	-	-	-	-	-	-	-	-	< 0.05	< 0.05	< 0.05	< 0.05
Molybdenum	1.2	1.7	0.8	0.6	0.5	0.5	2.2	0.7	0.5	0.3	1.0	0.3	0.3	0.3	0.3
Nickel	20.0	38.0	32.0	4.9	4.7	17.0	16.0	26.0	36.0	19.0	8.0	-	-	-	-
Potassium	17000	22000	13000	2100	1900	7900	3900	21000	18000	4700	1200	-	-	-	-
Selenium	0.2	0.6	0.9	0.2	0.2	0.4	0.8	2.7	1.6	0.3	0.5	< 0.7	< 0.7	1.4	< 0.7
Silver	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	-
Strontium	150	170	390	470	510	360	460	320	230	410	530	-	-	-	-
Sulfate	-	-	-	-	-	-	-	-	-	-	-	50	620	280	100
Thallium	0.4	0.6	0.4	0.1	0.1	0.2	0.2	0.5	0.4	0.1	0.0	0.1	0.1	0.0	0.0
Tin	< 6	6.5	6.9	< 6	< 6	6.2	< 6	7.5	6.8	< 6	< 6	-	-	-	-
Titanium	1900	3000	2300	310	310	1400	760	3500	2500	910	210	-	-	-	-
Uranium	1.7	2.5	3.2	1.1	1.0	1.9	2.4	3.7	2.9	1.2	2.1	-	-	-	-
Vanadium	57	110	70	14.0	14	45	29	150	68	28	9.4	-	-	-	-
Yttrium	13	20	14	8.8	8.7	8.9	9.3	19	32	11	7.6	-	-	-	-
Zinc	43	87	74	36	42	30	83	68	49	34	87	-	-	-	-

Notes:
Sample depth is shown in feet below ground surface (ft bgs)
Dashes indicate analyte was not reported by lab for sample
Non-detect values are shown as less than the reporting limit
BAP: Bottom Ash Pond
FAPS: Fly Ash Pond System
mg/kg: milligrams per kilogram
PMP: potential migration pathway
UA: uppermost aquifer

Table 3. XRF Analysis of Site Solids
Geochemical Conceptual Site Model
Baldwin Power Plant - Fly Ash Pond System

Well ID	MW-150	MW-150	MW-350	MW-350	MW-350	MW-352	MW-352	MW-366	MW-391	MW-391	MW-391	REP MW-391
Depth (ft bgs)	(15-20)	(20-25)	(35-40)	(42-46)	(42-46)	(50-60)	(60-70)	(40-52)	(50-51)	(44-51)	(55-72)	(50-51)
Well	FAPS	FAPS	FAPS	FAPS	FAPS	FAPS	FAPS	FAPS	FAPS	FAPS	FAPS	FAPS
Sampled Aquifer Unit	PMP	PMP	UA	UA	UA	UA	UA	UA	UA	UA	UA	UA
Field Boring Log Description	Sandy clay	Sandy clay	Shale	Limestone	Limestone	Shale	Shale	Shale	Weathered shale	Shale	Limestone	Weathered shale
Analyte	(wt %)	(wt %)	(wt %)	(wt %)	(wt %)	(wt %)	(wt %)	(wt %)	(wt %)	(wt %)	(wt %)	(wt %)
Al_2O_3	8.09	11.67	10.58	1.20	1.15	7.21	3.37	14.89	12.44	4.29	1.02	12.50
CaO	4.75	7.90	17.23	45.90	46.26	29.29	32.08	13.30	14.05	37.45	49.44	14.14
Cr_2O_3	0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.01	<0.01	<0.01	<0.01
Fe_2O_3	2.75	5.03	3.18	0.77	0.70	2.30	1.57	3.17	3.44	1.70	0.83	3.46
K_2O	2.01	2.47	1.52	0.24	0.22	0.99	0.49	2.35	2.29	0.60	0.16	2.30
MgO	2.53	3.41	3.80	0.80	0.77	2.91	4.21	2.01	1.84	1.05	0.80	1.85
MnO/Mn_3O_4	0.12	0.11	0.02	0.03	0.03	0.05	0.03	0.03	0.06	0.18	0.09	0.05
Na_2O	1.09	0.73	0.19	0.12	0.09	0.15	0.20	0.68	0.19	0.07	0.04	0.19
P_2O_5	0.10	0.13	0.10	0.06	0.05	0.05	0.09	0.22	0.52	0.11	0.12	0.48
SiO_2	69.69	52.27	37.06	13.62	13.06	26.00	25.84	41.40	44.24	21.26	6.70	44.33
TiO_2	0.46	0.57	0.42	0.05	0.05	0.26	0.14	0.58	0.54	0.17	0.04	0.53
V_2O_5	0.01	0.02	0.01	<0.01	<0.01	<0.01	<0.01	0.03	0.02	<0.01	<0.01	0.01

Well ID	MW-358	MW-358	MW-358	MW-392	MW-392	MW-393	MW-394	MW-392
Depth (ft bgs)	(13-15)	(47-49)	(86-88)	(80-82)	(32-33.5)	(24-25.5)	(20.5-22)	(66-68)
Well Characterization	Background	Background	Background	BAP Compliance	BAP Compliance	BAP Compliance	BAP Compliance	BAP Compliance
Sampled Aquifer	PMP	UA	UA	UA	PMP	PMP	PMP	UA
Field Boring Log Description	Silty clay	Shallow shale	Deeper shale body	Shale transitioning to limestone	Clay with increasing sand content	Clayey sand	Silty sand	Shale
Analyte	(wt %)	(wt %)	(wt %)	(wt %)	(wt %)	(wt %)	(wt %)	(wt %)
Al_2O_3	10.60	17.20	19.20	8.17	10.70	8.70	11.00	15.30
CaO	0.73	0.57	0.50	25.40	1.35	0.55	0.92	6.38
Cr_2O_3	< 0.01	0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fe_2O_3	3.72	7.01	4.34	2.76	4.54	3.27	4.46	7.66
K_2O	1.87	3.38	2.79	1.02	2.00	2.16	2.14	2.87
MgO	0.67	1.99	1.90	1.58	1.20	0.55	0.85	2.46
MnO/Mn_3O_4	0.07	< 0.01	< 0.01	0.04	0.11	0.09	0.09	0.03
Na_2O	1.04	0.83	0.77	0.40	0.87	0.94	1.27	0.29
P_2O_5	0.08	0.10	0.10	3.84	0.10	0.08	0.17	0.08
SiO_2	75.20	58.30	59.60	33.60	72.30	79.70	73.00	50.70
TiO_2	0.73	0.72	0.82	0.29	0.67	0.50	0.75	0.58
V_2O_5	0.02	0.02	0.02	0.02	0.01	< 0.01	0.01	0.02

Notes
Sample depth is shown in feet below ground surface (ft bgs).
Non-detect values are shown as less than the reporting limit.
Results are not normalized to 100%, with some portion of sample mass uncharacterized.
Analytes are presented as the respective oxide species of the element of interest, consistent with the sample processing prior to analysis.
Mn reported as MnO for Bottom Ash Pond (BAP) Compliance and Background samples and Mn_3O_4 for Fly Ash Pond System (FAPS) Compliance samples.
PMP: potential migration pathway
UA: uppermost aquifer
wt %: percentage by weight

Table 4. Boron and Iron Characterization of SEP Fraction of Site Solids
Geochemical Conceptual Site Model
Baldwin Power Plant - Fly Ash Pond System

Well ID			MW-358		MW-358		MW-358		MW-392		MW-392		MW-393		MW-394		MW-392	
Depth (ft bgs)			(13-15)		(47-49)		(86-88)		(80-82)		(32-33.5)		(24-25.5)		(20.5-22)		(66-68)	
Well Characterization			Background		Background		Background		BAP Compliance		BAP Compliance		BAP Compliance		BAP Compliance		BAP Compliance	
Sampled Aquifer Unit			PMP		UA		UA		UA		PMP		PMP		PMP		UA	
Field Boring Log Description			Silty clay		Shallow shale		Deeper shale body		Shale transitioning to limestone		Clay with increasing sand content		Clayey sand		Silty sand		Shale	
Fraction	**Reagent**	**Boron SEP**	µg/g	% of Total	µg/g	% of Total	µg/g	% of Total	µg/g	% of Total	µg/g	% of Total	µg/g	% of Total	µg/g	% of Total	µg/g	% of Total
1	Deionized Water	Water Soluble Fraction	< 1	-	8	10.4	10	11.9	3	7.3	< 1	-	< 1	-	< 1	-	5	7.2
2	$MgCl_2$	Exchangeable Metals Fraction	< 1	-	< 1	-	1	1.2	< 1	-	< 1	-	< 1	-	< 1	-	2	2.9
3	Sodium acetate, acetic acid	Metals Bound to Carbonates Fraction	< 1	-	2	2.6	3	3.6	4	9.8	< 1	-	< 1	-	< 1	-	3	4.3
4	Hydroxylamine HCl and acetic acid	Metals Bound to Fe and Mn Oxides Fraction	< 1	-	5	6.5	6	7.1	6	14.6	< 1	-	< 1	-	< 1	-	4	5.8
5	HNO_3, H_2O_2, and ammonium acetate	Bound to Organic Material Fraction	< 1	-	2	2.6	2	2.4	2	4.9	< 1	-	< 1	-	< 1	-	2	2.9
6	HNO_3, HCl, and HF	Residual Metals Fraction	13	100	60	77.9	62	73.8	26	63.4	21	100	15	100	16	100	53	76.8
SEP Total			13	-	77	-	84	-	41	-	21	-	15	-	16	-	69	-
Fraction	**Reagent**	**Iron SEP**	µg/g	% of Total	µg/g	% of Total	µg/g	% of Total	µg/g	% of Total	µg/g	% of Total	µg/g	% of Total	µg/g	% of Total	µg/g	% of Total
1	Deionized Water	Water Soluble Fraction	17	0.1	240	0.5	190	0.8	< 1	-	27	0.09	14	0.07	20	0.07	28	0.06
2	$MgCl_2$	Exchangeable Metals Fraction	2	0.01	21	0.05	< 1	-	12	0.1	8	0.03	9	0.04	8	0.03	10	0.02
3	Sodium acetate, acetic acid	Metals Bound to Carbonates Fraction	40	0.2	45	0.1	42	0.2	25	0.2	9	0.03	14	0.07	10	0.04	300	0.6
4	Hydroxylamine HCl and acetic acid	Metals Bound to Fe and Mn Oxides Fraction	1600	6.7	1600	3.6	1200	4.8	1800	11.2	1100	3.8	1500	7.3	1200	4.2	2700	5.8
5	HNO_3, H_2O_2, and ammonium acetate	Bound to Organic Material Fraction	150	0.6	610	1.4	1800	7.1	220	1.4	83	0.3	93	0.5	120	0.4	680	1.5
6	HNO_3, HCl, and HF	Residual Metals Fraction	22000	92.4	42000	94.3	22000	87.2	14000	87.2	28000	95.8	19000	92.1	27000	95.2	43000	92.0
SEP Total			23809	-	44516	-	25232	-	16057	-	29227	-	20630	-	28358	-	46718	-

Notes
Sample depth is shown in feet below ground surface (ft bgs).
Non-detect values are shown as less than the reporting limit.
µg/g: micrograms per gram
BAP: Bottom Ash Pond
PMP: potential migration pathway
UA: uppermost aquifer

Table 5a. XRD Analysis of PMP Solids
Geochemical Conceptual Site Model
Baldwin Power Plant - Fly Ash Pond System

Well ID			MW-150	MW-150	MW-358	MW-392	MW-393	MW-394
Depth (ft bgs)			(15-20)	(20-25)	(13-15)	(32-33.5)	(24-25.5)	(20.5-22)
Well Characterization			FAPS Compliance	FAPS Compliance	Background	BAP Compliance	BAP Compliance	BAP Compliance
Sampled Aquifer Unit			PMP	PMP	PMP	PMP	PMP	PMP
Field Boring Log Description			Sandy clay	Sandy clay	Silty clay	Clay with increasing sand content	Clayey sand	Silty sand
Mineral/Compound	**Formula**	**Mineral Type**	(wt %)	(wt %)	(wt %)	(wt %)	(wt %)	(wt %)
Quartz	SiO_2	Silicate	53.5	32.4	52.7	52.1	64.1	55.4
Albite	$NaAlSi_3O_8$	Feldspar	11.3	9.0	12.3	9.1	6.4	12.8
Microcline	$KAlSi_3O_8$	Feldspar	8.0	9.7	7.3	6.5	10.1	7.3
Dolomite	$CaMg(CO_3)_2$	Carbonate	9.4	11.2	-	-	-	-
Calcite	$CaCO_3$	Carbonate	2.9	9.5	-	0.0	0.0	0.2
Ankerite	$CaFe(CO_3)_2$	Carbonate	-	-	-	1.4	0.9	0.5
Actinolite	Ca2(Mg,Fe)5Si8O22(OH)2	Amphibole	2.0	0.5	-	-	-	-
Magnetite	Fe_3O_4	Oxide	0.3	0.5	0.9	0.1	0.0	0.1
Hematite	Fe_2O_3	Oxide	-	-	-	-	-	-
Anatase	TiO_2	Oxide	-	-	0.2	0.6	0.3	0.3
Diaspore	aAlO.OH	Oxide	-	-	0.3	-	0.2	0.5
Fluorapatite	$Ca_5(PO_4)_3F$	Phosphate	-	-	-	0.3	-	0.2
Muscovite	$KAl_2(AlSi_3O_{10})(OH)_2$	Mica	2.0	9.1	7.7	9.0	5.5	7.6
Clay Minerals								
Chlorite	$(Fe,(Mg,Mn)_5,Al)(Si_3Al)O_{10}(OH)_8$	Sheet silicate	-	0.7	-	-	-	-
Chlorite IIb	$(Fe,(Mg,Mn)_5,Al)(Si_3Al)O_{10}(OH)_8$	Sheet silicate	-	-	2.6	5.8	1.2	3.1
Montmorillonite	$(Na,Ca)_{0.3}(Al,Mg)_2Si_4O_{10}(OH)_2 \cdot 10H_2O$	Clay	5.5	9.0	-	-	-	-
Montmorillonite-12A	$(Na,Ca)_{0.3}(Al,Mg)_2Si_4O_{10}(OH)_2 \cdot 10H_2O$	Clay	-	-	4.9	-	-	-
Montmorillonite-14A	$(Na,Ca)_{0.3}(Al,Mg)_2Si_4O_{10}(OH)_2 \cdot 10H_2O$	Clay	-	-	-	3.3	3.5	3.6
Illite	$(K,H_3O)(Al,Mg,Fe)_2(Si,Al)_4O_{10}[(OH)_2,(H_2O)]$	Clay	4.0	6.8	5.0	0.7	1.0	0.6
Illite-Montmorillonite - 11A	$KAl_4(Si,Al)_8O_{10}(OH)_4 \cdot 4H_2O$	Clay	-	-	-	2.7	2.1	3.0
Kaolinite	$Al_2Si_2O_5(OH)_4$	Clay	1.0	1.5	5.3	6.8	3.2	4.2
Nontronite	$Fe_2(Al,Si)_4O_{10}(OH)_2Na_{0.3}(H_2O)_4$	Clay	-	-	0.6	1.6	1.4	0.5
Clay Minerals Total			10.4	17.3	15.9	15.0	11.1	12.0
Clays + Muscovite Total			12.4	27.1	26.2	29.8	17.9	22.6

Notes
Dashes indicate mineral was not identified by lab
Sample depth is shown in feet below ground surface (ft bgs).
The weight percent quantities indicated have been normalized to a sum of 100% using only minerals included in the refinement.
BAP: Bottom Ash Pond
FAPS: Fly Ash Pond System
ft bgs: feet below ground surface
PMP: potential migration pathway
wt %: percentage by weight

Table 5b. XRD Analysis of UA Solids
Geochemical Conceptual Site Model
Baldwin Power Plant - Fly Ash Pond System

Well ID			MW-350	MW-350	MW-350	MW-352	MW-352	MW-366	MW-391	MW-391	MW-391	MW-358	MW-358	MW-392	MW-392
Depth (ft bgs)			(35-40)	(42-46)	(42-46)	(50-60)	(60-70)	(40-52)	(50-51)	(51-55)	(55-72)	(47-49)	(86-88)	(80-82)	(66-68)
Well Characterization			FAPS Compliance	FAPS Compliance	FAPS Compliance	FAPS Compliance	FAPS Compliance	FAPS Compliance	FAPS Compliance	FAPS Compliance	FAPS Compliance	Background	Background	BAP Compliance	BAP Compliance
Sampled Aquifer Unit			UA	UA	UA	UA	UA	UA	UA	UA	UA	UA	UA	UA	UA
Field Boring Log Description			Shale	Limestone	Limestone	Shale	Shale	Shale	Weathered shale	Shale	Limestone	Shallow shale	Deeper shale body	Shale transitioning to limestone	Shale
Mineral/Compound	**Formula**	**Mineral Type**	(wt %)	(wt %)	(wt %)	(wt %)	(wt %)	(wt %)	(wt %)	(wt %)	(wt %)	(wt %)	(wt %)	(wt %)	(wt %)
Quartz	SiO_2	Silicate	17.7	10.4	10.7	11.2	19.4	14.2	24.2	13.1	5.2	29.2	30.7	29.8	22.7
Dolomite	$CaMg(CO_3)_2$	Carbonate	4.4	0.8	0.4	3.5	6.2	0.3	-	-	-	-	-	-	-
Calcite	$CaCO_3$	Carbonate	27.2	80.5	84.6	57.2	49.5	33.9	35.5	74.9	90.2	0.5	1.0	28.1	14.9
Ankerite	$CaFe(CO_3)_2$	Carbonate	7.3	0.4	0.2	4.7	10.0	1.6	-	0.0	0.4	-	-	-	0.8
Rhodochrosite	$MnCO_3$	Carbonate	0.7	-	-	-	-	-	-	-	-	-	-	-	-
Albite	$NaAlSi_3O_8$	Feldspar	2.5	0.4	0.6	0.2	0.2	1.8	2.2	0.4	0.0	0.4	2.5	0.6	0.6
Microcline	$KAlSi_3O_8$	Feldspar	4.6	2.1	0.5	2.1	1.3	5.3	3.2	1.9	0.3	8.6	5.9	1.0	5.1
Gypsum	$CaSO_4{\cdot}2H_2O$	Sulfate	1.9	-	-	-	-	-	-	-	-	-	-	-	-
Pyrite	FeS_2	Sulfide	1.6	-	-	0.6	0.8	1.3	0.2	0.1	0.3	-	-	-	-
Actinolite	$Ca_2(Mg,Fe)_5Si_8O_{22}(OH)_2$	Amphibole	1.3	-	-	-	-	-	-	-	-	-	-	-	-
Magnetite	Fe_3O_4	Oxide	0.8	-	-	0.2	-	-	0.7	0.4	-	0.5	0.3	1.4	0.1
Hematite	Fe_2O_3	Oxide	0.4	-	-	0.2	0.4	-	-	-	-	-	-	-	-
Anatase	TiO_2	Oxide	0.6	-	-	-	-	0.6	0.5	0.5	-	0.8	1.8	0.8	1.0
Diaspore	aAlO.OH	Oxide	-	-	-	-	-	-	-	-	-	-	-	-	2.8
Fluorapatite	$Ca_5(PO_4)_3F$	Phosphate	-	-	-	-	-	-	-	-	-	-	-	2.7	0.2
Muscovite	$KAl_2(AlSi_3O_{10})(OH)_2$	Mica	11.8	1.9	1.4	6.4	4.3	12.9	17.6	5.3	2.0	18.8	19.7	13.1	15.9
Clay Minerals															
Montmorillonite	$(Na,Ca)_{0.3}(Al,Mg)_2Si_4O_{10}(OH)_2{\cdot}10H_2O$	Clay	10.5	2.1	0.2	7.8	2.6	14.0	-	2.2	0.9	-	-	-	-
Montmorillonite-12A	$(Na,Ca)_{0.3}(Al,Mg)_2Si_4O_{10}(OH)_2{\cdot}10H_2O$	Clay	-	-	-	-	-	-	-	-	-	6.8	4.8	-	5.8
Montmorillonite-14A	$(Na,Ca)_{0.3}(Al,Mg)_2Si_4O_{10}(OH)_2{\cdot}10H_2O$	Clay	-	-	-	-	-	-	-	-	-	-	-	3.5	-
Illite	$(K,H_3O)(Al,Mg,Fe)_2(Si,Al)_4O_{10}[(OH)_2,(H_2O)]$	Clay	3.2	0.9	0.6	3.2	2.6	6.1	7.9	1.2	0.9	15.0	9.2	4.1	10.4
Illite-Montmorillonite - 11A	$KAl_4(Si,Al)_8O_{10}(OH)_4{\cdot}4H_2O$	Clay	-	-	-	-	-	-	-	-	-	8.8	2.7	3.6	7.1
Illite-Montmorillonite	$KAl_4(Si,Al)_8O_{20}(OH)_4{\cdot}8H_2O$	Clay	-	-	-	-	-	-	8.0	-	-	-	-	-	-
Kaolinite	$Al_2Si_2O_5(OH)_4$	Clay	3.2	0.5	0.6	2.4	0.8	4.2	-	-	-	4.8	15.0	5.5	3.6
Nontronite	$Fe_2(Al,Si)_4O_{10}(OH)_2Na_{0.3}(H_2O)_4$	Clay	-	-	-	-	-	-	-	-	-	4.6	4.3	4.2	3.3
Chlorite	$(Fe,(Mg,Mn)_5,Al)(Si_3Al)O_{10}(OH)_8$	Sheet silicate	0.2	0.0	0.2	0.2	1.8	3.7	-	-	-	-	-	-	-
Chlorite IIb	$(Fe,(Mg,Mn)_5,Al)(Si_3Al)O_{10}(OH)_8$	Sheet silicate	-	-	-	-	-	-	-	-	-	1.3	2.0	1.6	6.1
Clay Minerals Total			17.1	3.5	1.6	13.6	7.8	28.0	15.9	3.4	1.8	41.2	38.1	22.5	36.1
Clays + Muscovite Total			28.9	5.5	3.0	20.0	12.2	40.9	33.5	8.7	3.8	60.0	57.8	35.6	19.6

Notes
Dashes indicate mineral was not identified by lab
Sample depth is shown in feet below ground surface (ft bgs).
The weight percent quantities indicated have been normalized to a sum of 100% using only minerals included in the refinement.
BAP: Bottom Ash Pond
FAPS: Fly Ash Pond System
ft bgs: feet below ground surface
UA: uppermost aquifer
wt %: percentage by weight

Table 6. FAPS Porewater Chemistry
Geochemical Conceptual Site Model
Baldwin Power Plant - Fly Ash Pond System

Location Name	Sample Date	pH (SU)	Total Sulfate (mg/L)	Dissolved Sulfate (mg/L)	Total Boron (mg/L)	Dissolved Boron (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Total Manganese (mg/L)	Dissolved Manganese (mg/L)
TPZ-163	**2013/09/17**	9.7	750	-	39.7	-	7.86	-	0.13	-
	2013/11/20	8.8	-	626	-	37.2	-	< 0.02	-	< 0.005
	2014/02/18	7.6	-	610	-	37.8	-	< 0.02	-	< 0.005
	2014/06/12	9.5	-	495	-	36.3	-	< 0.02	-	< 0.005
TPZ-167	**2013/09/17**	9.9	1740	-	64.4	-	0.57	-	0.01	-
	2013/11/20	8.2	-	1850	-	53	-	< 0.02	-	< 0.005
	2014/02/18	7.7	-	1840	-	54.5	-	< 0.02	-	< 0.005
	2014/06/11	10	-	1650	-	60	-	< 0.02	-	< 0.005
TPZ-168	**2013/09/17**	10.8	2630	-	102	-	90.6	-	1.58	-
	2013/11/20	9.2	-	2760	-	87.2	-	< 0.02	-	< 0.005
	2014/02/18	8.1	-	2820	-	78.8	-	0.06	-	< 0.005
	2014/06/11	11.9	-	2240	-	94.7	-	0.055	-	< 0.005
Sump 12	**2020/05/15**	11.8	1840	-	60.3	-	0.96	< 0.025	0.0104	< 0.002
Sump 13	**2020/05/15**	9.0	84	-	0.663	-	10.9	< 0.025	0.054	< 0.002
Sump 15	**2020/05/15**	8.2	1080	-	10.6	-	0.5	< 0.025	1.82	1.7

Notes
SU: standard units
mg/L: milligrams per liter
- : Analyte not included in analyses for sampling date

Table 7. Eh-pH Diagram Inputs
Geochemical Conceptual Site Model
Baldwin Power Plant - Fly Ash Pond System

Well ID		MW-391	MW-150
Sample Date		**5/17/2023**	**5/18/2023**
Aquifer Unit		**UA**	**PMP**
Input Parameter	**Unit**		
Temperature	°C	15.6	13.6
pH	SU	7.78	7.06
Calcium	mg/L	18.7	223
Chloride	mg/L	170	56
Bicarbonate Alkalinity	mg/L	728	336
Magnesium	mg/L	6.6	173
Sodium	mg/L	767	121
Potassium	mg/L	3.96	0.893
Sulfate	mg/L	430	970
Total Manganese	mg/L	0.0348	0.0055
Total Iron	mg/L	1.88	0.038

Notes
°C - degrees Celsius
mg/L - milligrams per liter
PMP - potential migration pathway
SU - standard units
UA - uppermost aquifer

Table 8. Total and Dissolved Aqueous Iron and Manganese Results
Geochemical Conceptual Site Model
Baldwin Power Plant - Fly Ash Pond System *Geosyntec Consultants, Inc.*

Well ID	Sampled Aquifer Unit	Date	Dissolved Iron	Total Iron	Dissolved Manganese	Total Manganese
			(mg/L)	(mg/L)	(mg/L)	(mg/L)
MW-150	PMP	5/18/2023	<0.02	0.038	0.0038	0.0055
		8/7/2023	0.0666	0.166	0.0025	0.0028
		11/3/2023	0.0728	0.157	0.0025	0.0088
MW-151	PMP	5/18/2023	<0.02	25.2	0.0151	0.805
		8/7/2023	<0.0115	4.81	0.0177	0.118
		10/31/2023	0.013	5.55	0.0133	0.237
MW-152	PMP	5/18/2023	<0.02	1.35	0.0073	0.0506
		8/4/2023	<0.025	3.04	0.0176	0.114
		10/31/2023	<0.0115	7.75	0.0244	0.247
MW-153	PMP	5/22/2023	<0.02	10.6	<0.0025	0.089
		8/4/2023	<0.0115	0.089	0.0041	0.0068
		11/3/2023	<0.0115	0.243	0.0032	0.0114
MW-252	PMP	5/18/2023	0.0499	1.28	0.396	0.502
		8/4/2023	0.562	3.08	0.293	0.323
		10/31/2023	0.619	1.99	0.303	0.351
MW-304	UA	5/22/2023	<0.02	<0.02	<0.0025	<0.0025
		8/3/2023	<0.0115	0.014	0.0014	0.0032
		11/1/2023	<0.0115	<0.0115	0.002	0.0044
MW-352	UA	5/18/2023	0.164	0.356	0.0152	0.0179
		8/4/2023	0.482	0.307	0.0334	0.0112
		10/31/2023	0.392	0.459	0.0423	0.0162
MW-358	UA	5/19/2023	0.242	0.685	0.182	0.225
		8/7/2023	0.221	0.908	0.16	0.227
MW-366	UA	5/16/2023	<0.02	0.0649	0.0281	1.68
		8/4/2023	<0.025	0.023	0.0169	0.267
MW-375	UA	5/18/2023	<0.02	0.0854	<0.0025	0.0098
		8/7/2023	<0.0115	0.1	0.0013	0.0158
MW-377	UA	5/22/2023	0.024	0.07	0.011	0.016
		8/7/2023	<0.025	0.0371	0.0072	0.0125
MW-383	UA	5/22/2023	<0.02	0.0901	0.0269	0.0564
		8/3/2023	0.359	0.0471	0.0382	0.0333
MW-384	UA	5/22/2023	<0.02	0.824	0.0031	0.0088
		8/3/2023	0.0115	0.117	0.0066	0.018
MW-390	UA	5/17/2023	<0.02	0.126	0.364	0.709
		8/4/2023	<0.025	0.0631	0.681	0.088
MW-391	UA	5/17/2023	<0.02	1.88	0.007	0.0348
		8/4/2023	<0.023	0.219	0.0115	0.0102

Notes
Non-detect values are shown as less than the reporting limit.
mg/L: milligrams per liter
PMP: potential migration pathway
UA: uppermost aquifer

Attachment A
Site Layout Figure

Y:\Mapping\Projects\222285BaldwinMXD\GMP_Addendum\FAPS\Figure 1-2_Site Map.mxd

PROJECT: 169000XXXX | DATED: 10/15/2021 | DESIGNER: HOTCALD

REGULATED UNIT (SUBJECT UNIT) FLY ASH
POND SYSTEM (CLOSED)

SITE FEATURE
LIMITS OF FINAL COVER
PROPERTY BOUNDARY

0 400 800
Feet

SITE MAP

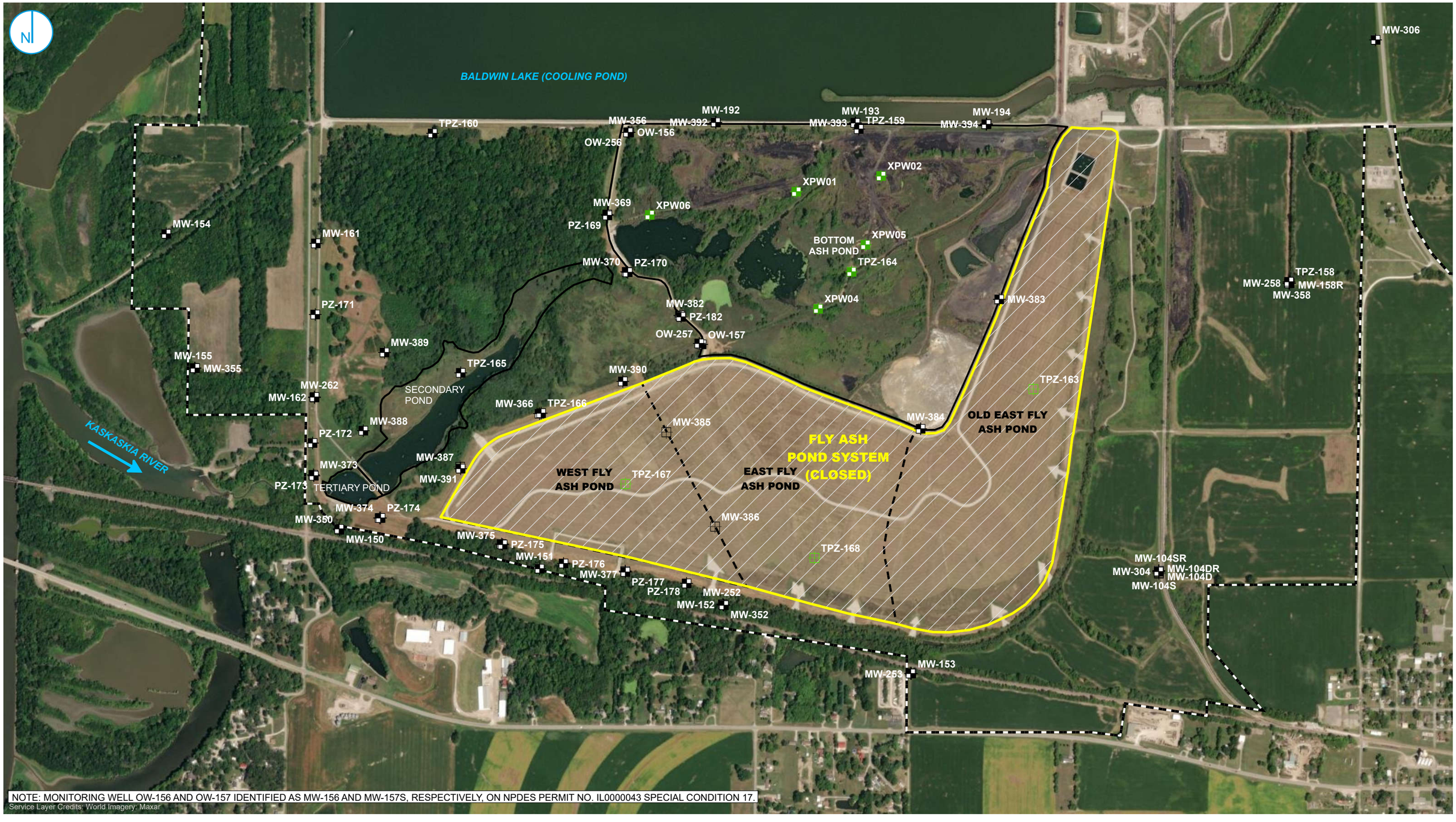
35 I.A.C. § 845 GROUNDWATER MONITORING PLAN REVISION 1
FLY ASH POND SYSTEM
BALDWIN POWER PLANT
BALDWIN, ILLINOIS

FIGURE 1-2

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

Attachment B
Proposed Part 845 Groundwater Monitoring Network



NOTE: MONITORING WELL OW-156 AND OW-157 IDENTIFIED AS MW-156 AND MW-157S, RESPECTIVELY, ON NPDES PERMIT NO. IL0000043 SPECIAL CONDITION 17.

Service Layer Credits: World Imagery: Maxar

PROJECT: 169000XXXX | DATED: 7/18/2023 | DESIGNER: GALARNMC

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MONITORING WELL AND PIEZOMETER LOCATION
PORE WATER WELL
CLOSED MONITORING WELL
CLOSED PORE WATER WELL

REGULATED UNIT (SUBJECT UNIT)
SITE FEATURE
CAPPED AREA
PROPERTY BOUNDARY

0 400 800 Feet

MONITORING WELL LOCATION MAP

35 I.A.C. § 845 GROUNDWATER MONITORING PLAN REVISION 1
FLY ASH POND SYSTEM

BALDWIN POWER PLANT
BALDWIN, ILLINOIS

FIGURE 2-1

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.

RAMBOLL

Attachment C
Monitoring Well Construction Information

Attachment C. Monitoring Well Construction Details
Geochemical Conceptual Site Model
Baldwin Fly Ash Pond System
Baldwin Power Plant
Baldwin, IL

Location	HSU	Date Constructed	Top of PVC Elevation (ft)	Measuring Point Elevation (ft)	Measuring Point Description	Ground Elevation (ft)	Screen Top Depth (ft bgs)	Screen Bottom Depth (ft bgs)	Screen Top Elevation (ft)	Screen Bottom Elevation (ft)	Well Depth (ft bgs)	Bottom of Boring Elevation (ft)	Screen Length (ft)	Screen Diameter (inches)	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)
MW-150	PMP	2010-09-01	396.5	396.7	Top of PVC	393.8	15	24.7	378.8	369.2	25.2	368.7	9.6	2	38.189401	-89.878468
MW-151	PMP	2010-09-01	400.0	400.1	Top of PVC	397.2	6.1	15.8	391.1	381.4	16.3	380.9	9.6	2	38.188449	-89.872354
MW-152	PMP	2010-09-01	425.0	425.2	Top of PVC	422.2	7.5	16.7	414.7	405.5	17.2	405.0	9.3	2	38.187569	-89.866764
MW-153	PMP	2010-09-01	445.7	445.8	Top of PVC	442.8	10.4	20	432.4	422.8	20.5	422.3	9.6	2	38.185884	-89.86101
MW-252	PMP	2010-09-01	425.1	425.2	Top of PVC	422.3	44.4	49	377.9	373.2	49.5	372.7	4.6	2	38.187563	-89.866745
MW-253	PMP	2010-09-01	445.8	446.0	Top of PVC	442.7	29.9	34.5	412.8	408.2	35	407.7	4.6	2	38.185885	-89.861026
MW-304	UA	2015-10-20	455.5	455.4	Top of PVC	453.0	45	55	408.0	398.0	55	317.6	10	2	38.188332	-89.853441
MW-350	UA	2010-09-01	396.8	397.0	Top of PVC	394.1	41.6	46.2	352.5	347.9	46.6	347.4	4.6	2	38.189416	-89.878477
MW-352	UA	2010-09-01	425.0	425.2	Top of PVC	422.4	67.9	72.5	354.5	349.8	73	348.6	4.6	2	38.187554	-89.866729
MW-358	UA	2022-10-08	455.7	455.9	Top of PVC	453.6	80	90	373.7	363.7	90	363.6	10	2	38.195275	-89.849417
MW-366	UA	2015-12-04	425.1	425.2	Top of PVC	422.5	42	52	380.5	370.5	52	368.2	10	2	38.192191	-89.872345
MW-375	UA	2015-11-06	423.1	423.2	Top of PVC	420.5	57	67	363.5	353.5	67	335.8	10	2	38.189045	-89.873514
MW-377	UA	2015-11-02	421.4	421.5	Top of PVC	418.8	46	56	372.8	362.8	56	360.5	10	2	38.188386	-89.869742
MW-383	UA	2015-12-21	459.5	459.7	Top of PVC	457.2	58	68	399.2	389.2	68	384.2	10	2	38.194913	-89.858286
MW-384	UA	2015-12-18	458.9	459.1	Top of PVC	456.7	60.5	70.5	396.2	386.2	70.5	362.6	10	2	38.191789	-89.860699
MW-390	UA	2016-03-04	428.1	427.8	Top of PVC	426.0	50	65	376.0	361.0	65	358.0	15	2	38.192956	-89.869793
MW-391	UA	2016-03-10	426.6	426.8	Top of PVC	424.2	55	70	369.2	354.2	70	349.8	15	2	38.190869	-89.874759

Notes:
All elevation data are presented relative to the North American Vertical Datum 1988 (NAVD88), GEOID 12A
bgs = below ground surface
ft = foot or feet
HSU = Hydrostratigraphic Unit
UA = Uppermost Aquifer
PMP = Potential Migration Pathway
PVC = polyvinyl chloride

Attachment D
Boring Logs

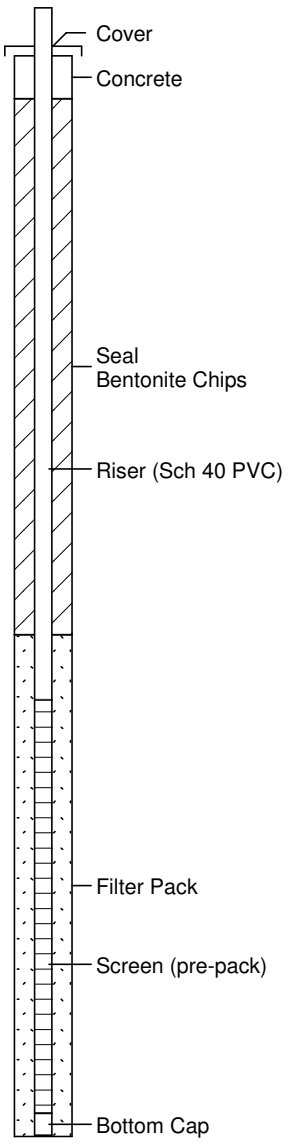
KELRON ENVIRONMENTAL
INCORPORATED

LOG OF BORING MW-150

Ash Pond System Monitoring Well Network
Baldwin Energy Complex
Dynegy Midwest Generation, Inc.
Location: Twp 04S, Rng 07W, 16 SE, NW, NE

Date Completed	: 09/08/2010	Driller	: Matt Cooper
Hole Diameter	: 8 1/2"OD; 4 1/4" ID	Geologist	: Brendon Wilder (PSC)
Drilling Method	: Hollow-Stem (CME-550)	Land Surface Elevation	: 393.84
Sampling Method	: MacroCore (60")	Top of Casing Elevation	396.54
Drilling Company	: Terra Drill, Inc.	X,Y Coordinates	: 2379413, 554563

Depth in Feet	DESCRIPTION	Surf. Elev. 393.84	Samples	Recovery inches	Qp TSF	USCS	GRAPHIC
0	Continous boring - no soil sampling conducted. Refer to boring log for adjacent nested well MW-350 for a description of subsurface materials	393					
5		388					
10		383					
15		378					
20		373					
25	END BOREHOLE AT 25.2 FEET BLS	368					
30							



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KELRON ENVIRONMENTAL
INCORPORATED

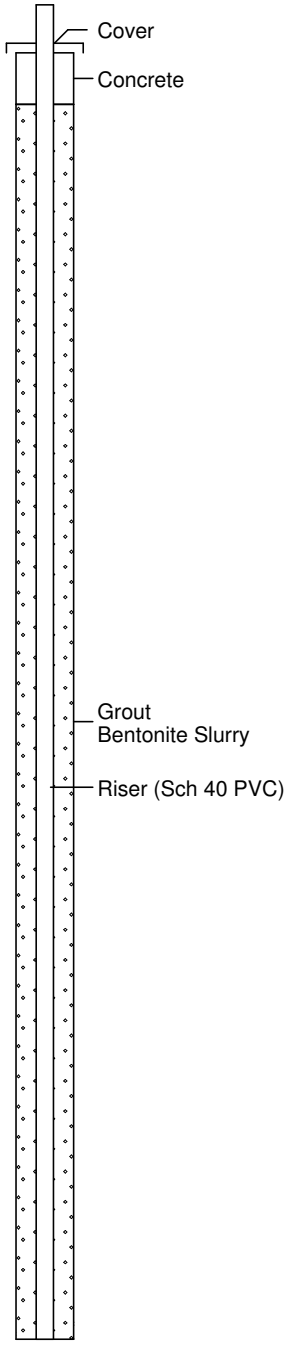
LOG OF BORING MW-350

Ash Pond System Monitoring Well Network
Baldwin Energy Complex
Dynegy Midwest Generation, Inc.
Location: Twp 04S, Rng 07W, 16 SE, NW, NE

Date Completed	: 09/07/2010	Driller	: Matt Cooper
Hole Diameter	: 8 1/2"OD / 4 1/4" ID: 3 7/8" rock	Geologist	: Brendon Wilder (PSC)
Drilling Method	: Hollow-Stem/Rotary (CME-550)	Land Surface Elevation	: 394.11
Sampling Method	: MacroCore (60")/NX Core	Top of Casing Elevation	396.80
Drilling Company	: PSC	X,Y Coordinates	: 2379410, 554568

Depth in Feet	DESCRIPTION	Surf. Elev. 394.11	Samples	Recovery inches	Qp TSF	USCS	GRAPHIC
0	CLAY, very stiff to hard, brown, grayish-brown (10YR 5/2) mottled yellowish brown (10YR 5/8), dry	394	1	19/54	4.5		
			2		2.25		
			3				
5	- grain size analysis @ 5 - 6 ft: 2.3% sand, 42.4% silt, 55.3% clay	389	4	47/60	4.5	CH	
			5		3.5		
			6		3.25		
			7		4.0		
10		384	8	60/60	2.75		
	CLAY, brown to olive brown, moist		9		2.75		
	- grain size analysis @ 11 - 12 ft: 8.4% sand, 39.3% silt, 52.3% clay		10		2.75		
			11		1.75	CL/CH	
			12		2.0		
15		379	13	45/60			
	CLAY, soft, high plasticity, dark yellow brown, moist; 1-2" sand seams at 17' and 19'						
	- grain size analysis @ 18 - 20 ft: 1.8% sand, 21.9% silt, 76.3% clay						
	- very stiff to hard, high plasticity						
20		374	14	60/60		CH	
			15	23/23			
25							

Well: MW-350
Elev.: 396.80



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KELRON ENVIRONMENTAL
INCORPORATED

LOG OF BORING MW-350

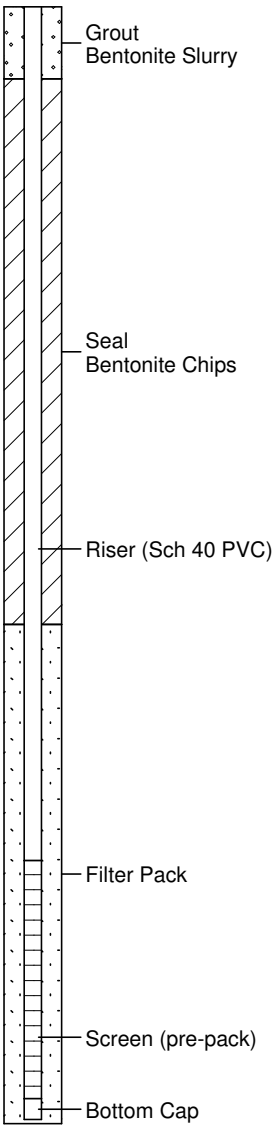
Ash Pond System Monitoring Well Network
Baldwin Energy Complex
Dynegy Midwest Generation, Inc.
Location: Twp 04S, Rng 07W, 16 SE, NW, NE

Date Completed	: 09/07/2010	Driller	: Matt Cooper
Hole Diameter	: 8 1/2"OD / 4 1/4" ID: 3 7/8" rock	Geologist	: Brendon Wilder (PSC)
Drilling Method	: Hollow-Stem/Rotary (CME-550)	Land Surface Elevation	: 394.11
Sampling Method	: MacroCore (60")/NX Core	Top of Casing Elevation	396.80
Drilling Company	: PSC	X,Y Coordinates	: 2379410, 554568

Depth in Feet	DESCRIPTION	Surf. Elev. 394.11
25	- Auger refusal at 26.4 feet bgs	369
	LIMESTONE and SHALE, interbedded, banded, solid, very soft, light to dark gray; slightly weathered	
	LIMESTONE, banded, medium bedded, solid, hard, medium gray; unweathered	
	LIMESTONE and SHALE, interbedded; limestone is banded, medium bedded, hard, medium gray; shale is very soft to medium soft, dark gray	
30		364
	Borehole diameter from 26.4 to 46.7 feet bgs = 3 7/8"	
	RQD for 26.4 - 36.4' = 72% (Fair) Recovery = 116/120"	
35		359
	SHALE, banded, medium bedded, solid, soft to medium soft, dark gray	
40		354
	LIMESTONE, banded, massive, solid, hard to very hard, light to medium gray	
45	RQD for 36.4 - 46.4' = 96% (Excellent) Recovery = 118/120"	349
	END BOREHOLE AT 46.7 FEET BLS	
50		

Samples	Recovery inches	Qp TSF	USCS	GRAPHIC
15	23/23		CL	
			LS/SH	
			LS	
16	116/120		LS/SH	
			SH	
17	118/120		LS	

Well: MW-350
Elev.: 396.80



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KELRON ENVIRONMENTAL
INCORPORATED

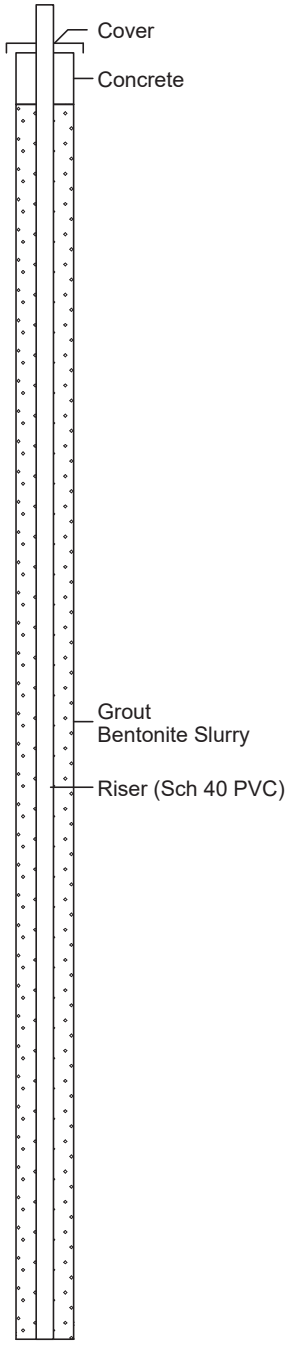
LOG OF BORING MW-350

Ash Pond System Monitoring Well Network
Baldwin Energy Complex
Dynegy Midwest Generation, Inc.
Location: Twp 04S, Rng 07W, 16 SE, NW, NE

Date Completed	: 09/07/2010	Driller	: Matt Cooper
Hole Diameter	: 8 1/2"OD / 4 1/4" ID: 3 7/8" rock	Geologist	: Brendon Wilder (PSC)
Drilling Method	: Hollow-Stem/Rotary (CME-550)	Land Surface Elevation	: 394.11
Sampling Method	: MacroCore (60")/NX Core	Top of Casing Elevation	396.80
Drilling Company	: PSC	X,Y Coordinates	: 2379410, 554568

Depth in Feet	DESCRIPTION	Surf. Elev. 394.11	Samples	Recovery inches	Qp TSF	USCS	GRAPHIC
0	CLAY, very stiff to hard, brown, grayish-brown (10YR 5/2) mottled yellowish brown (10YR 5/8), dry	394	1	19/54	4.5		
			2		2.25		
			3				
5	- grain size analysis @ 5 - 6 ft: 2.3% sand, 42.4% silt, 55.3% clay	389	4	47/60	4.5	CH	
			5		3.5		
			6		3.25		
			7		4.0		
10		384	8	60/60	2.75		
	CLAY, brown to olive brown, moist		9		2.75		
	- grain size analysis @ 11 - 12 ft: 8.4% sand, 39.3% silt, 52.3% clay		10		2.75		
			11		1.75	CL/CH	
			12		2.0		
15		379	13	45/60			
	CLAY, soft, high plasticity, dark yellow brown, moist; 1-2" sand seams at 17' and 19'						
	- grain size analysis @ 18 - 20 ft: 1.8% sand, 21.9% silt, 76.3% clay						
	- very stiff to hard, high plasticity						
20		374	14	60/60		CH	
			15	23/23			
25							

Well: MW-350
Elev.: 396.80



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KELRON ENVIRONMENTAL
INCORPORATED

LOG OF BORING MW-350

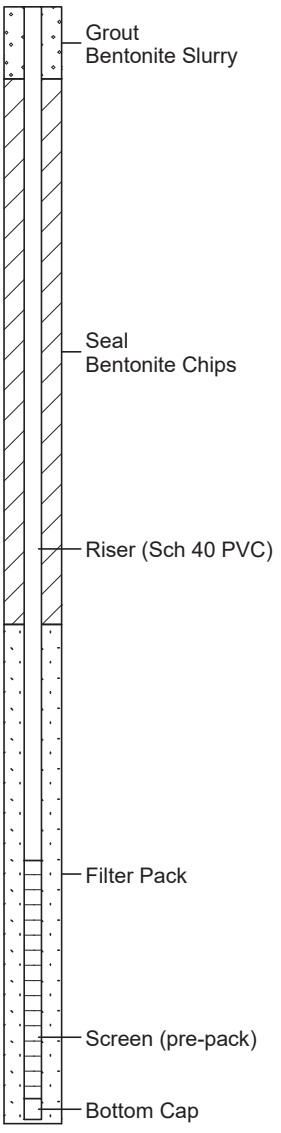
Ash Pond System Monitoring Well Network
Baldwin Energy Complex
Dynegy Midwest Generation, Inc.
Location: Twp 04S, Rng 07W, 16 SE, NW, NE

Date Completed	: 09/07/2010	Driller	: Matt Cooper
Hole Diameter	: 8 1/2"OD / 4 1/4" ID: 3 7/8" rock	Geologist	: Brendon Wilder (PSC)
Drilling Method	: Hollow-Stem/Rotary (CME-550)	Land Surface Elevation	: 394.11
Sampling Method	: MacroCore (60")/NX Core	Top of Casing Elevation	396.80
Drilling Company	: PSC	X,Y Coordinates	: 2379410, 554568

Depth in Feet	DESCRIPTION	Surf. Elev. 394.11
25	- Auger refusal at 26.4 feet bgs	369
	LIMESTONE and SHALE, interbedded, banded, solid, very soft, light to dark gray; slightly weathered	
	LIMESTONE, banded, medium bedded, solid, hard, medium gray; unweathered	
	LIMESTONE and SHALE, interbedded; limestone is banded, medium bedded, hard, medium gray; shale is very soft to medium soft, dark gray	
30		364
	Borehole diameter from 26.4 to 46.7 feet bgs = 3 7/8"	
	RQD for 26.4 - 36.4' = 72% (Fair) Recovery = 116/120"	
35		359
	SHALE, banded, medium bedded, solid, soft to medium soft, dark gray	
40		354
	LIMESTONE, banded, massive, solid, hard to very hard, light to medium gray	
45	RQD for 36.4 - 46.4' = 96% (Excellent) Recovery = 118/120"	349
	END BOREHOLE AT 46.7 FEET BLS	
50		

Samples	Recovery inches	Qp TSF	USCS	GRAPHIC
15	23/23		CL	
			LS/SH	
			LS	
16	116/120		LS/SH	
			SH	
17	118/120		LS	

Well: MW-350
Elev.: 396.80



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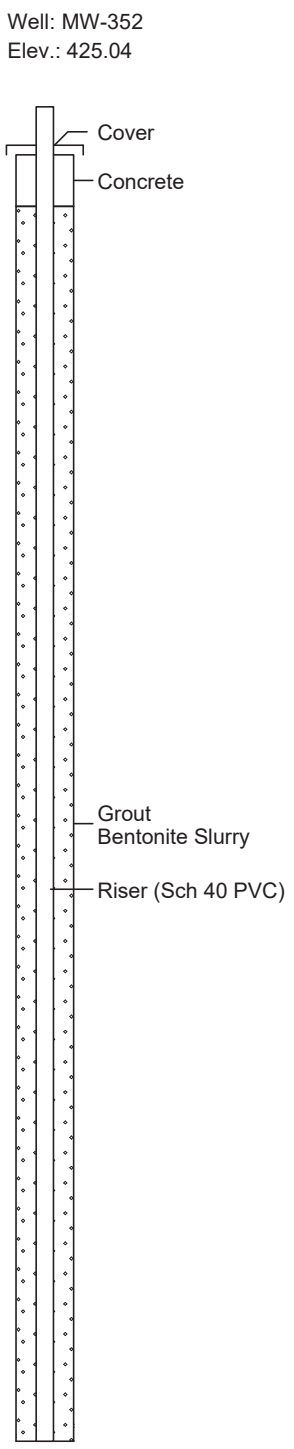
KELRON ENVIRONMENTAL
INCORPORATED

LOG OF BORING MW-352

Ash Pond System Monitoring Well Network
Baldwin Energy Complex
Dynegy Midwest Generation, Inc.
Location: Twp 04S, Rng 07W, 16 SE, NE, NE

Date Completed	: 09/16/2010	Driller	: Matt Cooper
Hole Diameter	: 8 1/2"OD / 4 1/4" ID: 3 7/8" rock	Geologist	: Brendon Wilder (PSC)
Drilling Method	: Hollow-Stem/Rotary (CME-550)	Land Surface Elevation	: 422.36
Sampling Method	: MacroCore (60")/NX Core	Top of Casing Elevation	425.04
Drilling Company	: PSC	X,Y Coordinates	: 2382789, 553901

Depth in Feet	DESCRIPTION	Surf. Elev. 422.36	Samples	Recovery inches	Qp TSF	USCS	GRAPHIC
0	SILTY CLAY, very stiff to hard, yellow brown (10YR 5/6), dry	422	1	46/48	4.5+	CL	
			2	60/60	3.5		
5	CLAY, trace sand and fine gravel, very stiff, high plasticity, few black organic material	417	3		4.0		
			4		2.75		
			5		3.0		
10	- medium hard	412	6	60/60	2.75	CL	
	- soft		7		2.0		
			8		1.0		
			9		1.25		
15	- medium hard	407	10	60/60	1.5		
			11		2.5		
	SAND, poorly graded, loose, wet (4-inch thick)		12		2.75	SP	
	SANDY CLAY, trace fine gravel, yellow brown to olive brown (2.5Y 5/3)		13		3.5		
20		402	14	60/60	4.5+	CL	
			15		2.5		
			16		2.5		
			17		2.75		
25			18	48/60	2.5		



KELRON ENVIRONMENTAL
INCORPORATED

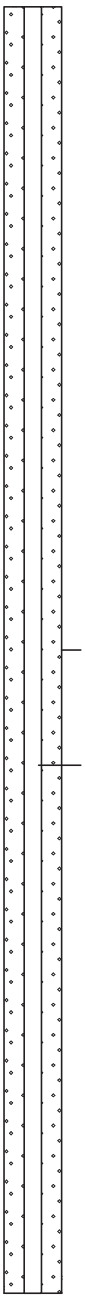
LOG OF BORING MW-352

Ash Pond System Monitoring Well Network
Baldwin Energy Complex
Dynegy Midwest Generation, Inc.
Location: Twp 04S, Rng 07W, 16 SE, NE, NE

Date Completed	: 09/16/2010	Driller	: Matt Cooper
Hole Diameter	: 8 1/2"OD / 4 1/4" ID: 3 7/8" rock	Geologist	: Brendon Wilder (PSC)
Drilling Method	: Hollow-Stem/Rotary (CME-550)	Land Surface Elevation	: 422.36
Sampling Method	: MacroCore (60")/NX Core	Top of Casing Elevation	425.04
Drilling Company	: PSC	X,Y Coordinates	: 2382789, 553901

Depth in Feet	DESCRIPTION	Surf. Elev. 422.36	Samples	Recovery inches	Qp TSF	USCS	GRAPHIC
25	- grain size analysis @ 26.5 - 27.5 ft: 33.7% sand, 27.1% silt, 39.2% clay	397	18	48/60	2.5	CL	
	SAND with few gravel, yellow brown					SP	
	CLAY, some sand and fine gravel, hard to very hard, high plasticity, dark yellow brown (10YR 4/6)					CL	
			19	60/60	3.0		
30	CLAY, lean to fat	392	20		3.0		
	- grain size analysis @ 32 - 33 ft: 13.2% sand, 43.9% silt, 42.8% clay		21		3.5		
			22		3.0		
35		387	23	48/60	1.5		
	- medium hard, high plasticity, gray brown to light olive brown (2.5Y 5/2-5/3)		24		1.5		
	- trace silt, dark yellow brown (10YR 4/4)		25		1.75	CL/CH	
			26		1.5		
40		382	27	54/60	1.75		
			28		2.0		
			29		2.5		
			30		2.5		
45		377	31	57/60	2.0		
			32		1.75		
			33		1.75		
	CLAY, medium hard, low plasticity, olive brown (2.5Y 5/4)		34		2.5	CL	
			35		1.75		
50			36	3/3			

Well: MW-352
Elev.: 425.04



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KELRON ENVIRONMENTAL
INCORPORATED

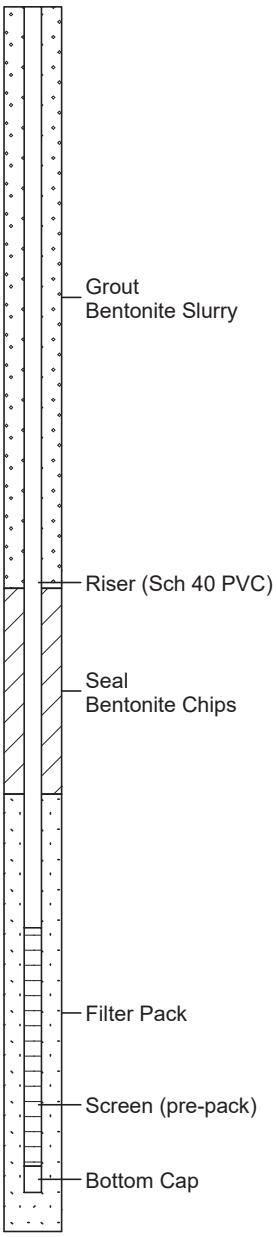
LOG OF BORING MW-352

Ash Pond System Monitoring Well Network
Baldwin Energy Complex
Dynegy Midwest Generation, Inc.
Location: Twp 04S, Rng 07W, 16 SE, NE, NE

Date Completed	: 09/16/2010	Driller	: Matt Cooper
Hole Diameter	: 8 1/2"OD / 4 1/4" ID: 3 7/8" rock	Geologist	: Brendon Wilder (PSC)
Drilling Method	: Hollow-Stem/Rotary (CME-550)	Land Surface Elevation	: 422.36
Sampling Method	: MacroCore (60")/NX Core	Top of Casing Elevation	425.04
Drilling Company	: PSC	X,Y Coordinates	: 2382789, 553901

Depth in Feet	DESCRIPTION	Surf. Elev. 422.36	Samples	Recovery inches	Qp TSF	USCS	GRAPHIC
50		372				CL	
	- Auger refusal at 53.7 feet bgs						
	LIMESTONE, weathered, thinly laminated, medium hard to hard, gray		37	5/5		LS	
55		367	38	8/27			
	SHALE, clayey, gray					SH	
	LIMESTONE, occasional shale partings		39	19/60		LS	
60		362					
	- laminated, fossiliferous, medium gray		40	54/60			
	SHALE, soft, dark gray					SH	
65		357					
	LIMESTONE, medium hard to hard, light gray		41	59/60		LS	
	Borehole diameter from 53.7 to 73.8 feet bgs = 3 7/8"						
70	RQD for 53.8 - 73.8' = 57% (Fair) Recovery = 173/240"	352					
			42	33/34			
	END BOREHOLE AT 73.8 FEET BLS						
75							

Well: MW-352
Elev.: 425.04



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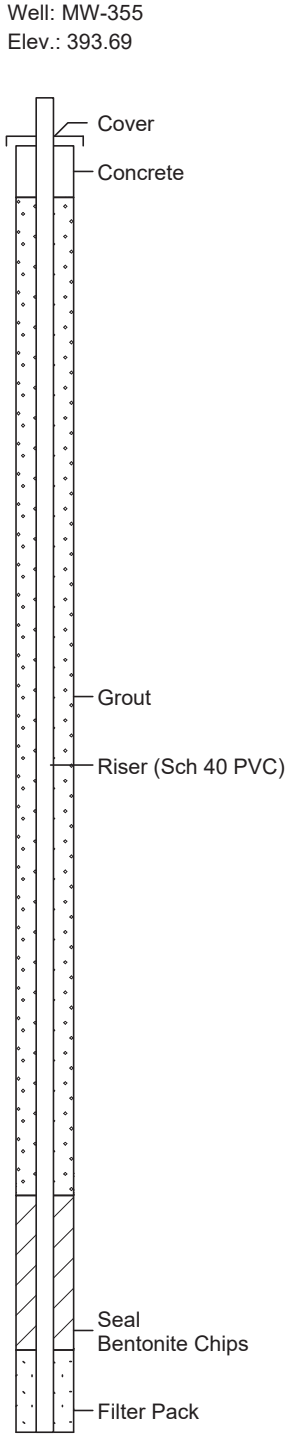
KELRON ENVIRONMENTAL
INCORPORATED

LOG OF BORING MW-355

Ash Pond System Monitoring Well Network
Baldwin Energy Complex
Dynegy Midwest Generation, Inc.
Location: Twp 04S, Rng 07W, 09 SW, SE, SW

Date Completed	: 09/14/2010	Driller	: Matt Cooper
Hole Diameter	: 8 1/2"OD / 4 1/4" ID; 3 7/8" rock	Geologist	: Brendon Wilder (PSC)
Drilling Method	: Hollow-Stem/Rotary (CME-550)	Land Surface Elevation	: 390.82
Sampling Method	: MacroCore (60")/NX Core	Top of Casing Elevation	393.69
Drilling Company	: Terra Drill, Inc.	X,Y Coordinates	: 2378145, 555980

Depth in Feet	DESCRIPTION	Surf. Elev. 390.82	Samples	Recovery inches	Qp TSF	USCS	GRAPHIC
0	Continuous boring to 20 feet below ground surface. Refer to boring log for adjacent well MW-155 for description of subsurface materials to 20 feet.	390					
5		385					
10		380					
15		375					
20	CLAYEY SAND, poorly graded, dark yellow brown, wet	370	1	23/23	3.5	SC	
	CLAY, lean, very stiff, gray with yellow-brown mottling - Auger refusal at 22.1 feet bgs					CL	
	LIMESTONE, lightly weathered, fine grained, slightly fossiliferous, medium soft, light gray banded with light red staining along horizontal fractures; three small shale lenses within 31 inch interval - coarse grained, medium soft to hard		2	108/124		LS	
25							



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NATURAL RESOURCE TECHNOLOGY

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Baldwin Energy Complex		MW-366

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jim Dittmaier Bulldog Drilling	12/3/2015	12/4/2015	4 1/4 HSA and rotary

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
MW-366	Feet (NAVD88)	422.54 Feet (NAVD88)	8.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒

State Plane 555,581.80 N, 2,381,171.15 E E/W

1/4 of 1/4 of Section , T N, R

Lat 38° 11' 31.8876"

Long -89° 52' 20.4414"

Local Grid Location ☐ N ☐ S Feet ☐ E ☐ W Feet

Facility ID	County	State	Civil Town/City/ or Village
	Randolph	Illinois	Baldwin

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			0 1 2 3 4 5 6 7 8 9 10 11 12	0 - 5.6' **FILL, SILTY CLAY** CL/ML. 5.6 - 33' **SILTY CLAY** CL/ML.	(FILL) CL/ML CL/ML								0-33' Blind Drilled. See logs TPZ-166 and B-13-4 for soil description.

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Brad Rueter

Firm Natural Resource Technology
234 W. Florida St., Fifth Floor, Milwaukee, WI 53204

Tel: (414) 837-3607
Fax: (414) 837-3608

NATURAL RESOURCE TECHNOLOGY

Boring Number MW-366

Sample									Soil Properties					
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram		Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				5.6 - 33' **SILTY CLAY** CL/ML. *(continued)*										
			13											
			14											
			15											
			16											
			17											
			18											
			19											
			20											
			21											
			22		CL/ML									
			23											
			24											
			25											
			26											
			27											
			28											
			29											
			30											
			31											
			32											

NATURAL RESOURCE TECHNOLOGY

Boring Number MW-366

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Soil Properties: Compressive Strength (tsf)	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			33	5.6 - 33' **SILTY CLAY** CL/ML. *(continued)*	CL/ML								
1 SS	23 18	17 21 20 50	33	33 - 35.6' **LEAN CLAY:** to **SHALE:** CL, gray, residual soil, hard (>4.5 tsf).	CL								
			34										
			35										
1 CORE	60 54		36	35.6 - 39.3' **SHALE:** BDX (SH), gray, highly decomposed, moderately fractured.	BDX (SH)								Core 1, RQD=54%
			37										
			38	38.4' limestone layer (approximately 2.5").									
			39										
			40	39.3 - 42.3' **LIMESTONE:** BDX (LS), cherty, intensely fractured.	BDX (LS)								
2 CORE	60 47		41										Core 2, RQD=32%
			42										
			43	42.3 - 42.9' **SHALE:** BDX (SH), dark gray, intensely fractured.	BDX (SH)								
				42.9 - 43.7' **SHALEY LIMESTONE:** BDX (LS/SH), intensely fractured.	BDX (LS/SH)								
			44	43.7 - 49.8' **SHALE:** BDX (SH), dark gray, moderately fractured.									
			45										
3 CORE	60 63		46										Core 3, RQD=73%
			47		BDX (SH)								
			48										
			49										
			50	49.8 - 54.3' **SHALEY LIMESTONE:** BDX (LS/SH), fossiliferous, slightly fractured.									
4 CORE	60 49		51		BDX (LS/SH)								Core 4, RQD=96%
			52										

NATURAL RESOURCE TECHNOLOGY

Boring Number MW-366

Sample									Soil Properties					
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram		Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				49.8 - 54.3' **SHALEY LIMESTONE**: BDX (LS/SH), fossiliferous, slightly fractured. *(continued)*										
			53	52.8' - 53.1 shale bed. 53.1' fossiliferous.	BDX (LS/SH)									
			54											
				54.3' End of Boring.										Bedrock corehole reamed 6" in diameter to 54' for well installation.

RAMBOLL

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Baldwin Power Plant		MW358

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Blake Weller Cascade Drilling	10/5/2022	10/8/2022	Sonic

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
MW358	Feet (NAVD88)	453.59 Feet (NAVD88)	6.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒

State Plane 556,726.26 N, 2,387,756.63 E E/W

1/4 of 1/4 of Section , T N, R

Lat 38° 11' 42.9882"

Long -89° 50' 57.9018"

Local Grid Location

Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	State	Civil Town/City/ or Village
	Randolph	IL	Baldwin

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	180 97		1 2 3 4 5 6 7 8 9 10 11 12	0 - 3.8' **SILT:** ML, very dark grayish brown (10YR 3/2), organic material (0-10%), moist to wet. 2.1' dry. 3.8 - 8.9' **CLAYEY SILT:** ML/CL, light gray (10YR 7/2), very dark grayish brown (10YR 3/2) and yellowish brown (10YR 5/8) mottling (20-30%), dry. 8.9 - 13' **SILTY CLAY WITH SAND:** (CL/ML)S, grayish brown (10YR 5/2), strong brown (7.5YR 5/6) and very dark brown (10YR 2/2) mottling (20-30%), organic material (0-10%), low toughness, low to medium plasticity, stiff.	ML ML/CL (CL/ML)S										CS= Core Sample Measured Rock Quality Designation (RQD) was modified due to drilling methods, modified RQD equals the sum of recovered core sections greater than 4 inches in length divided by total core recovery.

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

Firm Ramboll
234 W Florida Street, 5th Floor, Milwaukee, WI 53204
Tel: (414)837-3607
Fax: (414)837-3608

Boring Number MW358 Page 2 of 5

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			13		(CL/ML)S									
			13	13 - 17.8' **SILTY CLAY:** CL/ML, grayish brown (10YR 5/2), strong brown (7.5YR 5/6) and very dark brown (10YR 2/2) mottling (20-30%), low toughness, medium to high plasticity, stiff to very stiff.										
2 CS	60 60		15		CL/ML									
			16	16.1' mottling discontinues.										
			18	17.8 - 21' **SILTY CLAY WITH SAND:** (CL/ML)S, brown (10YR 5/3), strong brown (7.5YR 5/6) and gray (10YR 6/1) mottling (20-30%), gravel (5-15%), no dilatancy, high toughness, low to medium plasticity, hard, moist.	(CL/ML)S									
3 CS	48 36		20											
			21	21 - 26.5' **SHALE:** BDX (SH), dark gray (GLEY 1 4/N), weathered, thin bedding, moderately fractured.										
4 CORE	36 32		24	24' -25.2' wet.	BDX (SH)									RUN #4: Modified RQD = (21/32) = 66%
			26											
			27	26.5 - 27.5' **LIMESTONE:** BDX (LS), dark gray (5Y 4/1), shaley, fossiliferous, very strong.	BDX (LS)									
5 CORE	36 29		28	27.5 - 31.3' **SHALE:** BDX (SH), grayish black (N2), weathered, highly decomposed to residual soil, wet to moist.										RUN #5: Modified RQD = (0/29) = 0%
			29	29.3' thinly bedded, moderately decomposed.	BDX (SH)									
6 CORE	72 60		30	30' slightly decomposed to competent, moderately fractured.										RUN #6: Modified RQD = (45/60) = 75%
			31											
			32	31.3 - 32' **COAL:** COAL, black (N1).	COAL									

Boring Number MW358 Page 3 of 5

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			33	32 - 33' **SHALE:** BDX (SH), grayish black (N2), slightly decomposed to competent, moderately fractured, wet to moist.	BDX (SH)									
			34	33 - 36' **SHALEY LIMESTONE:** BDX (LS/SH), medium gray (N5), weathered, shaley, higly decomposed, slightly fractured.	BDX (LS/SH)									
			35											
7 CORE	72 71		36	36 - 40.8' **SHALEY LIMESTONE:** to **SHALE:** BDX (LS/SH), interbedded shale.										RUN #7: Modified RQD = (67/71) = 94%
			37											
			38		BDX (LS/SH)									
			39											
			40											
			41	40.8 - 42' **LIMESTONE:** BDX (LS), medium light gray (N6), strong to moderately fractured, slightly decomposed, narrow apertures.	BDX (LS)									
8 CORE	96 85		42	42 - 58.9' **SHALE:** BDX (SH), medium gray (N5) to medium dark gray (N4), weathered, weak, thinly bedded, moderately to highly fractured.										RUN #8: Modified RQD = (81/85) = 94%
			43											
			44											
			45											
			46											
			47		BDX (SH)									
			48	47.5' dark grayish brown (10YR 4/2), pale olive (5Y 6/4) discoloration, more competent.										
			49											
9 CORE	60 60		50	50.2' weak to moderate.										RUN #9: Modified RQD = (52/60) = 87%
			51	50.8' olive gray (5Y 5/2).										
			52											

Boring Number MW358 Page 4 of 5

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			53	42 - 58.9' **SHALE:** BDX (SH), medium gray (N5) to medium dark gray (N4), weathered, weak, thinly bedded, moderately to highly fractured. *(continued)* 52.2' dark grayish green (5GY 4/2).										
			54	54.1' medium dark gray (N4) to medium gray (N5), weak, highly decomposed, no visible bedding, dry.										
10 CORE	60 58		55		BDX (SH)									RUN #10: Modified RQD = (42/58) = 72%
			56	55.7' dark grayish green (5GY 4/2).										
			57	57.2' light brownish gray (10YR 6/2), thinly bedded, laminated.										
			58	58.2' medium dark gray (N4), strong, intensely fractured, thinly bedded.										
			59	58.9 - 64' **LIMESTONE:** BDX (LS), medium gray (N5), very strong, moderately fractured, visible laminations.										
11 CORE	36 31		60											RUN #11: Modified RQD = (8/31) = 26%
			61		BDX (LS)									
			62											
12 CORE	36 36		63											RUN #12: Modified RQD = (31/36) = 86%
			64	64 - 75.3' **SHALE:** BDX (SH), medium dark gray (N4) to medium gray (N5), strong, thinly bedded to laminated, moderately fractured. 64.3' grayish green (5GY 5/2), weathered, weak, decomposed.										
13 CORE	48 48		66											RUN #13: Modified RQD = (43/48) = 90%
			67											
			68		BDX (SH)									
			69											
			70	69.3' medium dark gray (N4), weathered, moderate strength.										
14 CORE	60 58		71											RUN# 14: Modified RQD = (57/58) = 99%
			72											

Boring Number MW358 Page 5 of 5

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			73	64 - 75.3' **SHALE:** BDX (SH), medium dark gray (N4) to medium gray (N5), strong, thinly bedded to laminated, moderately fractured. *(continued)*	BDX (SH)									
			74											
15 CORE	60 56		75											RUN #15: Modified RQD = Not Recorded
			76	75.3 - 77.1' **LIMESTONE:** BDX (LS), gray (5Y 6/1), fossiliferous, very strong.	BDX (LS)									
			77											
			78	77.1 - 78.2' **SHALE:** BDX (SH), medium dark gray (N4), weathered, weak to moderate strength, moderately decomposed.	BDX (SH)									
			79	78.2 - 84.8' **LIMESTONE:** BDX (LS), medium dark gray (N4) to medium gray (N5), shaley, fossiliferous, very strong, moderately fractured, laminations (0-5%).										
16 CORE	60 51		80											RUN #16: Modified RQD = (23/51) = 45%
			81		BDX (LS)									
			82											
			83											
			84											
17 CORE	60 60		85	84.8 - 90' **SHALE:** BDX (SH), dark gray (N3), weathered, weak to moderate strength, moderately decomposed, moderately fractured, thin bedding.										RUN #17: Modified RQD = (28/60) = 47%
			86											
			87		BDX (SH)									
			88											
			89											
			90	90' End of Boring.										

NATURAL RESOURCE TECHNOLOGY

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Baldwin Energy Complex		MW-391

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Jim Dittmaier Bulldog Drilling	3/7/2016	3/10/2016	4 1/4 HSA and rotary

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
MW-391	Feet (NAVD88)	424.24 Feet (NAVD88)	8.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 555,100.63 N, 2,380,477.06 E E/W
1/4 of 1/4 of Section , T N, R

Lat 38° 11' 27.1285"
Long -89° 52' 29.1339"

Local Grid Location ☐N ☐S Feet ☐E ☐W Feet

Facility ID	County	State	Civil Town/City/ or Village
	Randolph	Illinois	Baldwin

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1 2 3 4 5 6 7 8 9 10 11 12	0 - 4' **SILTY CLAY** CL/ML. 4 - 10.8' **SILTY CLAY** CL/ML. 10.8 - 12' **CLAYEY SILT** ML/CL.	CL/ML CL/ML ML/CL								0-35' Blind Drilled. See log MW-387 for soil description.

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

Firm Natural Resource Technology
234 W. Florida St., Fifth Floor, Milwaukee, WI 53204
Tel: (414) 837-3607
Fax: (414) 837-3608

NATURAL RESOURCE TECHNOLOGY

Boring Number MW-391

Sample									Soil Properties					
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram		Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			12	12 - 24' **SILTY CLAY** CL/ML.										
			13											
			14											
			15											
			16											
			17											
			18		CL/ML									
			19											
			20											
			21											
			22											
			23											
			24	24 - 27.4' **LEAN CLAY:** CL.										
			25											
			26		CL									
			27											
			28	27.4 - 28.5' **SILTY SAND:** SM.	SM									
			29	28.5 - 32.5' **SILTY CLAY** CL/ML.										
			30		CL/ML									
			31											
			32											

NATURAL RESOURCE TECHNOLOGY

Boring Number MW-391

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Soil Properties: Compressive Strength (tsf)	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			28	28.5 - 32.5' **SILTY CLAY** CL/ML. *(continued)*									
			32	32.5 - 34' **POORLY-GRADED SAND:** SP.	SP								
			34	34 - 34.5' **SILTY SAND:** SM.	SM								
				34.5 - 35' **SILTY CLAY** CL/ML.	CL/ML								
1 CS	60 52.5		35	35 - 35.8' **LEAN CLAY:** CL, brown, wet, possible wash out of clay.	CL								Core 1, RQD = 25%
			36	35.8 - 40.7' **LIMESTONE:** BDX (LS), brown and tan, moderately fractured (extremely narrow to narrow apertures), oxidation discoloration.									
			37	37.4' white, intensely fractured (extremely narrow to narrow apertures).									
			38		BDX (LS)								
			39										
2 CS	60 25.5		40										Core 2, RQD = 0%
			41	40.7 - 45.8' **SHALE:** BDX (SH), dark gray, highly decomposed, intensely fractured (tight to very narrow mud-filled fractures).									
			42										
			43		BDX (SH)								
			44										
3 CS	60 49.5		45										Core 3, RQD = 80%
			46	45.8 - 47.5' **SHALEY LIMESTONE:** BDX (LS/SH), light gray, moderately fractured (very narrow apertures).									
			47		BDX (LS/SH)								
			48	47.5 - 49.7' **LIMESTONE:** BDX (LS), white, massive, slightly fractured.									
			49		BDX (LS)								
4 CS	60 64		50	49.7 - 60' **SHALEY LIMESTONE:** BDX (LS/SH), light gray, medium to thinly bedded, moderately to highly decomposed, moderately fractured (tight to narrow apertures).									Core 4, RQD = 55%
			51		BDX (LS/SH)								
			52										

NATURAL RESOURCE TECHNOLOGY

Boring Number MW-391

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			53	49.7 - 60' **SHALEY LIMESTONE:** BDX (LS/SH), light gray, medium to thinly bedded, moderately to highly decomposed, moderately fractured (tight to narrow apertures). *(continued)*									
			54										
5 CS	60 58.5		55	54.7' light gray, moderately decomposed, moderately fractured, decomposition and fracture density decrease with depth.									Core 5, RQD = 96%
			56		BDX (LS/SH)								
			57										
			58										
			59										
6 CS	60 52.5		60	60 - 74.4' **LIMESTONE:** BDX (LS), white, massive, slightly fractured (extremely narrow to very narrow apertures).									Core 6, RQD =99%
			61										
			62										
			63										
			64										
7 CS	60 63.25		65	64.4' slightly fractured (very narrow aperture).									Core 7, RQD = 100%
			66		BDX (LS)								
			67										
			68										
			69										
8 CS	60 55		70	69.8' unfractured.									Core 8, RQD = 100%
			71										
			72										

NATURAL RESOURCE TECHNOLOGY

Boring Number MW-391

Sample									Soil Properties					
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram		Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			73 74	60 - 74.4' **LIMESTONE:** BDX (LS), white, massive, slightly fractured (extremely narrow to very narrow apertures). *(continued)*	BDX (LS)									
				74.4' End of Boring.										Bedrock corehole reamed to 6" in diameter to 72' bgs for well installation.

RAMBOLL

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Baldwin Power Plant		MW392

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Blake Weller Cascade Drilling	9/9/2022	9/26/2022	Sonic

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
MW392	Feet (NAVD88)	434.07 Feet (NAVD88)	6.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒

State Plane 558,140.20 N, 2,382,717.92 E E/W

1/4 of 1/4 of Section , T N, R

Lat 38° 11' 57.132"

Long -89° 52' 0.9632"

Local Grid Location

Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	State	Civil Town/City/ or Village
	Randolph	IL	Baldwin

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	120 46		0	**0 - 1.2' FILL, WELL-GRADED GRAVEL WITH CLAY:** GW-GC, pinkish gray (7.5YR 6/2), angular, moist.	(FILL) GW-GC									CS= Core Sample Measured Rock Quality Designation (RQD) was modified due to drilling methods, modified RQD equals the sum of recovered core sections greater than 4 inches in length divided by total core recovery.
			1	1.2 - 16' **FILL, LEAN CLAY:** CL, light brown (7.5YR 6/4), sand (0-5%), no dilatancy, low to medium plasticity, moist.										
			2											
			3											
			4											
			5											
			6		(FILL) CL									
			7											
			8											
			9											
2 CS	120 62		10											
			11											
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

Firm Ramboll
234 W Florida Street, 5th Floor, Milwaukee, WI 53204
Tel: (414)837-3607
Fax: (414)837-3608

Boring Number MW392 Page 2 of 5

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			13	1.2 - 16' **FILL, LEAN CLAY:** CL, light brown (7.5YR 6/4), sand (0-5%), no dilatancy, low to medium plasticity, moist. *(continued)*	(FILL) CL									
			14											
			15											
			16	16 - 20' **LEAN CLAY:** CL, light brown (7.5YR 6/4), sand (0-5%), no dilatancy, low to medium plasticity, moist.										
			17											
			18		CL									
			19											
3 CS	120 33		20	20 - 33' **LEAN CLAY:** CL, pinkish gray (7.5YR 6/2), sand (0-5%), medium to high plasticity, stiff, moist.										
			21											
			22											
			23											
			24											
			25											
			26		CL									
			27											
			28											
			29											
4 CS	120 104		30	30' increasing sand and gravel content.										
			31											
			32											

Boring Number MW392 Page 3 of 5

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			33	20 - 33' **LEAN CLAY:** CL, pinkish gray (7.5YR 6/2), sand (0-5%), medium to high plasticity, stiff, moist. *(continued)*	CL									
			34	33 - 35' **WELL-GRADED SAND WITH SILT AND GRAVEL:** (SW-SM)g, fine to medium sand, dry.	(SW-SM)g									
			35	35 - 36.5' **SANDY SILT WITH GRAVEL:** s(ML)g, light yellowish brown (10YR 6/4), dry.	s(ML)g									
			36											
			37	36.5 - 39' **CLAYEY SILT:** ML/CL, gray (7.5YR 5/1), sand (5-10%), coal (0-5%), gravel (0-5%), dry.	ML/CL									
			38											
			39	39 - 40' **SILTY CLAY:** CL/ML, sand (0-5%), low to medium plasticity, stiff.	CL/ML									
5 CS	120 108		40	40 - 48' **SILT WITH SAND:** (ML)s, light brownish gray (10YR 6/2), dry.										
			41											
			42											
			43											
			44	44' increasing clay content.	(ML)s									
			45	45' (2.5Y 6/2).										
			46											
			47											
			48	48 - 52' **SILT:** ML, gray (2.5Y 5/1), sand (0-5%), dry.										
			49											
6 CS	84 81		50		ML									
			51											
			52											

Boring Number MW392 Page 4 of 5

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			52	52 - 57' **SHALE:** BDX (SH), dark gray (5Y 4/1), highly weathered, hard, dry.										
			53	53' very dark gray (7.5YR 3/1).										
			54											
			55		BDX (SH)									
			56											
			57											
7 CORE	60 4		57	57 - 57.5' **LIMESTONE:** BDX (LS), gray (5Y 6/1), slightly fractured.	BDX (LS)									RUN #7: Modified RQD = 0% (No Solid Recovery > 4")
			58	57.5 - 70' **SHALE:** BDX (SH), dark gray (5Y 4/1), weathered, soft, moderately fractured to highly fractured limestone beds (0-5%).										
			59											
			60											
			61											
8 CORE	96 78		62											RUN #8: Modified RQD = (28/78) = 36%
			63											
			64		BDX (SH)									
			65											
			66											
			67	66.3' - 67.2' highly fractured, very soft, wet.										
			68											
			69											
			70											
9 CORE	120 62		71	70 - 74.4' **LIMESTONE:** BDX (LS), gray (5Y 6/1), moderately to intensely fractured, moderately wide apertures.	BDX (LS)									RUN #9: Modified RQD = (28/78) = 36%
			72											

Boring Number MW392 Page 5 of 5

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			73	70 - 74.4' **LIMESTONE:** BDX (LS), gray (5Y 6/1), moderately to intensely fractured, moderately wide apertures. *(continued)*	BDX (LS)									
			74											
			75	74.4 - 81.8' **SHALE:** BDX (SH), medium dark gray (N4) to dark gray (N3), slightly weathered, moderately fractured, thinly bedded.	BDX (SH)									
			76											
			77											
			78											
			79											
10 CORE	48 48		80											RUN #10: Modified RQD = (28/48) = 58%
			81											
			82	81.8 - 84' **LIMESTONE:** BDX (LS), medium light gray (N6), shaley, fossiliferous, moderately fractured, thinly bedded.	BDX (LS)									
			83	83.2' medium gray (N5).										
			84	84' End of Boring.										

RAMBOLL

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Baldwin Power Plant		MW393

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Blake Weller Cascade Drilling	9/9/2022	10/4/2022	Sonic

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
MW393	Feet (NAVD88)	434.59 Feet (NAVD88)	6.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒

State Plane 558,133.57 N, 2,383,944.49 E E/W

1/4 of 1/4 of Section , T N, R

Lat 38° 11' 57.027"

Long -89° 51' 45.5976"

Local Grid Location

Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	State	Civil Town/City/ or Village
	Randolph	IL	Baldwin

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	120 86		0	0 - 1' **FILL, WELL-GRADED GRAVEL:** GW, pinkish gray (7.5YR 6/2), angular, moist.	(FILL) GW									CS= Core Sample
			1	1 - 20' **FILL, LEAN CLAY:** CL, brown (7.5YR 6/4), sand (0-5%), no dilatancy, low to medium plasticity, moist.										Measured Rock Quality Designation (RQD) was modified due to drilling methods, modified RQD equals the sum of recovered core sections greater than 4 inches in length divided by total core recovery.
			2											
			3											
			4											
			5											
			6		(FILL) CL									
			7											
			8											
			9											
2 CS	120 120		10	10' sand (0-5%), iron concretions (0-5%).										
			11											
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

Firm Ramboll
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Boring Number MW393 Page 2 of 5

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			13	1 - 20' **FILL, LEAN CLAY:** CL, brown (7.5YR 6/4), sand (0-5%), no dilatancy, low to medium plasticity, moist. *(continued)*										
			14											
			15											
			16		(FILL) CL									
			17											
			18	18' medium to high plasticity.										
			19											
3 CS	120 120		20	20 - 24' **LEAN CLAY:** CL, light brown (7.5YR 6/4), mottling, sand (0-5%), medium to high plasticity, cohesive, moist.										
			21											
			22		CL									
			23											
			24	24 - 27' **CLAYEY SAND:** SC, gray (10YR 6/1), fine to medium sand, wet.										
			25											
			26		SC									
			27	27 - 31' **SILT WITH SAND:** (ML)s, dark gray (7.5YR 4/1), sand (0-5%), moist.										
			28											
			29		(ML)s									
4 CS	120 105		30	30' coal fragments (0-5%).										
			31	31 - 40' **SILTY CLAY:** CL/ML, dark gray (7.5Y 4/1), organic material (0-5%), gravel (0-5%), stiff to very stiff, moist.										
			32		CL/ML									

Boring Number MW393 Page 3 of 5

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			33	31 - 40' **SILTY CLAY:** CL/ML, dark gray (7.5Y 4/1), organic material (0-5%), gravel (0-5%), stiff to very stiff, moist. *(continued)*	CL/ML									
			34											
			35											
			36											
			37											
			38											
			39											
5 CS	120 120		40	40 - 50' **SILT:** ML, grayish brown (2.5Y 5/2), very stiff to hard, platy, dry.	ML									
			41											
			42											
			43											
			44											
			45											
			46											
			47											
			48											
			49											
6 CS	120 92		50	50 - 55' **SILT:** ML, dark gray (7.5YR 4/1), sand (0-5%), very stiff to hard, dry.	ML									
			51											
			52											

Boring Number MW393 Page 4 of 5

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			50	50 - 55' **SILT:** ML, dark gray (7.5YR 4/1), sand (0-5%), very stiff to hard, dry. *(continued)*	ML									
			53											
			54											
			55	55 - 57' **CLAYEY SILT:** ML/CL, gray (10YR 6/1), sand (0-5%), gravel (0-5%), medium plasticity, moist.	ML/CL									
			56											
			57	57 - 60' **LIMESTONE:** BDX (LS), gray (10YR 6/1), rock flour and angular chips (<2").	BDX (LS)									
			58											
			59											
7 CORE	120 60		60	60 - 70' **SHALE:** BDX (SH), medium gray (N5), weathered, very weak, residual soil, soft, slightly fractured.	BDX (SH)									RUN #7: Modified RQD = (31/60) = 52%
			61											
			62											
			63											
			64											
			65											
			66											
			67											
			68											
			69											
8 CORE	42 40		70	70 - 73.5' **LIMESTONE:** BDX (LS), medium dark gray (N4), weathered, shaley, thinly bedded, moderately fractured.	BDX (LS)									RUN #8: Modified RQD = (32/40) = 80%
			71											
			72											

Boring Number MW393 Page 5 of 5

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			73	70 - 73.5' **LIMESTONE:** BDX (LS), medium dark gray (N4), weathered, shaley, thinly bedded, moderately fractured. *(continued)* 72' medium gray (N5).	BDX (LS)									
9 CORE	78 40		74	73.5 - 85' **SHALE:** BDX (SH), medium gray (N5), weathered, moderately to slightly fractured, thinly laminated.										RUN #9: Modified RQD = (30/40) = 75%
			75											
			76											
			77											
			78											
			79		BDX (SH)									
10 CORE	60 45		80											RUN #10: Modified RQD = (34/45) = 76%
			81											
			82											
			83											
			84	83.5' more competent.										
			85	85' End of Boring.										

RAMBOLL

SOIL BORING LOG INFORMATION

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Baldwin Power Plant		MW394

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Blake Weller Cascade Drilling	9/25/2022	10/5/2022	Sonic

Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
MW394	Feet (NAVD88)	435.51 Feet (NAVD88)	6.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒

State Plane 558,123.63 N, 2,385,095.76 E E/W

1/4 of 1/4 of Section , T N, R

Lat 38° 11' 56.8911"

Long -89° 51' 31.1756"

Local Grid Location

Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	State	Civil Town/City/ or Village
	Randolph	IL	Baldwin

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 CS	72 / 67		0	**0 - 2.6' FILL, WELL-GRADED GRAVEL WITH CLAY:** GW-GC, brown (10YR 4/3), angular, moist.	(FILL) GW-GC									CS= Core Sample Measured Rock Quality Designation (RQD) was modified due to drilling methods, modified RQD equals the sum of recovered core sections greater than 4 inches in length divided by total core recovery.
			1											
			2											
			3	2.6 - 20' **LEAN CLAY:** CL, brown (10YR 5/3), reddish brown bottling (20%), sand (0-5%), low to medium plasticity, very stiff to hard, moist.					4					
			4											
			5						4					
2 CS	120 / 120		6											
			7		CL				2.5					
			8						3.5					
			9						2					
				9.2' brown (7.5YR 5/3), medium to high plasticity.										
			10						2					
			11						3					
			12						2.25					

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

Firm Ramboll
234 W Florida Street, 5th Floor, Milwaukee, WI 53204
Tel: (414)837-3607
Fax: (414)837-3608

Boring Number MW394 Page 2 of 5

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			13	2.6 - 20' **LEAN CLAY:** CL, brown (10YR 5/3), reddish brown bottling (20%), sand (0-5%), low to medium plasticity, very stiff to hard, moist. *(continued)*					2.25					
			14	14' low to medium plasticity.										
			15						2.5					
3 CS	120 120		16		CL									
			17	16.5' increasing sand and gravel content, gray (GLEY 1 5/1) iron concretions (50%).										
			18											
			19											
			20	20 - 22.1' **SILTY SAND:** SM, yellowish brown (10YR 5/6), fine sand, clay (0-5%), moist.										
			21		SM									
			22	22.1 - 36.8' **LEAN CLAY:** CL, dark yellowish brown (10YR 4/4), greenish gray (GLEY 1 5/10Y) and yellowish brown (10YR 5/6) mottling, sand (0-5%), medium to high plasticity, hard, moist.					4.5					
			23											
			24						4.5					
			25											
			26						4.5					
4 CS	120 112		27		CL				4.5					
			28						4.5					
			29						4.5					
			30						4.5					
			31						4.5					
			32						4.5					

Boring Number MW394 Page 3 of 5

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			33	22.1 - 36.8' **LEAN CLAY:** CL, dark yellowish brown (10YR 4/4), greenish gray (GLEY 1 5/10Y) and yellowish brown (10YR 5/6) mottling, sand (0-5%), medium to high plasticity, hard, moist. *(continued)*					3.75					
			34						4.25					
			35	34.4' olive yellow (5Y 6/6), low to medium plasticity.	CL				4.5					
5 CS	120 113		36											
			37	36.8 - 48' **Weathered SHALE Bedrock:** BDX (SH), pale olive (5Y 6/3), weathered, argillaceous, fissile, moist.										
			38											
			39											
			40	40' olive gray (5Y 5/2).										
			41											
			42		BDX (SH)									
			43											
			44											
			45											
6 CS	96 96		46											
			47											
			48	48 - 58' **LIMESTONE:** to **SHALE:** BDX (LS), olive gray (5Y 4/2), interbedded limestone and shale, fissile.										
			49											
			50	50' - 50.2' limestone, very strong.	BDX (LS)									
			51											
			52											

Boring Number MW394 Page 4 of 5

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			53	48 - 58' **LIMESTONE:** to **SHALE:** BDX (LS), olive gray (5Y 4/2), interbedded limestone and shale, fissile. *(continued)*										
7 CS	48 48		54	53.7' - 53.9' limestone, very strong. 54' - 55.6' dark gray (10YR 4/1) to gray (10YR 5/1), more competent.										
			55		BDX (LS)									
			56	55.6' gray (10YR 6/1) to dark gray (10YR 4/1), more competent.										
			57											
8 CORE	18 14		58	58 - 59.7' **LIMESTONE:** BDX (LS), medium gray (N5), shaley, laminated, moderately fractured.										RUN #8: Modified RQD = (4/14) = 29%
			59		BDX (LS)									
9 CORE	60 60		60	59.7 - 68' **SHALE:** BDX (SH), medium dark gray (N4), weathered, very weak to weak, thinly bedded, moderately fractured.										RUN #9: Modified RQD = (48/60) = 80%
			61											
			62											
			63											
			64		BDX (SH)									
10 CORE	57 56		65	64.5 - 67.2' highly decomposed, weathered, wet.										RUN #10: Modified RQD = Not Recorded
			66											
			67											
			68	68 - 68.4' **LIMESTONE:** BDX (LS), light olive gray (5Y 6/2) to olive gray (5/2).	BDX (LS)									
			69	68.4 - 70.8' **SHALE:** BDX (SH), medium dark gray (N4), weathered, very weak to weak, thinly bedded, moderately fractured.										
11 CORE	68 68		70		BDX (SH)									RUN #11: Modified RQD = (42/68) = 62%
			71	70.8 - 71' **LIMESTONE:** BDX (LS), dark gray (N3), shaley.	BDX (LS)									
			72	71 - 77.6' **SHALE:** BDX (SH), dark gray (N3),										

Boring Number MW394 Page 5 of 5

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID 10.6 eV Lamp	Soil Properties: Compressive Strength (tsf)	Soil Properties: Moisture Content	Soil Properties: Liquid Limit	Soil Properties: Plasticity Index	Soil Properties: P 200	RQD/ Comments
			73	strong, thinly bedded, moderately fractured. 71 - 77.6' **SHALE:** BDX (SH), dark gray (N3), strong, thinly bedded, moderately fractured. *(continued)*										
			74											
12 CORE	60 59		75		BDX (SH)									RUN #12: Modified RQD = (44/59) = 75%
			76											
			77											
			78	77.6 - 80' **LIMESTONE:** BDX (LS), medium gray (N5), shaley, weak, moderately fractured.										
			79		BDX (LS)									
13 CORE	60 48		80	80 - 85' **SHALE:** BDX (SH), medium dark gray (N4), weathered, weak, thinly bedded, moderately fractured, moist to wet.										RUN #13: Modified RQD = (40/48) = 83%
			81											
			82											
			83		BDX (SH)									
			84											
			85	85' End of Boring.										

Attachment E

Site Solids Bulk Characterization & Total Metals Analytical Data

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Trace Metals - Strong Acid Digest, ICP-MS

Project : PO# GLP8064

26-September-2023

Date Rec. : 31 July 2023
LR Report: **CA19071-JUL23**
Reference: Baldwin - PO# GLP8064

Copy: #1

Geosyntec Consultant
Attn : Allison Kreinberg/Brian Aces

2100 Commonwealth Boulevard, Suit 100
Ann Arbor, Michigan
48108, USA

Phone: 734-794-1545
Fax:

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: BAL-1-15-20-20230620	6: BAL-1-20-25-20230620	7: BAL-1-35-40-20230620
Sample Date & Time					20-Jun-23 11:00	20-Jun-23 11:15	20-Jun-23 12:30
Ag [µg/g]	23-Sep-23	02:32	25-Sep-23	17:30	< 0.5	< 0.5	< 0.5
Al [µg/g]	23-Sep-23	02:32	25-Sep-23	17:30	42000	66000	56000
As [µg/g]	23-Sep-23	02:32	25-Sep-23	17:30	4.3	11	6.1
Ba [µg/g]	23-Sep-23	02:32	25-Sep-23	17:30	500	560	150
Be [µg/g]	23-Sep-23	02:32	25-Sep-23	17:30	1.1	1.9	1.6
Bi [µg/g]	23-Sep-23	02:32	25-Sep-23	17:30	0.13	0.23	0.15
Ca [µg/g]	23-Sep-23	02:32	25-Sep-23	17:30	32000	57000	120000
Cd [µg/g]	23-Sep-23	02:32	25-Sep-23	17:30	0.23	0.30	0.34
Co [µg/g]	23-Sep-23	02:32	25-Sep-23	17:30	7.7	13	8.6
Cr [µg/g]	23-Sep-23	02:32	25-Sep-23	17:30	47	74	70
Cu [µg/g]	23-Sep-23	02:32	25-Sep-23	17:30	11	25	8.9
Fe [µg/g]	23-Sep-23	02:32	25-Sep-23	17:30	19000	38000	22000
K [µg/g]	23-Sep-23	02:32	25-Sep-23	17:30	17000	22000	13000
Li [µg/g]	23-Sep-23	02:32	25-Sep-23	17:30	19	44	31
Mg [µg/g]	23-Sep-23	02:32	25-Sep-23	17:30	15000	21000	22000
Mn [µg/g]	23-Sep-23	02:32	25-Sep-23	17:30	770	830	190
Mo [µg/g]	23-Sep-23	02:32	25-Sep-23	17:30	1.2	1.7	0.8
Ni [µg/g]	23-Sep-23	02:32	25-Sep-23	17:30	20	38	32
Pb [µg/g]	23-Sep-23	02:32	25-Sep-23	17:30	13	17	10
Sb [µg/g]	23-Sep-23	02:32	25-Sep-23	17:30	< 0.8	< 0.8	< 0.8
Se [µg/g]	23-Sep-23	02:32	25-Sep-23	17:30	0.2	0.6	0.9
Sn [µg/g]	23-Sep-23	02:32	25-Sep-23	17:30	< 6	6.5	6.9
Sr [µg/g]	23-Sep-23	02:32	25-Sep-23	17:30	150	170	390
Ti [µg/g]	23-Sep-23	02:32	25-Sep-23	17:30	1900	3000	2300
Tl [µg/g]	23-Sep-23	02:32	25-Sep-23	17:30	0.42	0.61	0.39
U [µg/g]	23-Sep-23	02:32	25-Sep-23	17:30	1.7	2.5	3.2
V [µg/g]	23-Sep-23	02:32	25-Sep-23	17:30	57	110	70
Y [µg/g]	23-Sep-23	02:32	25-Sep-23	17:30	13	20	14
Zn [µg/g]	23-Sep-23	02:32	25-Sep-23	17:30	43	87	74

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SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Trace Metals - Strong Acid Digest, ICP-MS

Project : PO# GLP8064

LR Report : **CA19071-JUL23**

Analysis	8: BAL-1-42-46-20230620	9: BAL-1-42-46-2-20230620	10: BAL-2-50-60-20230621	11: BAL-2-60-70-20230621	12: BAL-3-40-52-20230621	13: BAL-4-50-51-20230622
Sample Date & Time	20-Jun-23 13:00	20-Jun-23 13:30	21-Jun-23 09:00	21-Jun-23 09:30	21-Jun-23 14:00	21-Jun-23 16:40
Ag [µg/g]	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Al [µg/g]	5900	5900	36000	16000	81000	61000
As [µg/g]	1.9	1.6	5.3	7.5	4.9	8.8
Ba [µg/g]	59	46	73	45	180	160
Be [µg/g]	0.24	0.25	1.0	0.48	2.3	2.1
Bi [µg/g]	< 0.09	< 0.09	0.10	< 0.09	0.26	0.20
Ca [µg/g]	320000	340000	190000	220000	95000	92000
Cd [µg/g]	0.32	0.38	0.13	0.88	0.60	0.14
Co [µg/g]	1.3	1.3	4.2	2.5	6.2	9.9
Cr [µg/g]	13	14	46	42	110	78
Cu [µg/g]	2.9	2.2	4.2	3.9	10	13
Fe [µg/g]	5500	5300	16000	11000	23000	23000
K [µg/g]	2100	1900	7900	3900	21000	18000
Li [µg/g]	4.8	4.7	14	16	37	16
Mg [µg/g]	4600	4600	16000	24000	12000	10000
Mn [µg/g]	270	270	330	200	220	370
Mo [µg/g]	0.6	0.5	0.5	2.2	0.7	0.5
Ni [µg/g]	4.9	4.7	17	16	26	36
Pb [µg/g]	3	3	6	5	17	20
Sb [µg/g]	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Se [µg/g]	0.2	0.2	0.4	0.8	2.7	1.6
Sn [µg/g]	< 6	< 6	6.2	< 6	7.5	6.8
Sr [µg/g]	470	510	360	460	320	230
Ti [µg/g]	310	310	1400	760	3500	2500
Tl [µg/g]	0.06	0.06	0.21	0.19	0.50	0.44
U [µg/g]	1.1	1.0	1.9	2.4	3.7	2.9
V [µg/g]	14	14	45	29	150	68
Y [µg/g]	8.8	8.7	8.9	9.3	19	32
Zn [µg/g]	36	42	30	83	68	49

Analysis	14: BAL-4-51-55-20230622	15: BAL-4-55-72-20230622
Sample Date & Time	22-Jun-23 08:40	22-Jun-23 10:10
Ag [µg/g]	< 0.5	< 0.5
Al [µg/g]	21000	4800
As [µg/g]	4.0	3.2
Ba [µg/g]	64	19
Be [µg/g]	0.63	0.24
Bi [µg/g]	< 0.09	< 0.09
Ca [µg/g]	260000	340000
Cd [µg/g]	0.21	0.68
Co [µg/g]	4.6	1.6

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SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Trace Metals - Strong Acid Digest, ICP-MS

Project : PO# GLP8064

LR Report : **CA19071-JUL23**

Analysis	14: BAL-4-51-55-20230622	15: BAL-4-55-72-20230622
Cr [µg/g]	30	11
Cu [µg/g]	3.6	1.7
Fe [µg/g]	12000	5600
K [µg/g]	4700	1200
Li [µg/g]	7.4	3.6
Mg [µg/g]	5700	4500
Mn [µg/g]	1200	590
Mo [µg/g]	0.3	1.0
Ni [µg/g]	19	8.0
Pb [µg/g]	7	4
Sb [µg/g]	< 0.8	< 0.8
Se [µg/g]	0.3	0.5
Sn [µg/g]	< 6	< 6
Sr [µg/g]	410	530
Ti [µg/g]	910	210
Tl [µg/g]	0.13	0.04
U [µg/g]	1.2	2.1
V [µg/g]	28	9.4
Y [µg/g]	11	7.6
Zn [µg/g]	34	87

Catharine Arnold

CHARTERED CATHARINE ARNOLD CHEMIST

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

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SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

28-February-2023

Ramboll Americas Engineering Solutions, Inc.
Attn : Evvan Plank

P.O# Box 4873
Syrascuse, New York
13221-7873, USA

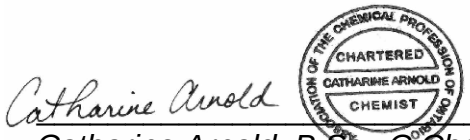
Phone: 315-463-7554
Fax:

Date Rec. : 24 November 2022
LR Report: **CA19224-NOV22**
Reference: Baldwon Power Plant Drilling

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	6: MW-358 (47-49)	7: MW-358 (86-88)	8: MW-392 (80-82)	12: MW-392 (66-68)
Sample Date & Time					06-Oct-22 15:00	08-Oct-22 18:00	26-Sep-22 16:00	26-Sep-22 12:00
Hg MS [ug/g]	09-Dec-22	16:29	12-Dec-22	15:05	< 0.05	< 0.05	< 0.05	< 0.05
As [µg/g]	09-Dec-22	16:29	12-Dec-22	15:05	2.1	11	17	1.0
B [µg/g]	09-Dec-22	16:29	12-Dec-22	15:05	11	16	16	13
Ba [µg/g]	09-Dec-22	16:29	12-Dec-22	15:05	140	45	40	21
Be [µg/g]	09-Dec-22	16:29	12-Dec-22	15:05	0.85	0.67	0.85	0.70
Cd [µg/g]	09-Dec-22	16:29	12-Dec-22	15:05	< 0.02	< 0.02	0.36	0.09
Co [µg/g]	09-Dec-22	16:29	12-Dec-22	15:05	4.4	23	12	6.2
Cr [µg/g]	09-Dec-22	16:29	12-Dec-22	15:05	9.5	12	17	16
Li [µg/g]	09-Dec-22	16:29	12-Dec-22	15:05	6	20	8	15
Mo [µg/g]	09-Dec-22	16:29	12-Dec-22	15:05	0.3	0.3	0.3	0.3
Pb [µg/g]	09-Dec-22	16:29	12-Dec-22	15:05	5.7	9.6	17	4.9
Se [µg/g]	09-Dec-22	16:29	12-Dec-22	15:05	< 0.7	< 0.7	1.4	< 0.7
Tl [µg/g]	09-Dec-22	16:29	12-Dec-22	15:05	0.05	0.06	0.04	0.03



Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003246025

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LR Report : **CA19224-NOV22**

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28-February-2023

Ramboll Americas Engineering Solutions, Inc.
Attn : Evvan Plank

P.O# Box 4873
Syrascuse, New York
13221-7873, USA

Phone: 315-463-7554
Fax:

Date Rec. : 24 November 2022
LR Report: **CA19226-NOV22**
Reference: Baldwin Power Plant Drilling

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	6: MW-358 (47-49)	7: MW-358 (86-88)	8: MW-392 (80-82)	12: MW-392 (66-68)
Sample Date & Time					06-Oct-22 15:00	08-Oct-22 18:00	26-Sep-22 16:00	26-Sep-22 12:00
Cl [µg/g]	15-Dec-22	20:55	---	---	22	70	34	45
SO4 [µg/g]	15-Dec-22	20:55	29-Dec-22	13:45	50	620	280	100
F [%]	08-Dec-22	18:18	12-Dec-22	08:47	0.091	0.091	0.42	0.095
TKN [as N %]	30-Nov-22	09:28	02-Dec-22	11:00	0.06	0.05	< 0.01	0.05
Ra226 [Bq/g]	12-Dec-22	08:48	12-Dec-22	14:33	0.07	< 0.01	0.09	< 0.01

Catharine Arnold

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003246129

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Attachment F
X-Ray Fluorescence Analytical Data

ANALYSIS REPORT BBM23-31379

To F400101 SGS CANADA INC
LISA THOMPSON
185 Concession Street
Lakefield K0L 2H0
ON
CANADA

Order Number	PO#	Date Received	23-Aug-2023
Submission Number	CA19072-JUL23 / 11 Pulp	Date Analysed	30-Aug-2023 - 06-Sep-2023
Number of Samples	11	Date Completed	09-Sep-2023
		SGS Order Number	BBM23-31379

Methods Summary

Number of Sample	Method Code	Description
11	G_PHY01V	Loss on ignition (LOI), Furnace, variable wt, variable temp
11	GO_XRF72	Borate Fusion, XRF, Ore Grade

Comments

Preparation of samples was performed at the SGS Lakefield site.
Analysis of samples was performed at the SGS Burnaby site.

Authorised Signatory

John Chiang
Laboratory Operations Manager

SCC Accredited LAB Accrédité CCN

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WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted. The findings report on the samples provided by the client and are not intended for commercial or contractual settlement purposes.

- not analysed | -- element not determined | I.S. insufficient sample | L.N.R. listed not received

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Order Number PO#
Submission Number CA19072-JUL23 / 11 Pulp
Number of Samples 11

ANALYSIS REPORT BBM23-31379

Element	LOI	@Al2O3	@CaO	@Cr2O3	@Fe2O3	@K2O
Method	G_PHY01V	GO_XRF72	GO_XRF72	GO_XRF72	GO_XRF72	GO_XRF72
Lower Limit	-10	0.01	0.01	0.01	0.01	0.01
Upper Limit	100	100	60	5	100	70
Unit	%	%	%	%	%	%
BAL-1-15-20-20230620	8.44916	8.09	4.75	0.01	2.75	2.01
BAL-1-20-25-20230620	15.4785	11.67	7.90	0.01	5.03	2.47
BAL-1-35-40-20230620	24.1700	10.58	17.23	<0.01	3.18	1.52
BAL-1-42-46-20230620	37.0600	1.20	45.90	<0.01	0.77	0.24
BAL-1-42-46-2-20230620	37.3963	1.15	46.26	<0.01	0.70	0.22
BAL-2-50-60-20230621	30.7069	7.21	29.29	<0.01	2.30	0.99
BAL-2-60-70-20230621	31.5237	3.37	32.08	<0.01	1.57	0.49
BAL-3-40-52-20230621	19.8000	14.89	13.30	0.01	3.17	2.35
BAL-4-50-51-20230622	20.3420	12.44	14.05	0.01	3.44	2.29
BAL-4-51-44-20230622	33.2034	4.29	37.45	<0.01	1.70	0.60
BAL-4-55-72-20230622	40.5259	1.02	49.44	<0.01	0.83	0.16
*Std OREAS 70b	6.78796	-	-	-	-	-
*Rep BAL-4-50-51-20230622	19.8760	-	-	-	-	-
*Std OREAS 70b	-	7.12	4.28	0.18	7.95	0.71
*Rep BAL-4-50-51-20230622	-	12.50	14.14	<0.01	3.46	2.30
*Blk BLANK	-	<0.01	<0.01	<0.01	<0.01	<0.01
*Std OREAS 751	-	15.87	1.04	<0.01	2.40	2.89

Element	@MgO	Mn3O4	@Na2O	@P2O5	@SiO2	@TiO2
Method	GO_XRF72	GO_XRF72	GO_XRF72	GO_XRF72	GO_XRF72	GO_XRF72
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.01
Upper Limit	100	100	60	55	100	100
Unit	%	%	%	%	%	%
BAL-1-15-20-20230620	2.53	0.12	1.09	0.10	69.69	0.46
BAL-1-20-25-20230620	3.41	0.11	0.73	0.13	52.27	0.57

- not analysed | -- element not determined | I.S. insufficient sample | L.N.R. listed not received

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Order Number PO#
Submission Number CA19072-JUL23 / 11 Pulp
Number of Samples 11

ANALYSIS REPORT BBM23-31379

Element	@MgO	Mn3O4	@Na2O	@P2O5	@SiO2	@TiO2
Method	GO_XRF72	GO_XRF72	GO_XRF72	GO_XRF72	GO_XRF72	GO_XRF72
Lower Limit	0.01	0.01	0.01	0.01	0.01	0.01
Upper Limit	100	100	60	55	100	100
Unit	%	%	%	%	%	%
BAL-1-35-40-20230620	3.80	0.02	0.19	0.10	37.06	0.42
BAL-1-42-46-20230620	0.80	0.03	0.12	0.06	13.62	0.05
BAL-1-42-46-2-20230620	0.77	0.03	0.09	0.05	13.06	0.05
BAL-2-50-60-20230621	2.91	0.05	0.15	0.05	26.00	0.26
BAL-2-60-70-20230621	4.21	0.03	0.20	0.09	25.84	0.14
BAL-3-40-52-20230621	2.01	0.03	0.68	0.22	41.40	0.58
BAL-4-50-51-20230622	1.84	0.06	0.19	0.52	44.24	0.54
BAL-4-51-44-20230622	1.05	0.18	0.07	0.11	21.26	0.17
BAL-4-55-72-20230622	0.80	0.09	0.04	0.12	6.70	0.04
*Std OREAS 70b	22.38	0.16	1.04	0.05	48.48	0.30
*Rep BAL-4-50-51-20230622	1.85	0.05	0.19	0.48	44.33	0.53
*Blk BLANK	<0.01	<0.01	0.01	<0.01	<0.01	<0.01
*Std OREAS 751	0.50	0.10	3.40	0.27	71.34	0.24

Element	@V2O5	Sum
Method	GO_XRF72	GO_XRF72
Lower Limit	0.01	0.01
Upper Limit	10	100
Unit	%	%
BAL-1-15-20-20230620	0.01	91.71
BAL-1-20-25-20230620	0.02	84.43
BAL-1-35-40-20230620	0.01	75.12
BAL-1-42-46-20230620	<0.01	63.09
BAL-1-42-46-2-20230620	<0.01	62.68

- not analysed | -- element not determined | I.S. insufficient sample | L.N.R. listed not received

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Order Number PO#
Submission Number CA19072-JUL23 / 11 Pulp
Number of Samples 11

ANALYSIS REPORT BBM23-31379

Element	@V2O5	Sum
Method	GO_XRF72	GO_XRF72
Lower Limit	0.01	0.01
Upper Limit	10	100
Unit	%	%
BAL-2-50-60-20230621	<0.01	69.93
BAL-2-60-70-20230621	<0.01	69.01
BAL-3-40-52-20230621	0.03	79.23
BAL-4-50-51-20230622	0.02	79.70
BAL-4-51-44-20230622	<0.01	67.05
BAL-4-55-72-20230622	<0.01	59.71
*Std OREAS 70b	0.01	93.40
*Rep BAL-4-50-51-20230622	0.01	79.95
*Blk BLANK	<0.01	0.03
*Std OREAS 751	<0.01	98.27

SGS Canada Minerals Burnaby conforms to the requirements of ISO/IEC17025 for specific tests as listed on their scope of accreditation found at https://www.scc.ca/en/search/laboratories/sgs
Tests and Elements marked with an "@" symbol in the report denote ISO/IEC17025 accreditation.

- not analysed | -- element not determined | I.S. insufficient sample | L.N.R. listed not received

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28-February-2023

Ramboll Americas Engineering Solutions, Inc.
Attn : Evvan Plank

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13221-7873, USA

Phone: 315-463-7554
Fax:

Date Rec. : 24 November 2022
LR Report: **CA19227-NOV22**
Reference: Baldwin Power Plant Drilling

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: MW-358 (13-15)	6: MW-358 (47-49)	7: MW-358 (86-88)
Sample Date & Time					05-Oct-22 14:05	06-Oct-22 15:00	08-Oct-22 18:00
SiO2 [%]	06-Dec-22	16:18	12-Dec-22	09:35	75.2	58.3	59.6
Al2O3 [%]	06-Dec-22	16:18	12-Dec-22	09:35	10.6	17.2	19.2
Fe2O3 [%]	06-Dec-22	16:18	12-Dec-22	09:35	3.72	7.01	4.34
MgO [%]	06-Dec-22	16:18	12-Dec-22	09:35	0.67	1.99	1.90
CaO [%]	06-Dec-22	16:18	12-Dec-22	09:35	0.73	0.57	0.50
Na2O [%]	06-Dec-22	16:18	12-Dec-22	09:35	1.04	0.83	0.77
K2O [%]	06-Dec-22	16:18	12-Dec-22	09:35	1.87	3.38	2.79
TiO2 [%]	06-Dec-22	16:18	12-Dec-22	09:35	0.73	0.72	0.82
P2O5 [%]	06-Dec-22	16:18	12-Dec-22	09:35	0.08	0.10	0.10
MnO [%]	06-Dec-22	16:18	12-Dec-22	09:35	0.07	< 0.01	< 0.01
Cr2O3 [%]	06-Dec-22	16:18	12-Dec-22	09:35	< 0.01	0.01	0.01
V2O5 [%]	06-Dec-22	16:18	12-Dec-22	09:35	0.02	0.02	0.02
LOI [%]	06-Dec-22	16:18	12-Dec-22	09:35	5.47	9.79	9.74
Sum [%]	06-Dec-22	16:18	12-Dec-22	09:35	100.3	99.9	99.8

Analysis	8: MW-392 (80-82)	9: MW-392 (32-33.5)	10: MW-393 (24-25.5)	11: MW-394 (20.5-22)	12: MW-392 (66-68)
Sample Date & Time	26-Sep-22 16:00	27-Sep-22 09:00	04-Oct-22 16:00	25-Sep-22 16:00	26-Sep-22 12:00
SiO2 [%]	33.6	72.3	79.7	73.0	50.7
Al2O3 [%]	8.17	10.7	8.70	11.0	15.3
Fe2O3 [%]	2.76	4.54	3.27	4.46	7.66
MgO [%]	1.58	1.20	0.55	0.85	2.46
CaO [%]	25.4	1.35	0.55	0.92	6.38
Na2O [%]	0.40	0.87	0.94	1.27	0.29
K2O [%]	1.02	2.00	2.16	2.14	2.87
TiO2 [%]	0.29	0.67	0.50	0.75	0.58
P2O5 [%]	3.84	0.10	0.08	0.17	0.08

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LR Report : **CA19227-NOV22**

Analysis	8: MW-392 (80-82)	9: MW-392 (32-33.5)	10: MW-393 (24-25.5)	11: MW-394 (20.5-22)	12: MW-392 (66-68)
MnO [%]	0.04	0.11	0.09	0.09	0.03
Cr2O3 [%]	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
V2O5 [%]	0.02	0.01	< 0.01	0.01	0.02
LOI [%]	21.6	6.15	3.82	5.09	13.8
Sum [%]	98.8	100.0	100.3	99.8	100.1

Catharine Arnold

CHARTERED CATHARINE ARNOLD CHEMIST

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

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Attachment G

Sequential Extraction Procedure Analytical Data

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Phone: 705-652-2000 FAX: 705-652-6365

28-February-2023

Ramboll Americas Engineering Solutions, Inc.
Attn : Evvan Plank

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Phone: 315-463-7554
Fax:

Date Rec. : 24 November 2022
LR Report: **CA19218-NOV22**
Reference: Baldwin Power Plant Drilling

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: MW-358 (13-15)	6: MW-358 (47-49)	7: MW-358 (86-88)	8: MW-392 (80-82)
Sample Date & Time					05-Oct-22 14:05	06-Oct-22 15:00	08-Oct-22 18:00	26-Sep-22 16:00
Ag [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	< 0.05	< 0.05	< 0.05	< 0.05
Al [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	30	540	380	18
As [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	< 0.5	< 0.5	< 0.5	< 0.5
Ba [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	0.4	11	4.2	< 0.1
Be [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	< 0.02	0.06	0.05	< 0.02
B [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	< 1	8	10	3
Bi [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	< 0.09	< 0.09	< 0.09	< 0.09
Ca [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	21	300	140	75
Cd [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	< 0.05	< 0.05	< 0.05	< 0.05
Co [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	< 0.01	0.04	0.86	0.02
Cr [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	< 0.5	< 0.5	< 0.5	< 0.5
Cu [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	< 0.1	< 0.1	0.1	< 0.1
Fe [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	17	240	190	< 1
K [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	7	250	190	41
Li [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	< 2	< 2	< 2	< 2
Mg [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	9	210	150	19
Mn [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	< 0.5	0.6	0.9	< 0.5
Mo [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	< 0.1	< 0.1	< 0.1	< 0.1
Na [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	65	1800	1600	850
Ni [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	< 0.5	< 0.5	1.2	< 0.5
P [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	< 3	6	< 3	< 3
Pb [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	< 0.1	< 0.1	0.2	< 0.1
Si [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	100	950	750	59
Sb [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	< 0.8	< 0.8	< 0.8	< 0.8
Se [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	< 0.7	< 0.7	< 0.7	< 0.7
Sr [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	0.1	13	5.9	1.4
Sn [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	< 0.5	< 0.5	< 0.5	< 0.5
Ti [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	1.1	0.6	0.5	0.6
Tl [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	< 0.02	< 0.02	< 0.02	< 0.02
U [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	< 0.002	0.006	0.029	< 0.002
V [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	< 3	< 3	< 3	< 3
Zn [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	< 0.7	< 0.7	< 0.7	< 0.7

OnLine LIMS

0003245943

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SGS Canada Inc.
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LR Report : **CA19218-NOV22**

Analysis	9: MW-392 (32-33.5)	10: MW-393 (24-25.5)	11: MW-394 (20.5-22)	12: MW-392 (66-68)
Sample Date & Time	27-Sep-22 09:00	04-Oct-22 16:00	25-Sep-22 16:00	26-Sep-22 12:00
Ag [µg/g]	< 0.05	< 0.05	< 0.05	< 0.05
Al [µg/g]	33	26	24	59
As [µg/g]	< 0.5	< 0.5	< 0.5	< 0.5
Ba [µg/g]	0.5	0.3	0.3	0.3
Be [µg/g]	< 0.02	< 0.02	< 0.02	< 0.02
B [µg/g]	< 1	< 1	< 1	5
Bi [µg/g]	< 0.09	< 0.09	< 0.09	< 0.09
Ca [µg/g]	130	28	25	89
Cd [µg/g]	< 0.05	< 0.05	< 0.05	< 0.05
Co [µg/g]	0.02	< 0.01	0.01	0.02
Cr [µg/g]	< 0.5	< 0.5	< 0.5	< 0.5
Cu [µg/g]	< 0.1	< 0.1	< 0.1	< 0.1
Fe [µg/g]	27	14	20	28
K [µg/g]	16	9	12	92
Li [µg/g]	< 2	< 2	< 2	< 2
Mg [µg/g]	40	12	12	44
Mn [µg/g]	1.4	0.7	0.6	< 0.5
Mo [µg/g]	< 0.1	< 0.1	< 0.1	< 0.1
Na [µg/g]	44	49	43	720
Ni [µg/g]	< 0.5	< 0.5	< 0.5	< 0.5
P [µg/g]	< 3	< 3	< 3	< 3
Pb [µg/g]	< 0.1	< 0.1	< 0.1	< 0.1
Si [µg/g]	100	80	91	140
Sb [µg/g]	< 0.8	< 0.8	< 0.8	< 0.8
Se [µg/g]	< 0.7	< 0.7	< 0.7	< 0.7
Sr [µg/g]	0.3	< 0.1	< 0.1	1.8
Sn [µg/g]	< 0.5	< 0.5	< 0.5	< 0.5
Ti [µg/g]	0.6	0.6	0.9	0.5
Tl [µg/g]	< 0.02	< 0.02	< 0.02	< 0.02
U [µg/g]	< 0.002	< 0.002	< 0.002	< 0.002
V [µg/g]	< 3	< 3	< 3	< 3
Zn [µg/g]	< 0.7	< 0.7	< 0.7	< 0.7

Water Soluble Fraction

Catharine Arnold

Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003245943

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SGS Canada Inc.
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28-February-2023

Ramboll Americas Engineering Solutions, Inc.
Attn : Evvan Plank

P.O# Box 4873
Syrascuse, New York
13221-7873, USA

Phone: 315-463-7554
Fax:

Date Rec. : 24 November 2022
LR Report: **CA19219-NOV22**
Reference: Baldwin Power Plant Drilling

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: MW-358 (13-15)	6: MW-358 (47-49)	7: MW-358 (86-88)	8: MW-392 (80-82)
Sample Date & Time					05-Oct-22 14:05	06-Oct-22 15:00	08-Oct-22 18:00	26-Sep-22 16:00
Ag [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	< 0.05	< 0.05	< 0.05	< 0.05
Al [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	9	17	8	9
As [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	< 0.5	< 0.5	< 0.5	< 0.5
Ba [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	48	55	15	3.0
Be [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	< 0.02	< 0.02	< 0.02	< 0.02
B [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	< 1	< 1	1	< 1
Bi [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	< 0.09	< 0.09	< 0.09	< 0.09
Ca [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	2000	2500	1300	3500
Cd [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	< 0.05	< 0.05	< 0.05	< 0.05
Co [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	< 0.01	< 0.01	0.58	0.24
Cr [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	< 0.5	< 0.5	< 0.5	< 0.5
Cu [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	< 0.1	< 0.1	< 0.1	< 0.1
Fe [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	2	21	< 1	12
K [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	37	430	300	160
Li [µg/g]	19-Jan-23	23:42	31-Jan-23	09:43	< 2	< 2	< 2	< 2
Mn [µg/g]	19-Jan-23	23:42	31-Jan-23	09:44	6.5	0.7	1.8	3.6
Mo [µg/g]	19-Jan-23	23:42	31-Jan-23	09:44	< 0.1	< 0.1	< 0.1	< 0.1
Na [µg/g]	19-Jan-23	23:42	31-Jan-23	09:44	45	3200	2600	420
Ni [µg/g]	19-Jan-23	23:42	31-Jan-23	09:44	< 0.5	< 0.5	< 0.5	0.7
Pb [µg/g]	19-Jan-23	23:42	31-Jan-23	09:44	< 0.1	< 0.1	< 0.1	< 0.1
P [µg/g]	19-Jan-23	23:42	31-Jan-23	09:44	< 3	4	< 3	43
Sb [µg/g]	19-Jan-23	23:42	31-Jan-23	09:44	< 0.8	< 0.8	< 0.8	< 0.8
Se [µg/g]	19-Jan-23	23:42	31-Jan-23	09:44	< 0.7	< 0.7	< 0.7	< 0.7
Sn [µg/g]	19-Jan-23	23:42	31-Jan-23	09:44	< 0.5	< 0.5	< 0.5	< 0.5
Sr [µg/g]	19-Jan-23	23:42	31-Jan-23	09:44	11	100	52	76
Ti [µg/g]	19-Jan-23	23:42	31-Jan-23	09:44	0.9	0.3	0.2	0.1
Tl [µg/g]	19-Jan-23	23:42	31-Jan-23	09:44	< 0.02	< 0.02	< 0.02	< 0.02
U [µg/g]	19-Jan-23	23:42	31-Jan-23	09:44	< 0.002	0.009	0.006	0.043
V [µg/g]	19-Jan-23	23:42	31-Jan-23	09:44	< 3	< 3	< 3	< 3
Zn [µg/g]	19-Jan-23	23:42	31-Jan-23	09:44	< 0.7	< 0.7	< 0.7	< 0.7

OnLine LIMS

0003245960

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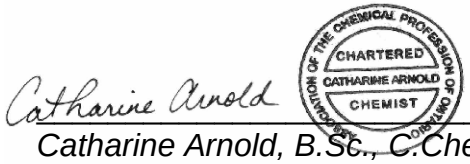
LR Report : **CA19219-NOV22**

Analysis	9: MW-392 (32-33.5)	10: MW-393 (24-25.5)	11: MW-394 (20.5-22)	12: MW-392 (66-68)
Sample Date & Time	27-Sep-22 09:00	04-Oct-22 16:00	25-Sep-22 16:00	26-Sep-22 12:00
Ag [µg/g]	< 0.05	< 0.05	< 0.05	< 0.05
Al [µg/g]	10	12	12	10
As [µg/g]	< 0.5	< 0.5	< 0.5	< 0.5
Ba [µg/g]	16	16	10	4.3
Be [µg/g]	< 0.02	< 0.02	< 0.02	< 0.02
B [µg/g]	< 1	< 1	< 1	2
Bi [µg/g]	< 0.09	< 0.09	< 0.09	< 0.09
Ca [µg/g]	2500	1400	2100	3700
Cd [µg/g]	< 0.05	< 0.05	< 0.05	< 0.05
Co [µg/g]	0.02	< 0.01	< 0.01	0.02
Cr [µg/g]	< 0.5	< 0.5	< 0.5	< 0.5
Cu [µg/g]	< 0.1	< 0.1	< 0.1	< 0.1
Fe [µg/g]	8	9	8	10
K [µg/g]	44	35	60	360
Li [µg/g]	< 2	< 2	< 2	< 2
Mn [µg/g]	3.5	1.7	3.2	2.5
Mo [µg/g]	< 0.1	< 0.1	< 0.1	< 0.1
Na [µg/g]	17	22	30	480
Ni [µg/g]	< 0.5	< 0.5	< 0.5	< 0.5
Pb [µg/g]	< 0.1	< 0.1	< 0.1	< 0.1
P [µg/g]	< 3	< 3	4	< 3
Sb [µg/g]	< 0.8	< 0.8	< 0.8	< 0.8
Se [µg/g]	< 0.7	< 0.7	< 0.7	< 0.7
Sn [µg/g]	< 0.5	< 0.5	< 0.5	< 0.5
Sr [µg/g]	6.5	4.3	7.4	75
Ti [µg/g]	0.1	0.6	0.3	< 0.1
Tl [µg/g]	< 0.02	< 0.02	< 0.02	< 0.02
U [µg/g]	< 0.002	< 0.002	< 0.002	0.004
V [µg/g]	< 3	< 3	< 3	< 3
Zn [µg/g]	< 0.7	< 0.7	< 0.7	< 0.7

Fraction 2 Exchangeable Metals



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OnLine LIMS

00032459960

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28-February-2023

Ramboll Americas Engineering Solutions, Inc.
Attn : Evvan Plank

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13221-7873, USA

Phone: 315-463-7554
Fax:

Date Rec. : 24 November 2022
LR Report: **CA19220-NOV22**
Reference: Ramboll Power Plant Drilling

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: MW-358 (13-15)	6: MW-358 (47-49)	7: MW-358 (86-88)	8: MW-392 (80-82)
Sample Date & Time					05-Oct-22 14:05	06-Oct-22 15:00	08-Oct-22 18:00	26-Sep-22 16:00
Ag [µg/g]	19-Jan-23	23:42	31-Jan-23	09:45	< 0.05	< 0.05	< 0.05	< 0.05
Al [µg/g]	19-Jan-23	23:42	31-Jan-23	09:45	30	55	56	25
As [µg/g]	19-Jan-23	23:42	31-Jan-23	09:45	< 0.5	< 0.5	< 0.5	< 0.5
Ba [µg/g]	19-Jan-23	23:42	31-Jan-23	09:45	25	23	6.9	2.8
Be [µg/g]	19-Jan-23	23:42	31-Jan-23	09:45	0.09	0.10	0.07	0.03
B [µg/g]	19-Jan-23	23:42	31-Jan-23	09:45	< 1	2	3	4
Bi [µg/g]	19-Jan-23	23:42	31-Jan-23	09:45	< 0.09	< 0.09	< 0.09	< 0.09
Ca [µg/g]	19-Jan-23	23:42	31-Jan-23	09:45	110	1300	770	52000
Cd [µg/g]	19-Jan-23	23:42	31-Jan-23	09:45	< 0.05	< 0.05	< 0.05	< 0.05
Co [µg/g]	19-Jan-23	23:42	31-Jan-23	09:45	0.04	0.02	2.3	1.0
Cr [µg/g]	19-Jan-23	23:42	31-Jan-23	09:45	< 0.5	< 0.5	< 0.5	< 0.5
Cu [µg/g]	19-Jan-23	23:42	31-Jan-23	09:45	0.6	0.2	0.6	0.2
Fe [µg/g]	19-Jan-23	23:42	31-Jan-23	09:45	40	45	42	25
K [µg/g]	19-Jan-23	23:42	31-Jan-23	09:45	15	180	120	90
Li [µg/g]	19-Jan-23	23:42	31-Jan-23	09:45	< 2	< 2	< 2	< 2
Mn [µg/g]	19-Jan-23	23:42	31-Jan-23	09:45	13	7.0	4.3	77
Mo [µg/g]	19-Jan-23	23:42	31-Jan-23	09:45	< 0.1	< 0.1	< 0.1	< 0.1
Ni [µg/g]	19-Jan-23	23:42	31-Jan-23	09:46	< 0.5	< 0.5	1.9	2.7
Pb [µg/g]	19-Jan-23	23:42	31-Jan-23	09:46	0.2	0.1	0.9	1.9
P [µg/g]	19-Jan-23	23:42	31-Jan-23	09:46	< 3	13	< 3	100
Sb [µg/g]	19-Jan-23	23:42	31-Jan-23	09:46	< 0.8	< 0.8	< 0.8	< 0.8
Se [µg/g]	19-Jan-23	23:42	31-Jan-23	09:46	< 0.7	< 0.7	< 0.7	< 0.7
Si [µg/g]	19-Jan-23	23:42	31-Jan-23	09:46	96	160	150	33
Sn [µg/g]	19-Jan-23	23:42	31-Jan-23	09:46	< 0.5	< 0.5	< 0.5	< 0.5
Sr [µg/g]	19-Jan-23	23:42	31-Jan-23	09:46	0.5	10	7.3	99
Ti [µg/g]	19-Jan-23	23:42	31-Jan-23	09:46	0.8	0.6	0.5	1.0
Tl [µg/g]	19-Jan-23	23:42	31-Jan-23	09:46	< 0.02	< 0.02	< 0.02	< 0.02
U [µg/g]	19-Jan-23	23:42	31-Jan-23	09:46	0.19	0.094	0.13	0.31
V [µg/g]	19-Jan-23	23:42	31-Jan-23	09:46	< 3	< 3	< 3	< 3
Zn [µg/g]	19-Jan-23	23:42	31-Jan-23	09:46	< 0.7	< 0.7	< 0.7	3.7

OnLine LIMS

0003245975

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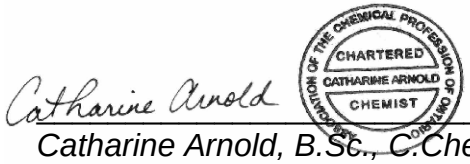
LR Report : **CA19220-NOV22**

Analysis	9: MW-392 (32-33.5)	10: MW-393 (24-25.5)	11: MW-394 (20.5-22)	12: MW-392 (66-68)
Sample Date & Time	27-Sep-22 09:00	04-Oct-22 16:00	25-Sep-22 16:00	26-Sep-22 12:00
Ag [µg/g]	< 0.05	< 0.05	< 0.05	< 0.05
Al [µg/g]	30	28	23	28
As [µg/g]	< 0.5	< 0.5	< 0.5	< 0.5
Ba [µg/g]	19	15	12	5.0
Be [µg/g]	0.06	0.04	0.04	0.07
B [µg/g]	< 1	< 1	< 1	3
Bi [µg/g]	< 0.09	< 0.09	< 0.09	< 0.09
Ca [µg/g]	1500	56	140	35000
Cd [µg/g]	< 0.05	< 0.05	< 0.05	< 0.05
Co [µg/g]	0.05	0.02	0.03	0.27
Cr [µg/g]	< 0.5	< 0.5	< 0.5	< 0.5
Cu [µg/g]	0.8	0.2	0.2	0.6
Fe [µg/g]	9	14	10	300
K [µg/g]	16	10	15	130
Li [µg/g]	< 2	< 2	< 2	< 2
Mn [µg/g]	20	4.4	7.0	144
Mo [µg/g]	< 0.1	< 0.1	< 0.1	< 0.1
Ni [µg/g]	< 0.5	< 0.5	< 0.5	< 0.5
Pb [µg/g]	0.2	0.1	0.1	0.4
P [µg/g]	< 3	< 3	4	< 3
Sb [µg/g]	< 0.8	< 0.8	< 0.8	< 0.8
Se [µg/g]	< 0.7	< 0.7	< 0.7	< 0.7
Si [µg/g]	130	90	99	96
Sn [µg/g]	< 0.5	< 0.5	< 0.5	< 0.5
Sr [µg/g]	1.5	0.3	0.8	59
Ti [µg/g]	0.1	1.9	0.6	< 0.1
Tl [µg/g]	< 0.02	< 0.02	< 0.02	< 0.02
U [µg/g]	0.12	0.14	0.17	0.100
V [µg/g]	< 3	< 3	< 3	< 3
Zn [µg/g]	< 0.7	< 0.7	< 0.7	1.0

Fraction 3 Metals Bound to Carbonates



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Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003245975

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28-February-2023

Ramboll Americas Engineering Solutions, Inc.
Attn : Evvan Plank

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Phone: 315-463-7554
Fax:

Date Rec. : 24 November 2022
LR Report: **CA19221-NOV22**
Reference: Baldwin Power Plant Drilling

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: MW-358 (13-15)	6: MW-358 (47-49)	7: MW-358 (86-88)	8: MW-392 (80-82)	9: MW-392 (32-33.5)
Sample Date & Time			05-Oct-22 14:05	06-Oct-22 15:00	08-Oct-22 18:00	26-Sep-22 16:00	27-Sep-22 09:00
Ag [µg/g]	31-Jan-23	09:47	< 0.01	< 0.01	< 0.01	< 0.01	0.01
Al [µg/g]	31-Jan-23	09:47	290	310	340	220	220
As [µg/g]	31-Jan-23	09:47	< 0.5	< 0.5	< 0.5	1.3	< 0.5
Ba [µg/g]	31-Jan-23	09:47	16	6.4	1.6	4.1	56
Be [µg/g]	31-Jan-23	09:47	0.26	0.16	0.15	0.15	0.21
B [µg/g]	31-Jan-23	09:47	< 1	5	6	6	< 1
Bi [µg/g]	31-Jan-23	09:47	< 0.09	< 0.09	< 0.09	0.14	< 0.09
Ca [µg/g]	31-Jan-23	09:47	71	320	250	130000	2300
Cd [µg/g]	31-Jan-23	09:47	< 0.05	< 0.05	< 0.05	0.13	0.18
Co [µg/g]	31-Jan-23	09:47	3.8	0.33	3.0	2.3	5.1
Cr [µg/g]	31-Jan-23	09:47	2.3	1.2	1.3	1.0	0.9
Cu [µg/g]	31-Jan-23	09:47	1.6	0.4	0.7	0.1	2.9
Fe [µg/g]	31-Jan-23	09:47	1600	1600	1200	1800	1100
K [µg/g]	31-Jan-23	09:47	16	140	110	43	19
Li [µg/g]	31-Jan-23	09:47	< 2	3	5	< 2	< 2
Mn [µg/g]	31-Jan-23	09:47	240	3.1	2.9	190	500
Mo [µg/g]	31-Jan-23	09:47	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ni [µg/g]	31-Jan-23	09:47	3.1	2.7	4.5	6.5	3.1
Pb [µg/g]	31-Jan-23	09:47	3.3	0.2	1.2	8.4	3.7
P [µg/g]	31-Jan-23	09:47	19	110	77	400	31
Sb [µg/g]	31-Jan-23	09:47	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Se [µg/g]	31-Jan-23	09:47	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Si [µg/g]	31-Jan-23	09:47	920	910	710	270	600
Sn [µg/g]	31-Jan-23	09:47	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Sr [µg/g]	31-Jan-23	09:47	0.4	3.1	2.8	237	1.7
Ti [µg/g]	31-Jan-23	09:47	0.4	0.1	0.3	< 0.1	< 0.1
Tl [µg/g]	31-Jan-23	09:47	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
U [µg/g]	31-Jan-23	09:47	0.26	0.068	0.17	0.62	0.15
V [µg/g]	31-Jan-23	09:47	5	< 3	< 3	< 3	3
Zn [µg/g]	31-Jan-23	09:47	2.9	1.9	1.9	13	3.8

OnLine LIMS

00032459B2

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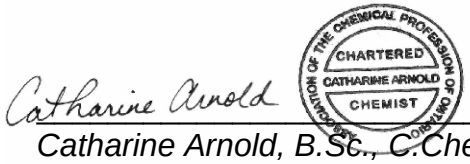
LR Report : **CA19221-NOV22**

Analysis	10: MW-393 (24-25.5)	11: MW-394 (20.5-22)	12: MW-392 (66-68)
Sample Date & Time	04-Oct-22 16:00	25-Sep-22 16:00	26-Sep-22 12:00
Ag [µg/g]	< 0.01	0.02	< 0.01
Al [µg/g]	290	270	490
As [µg/g]	< 0.5	< 0.5	< 0.5
Ba [µg/g]	45	35	1.5
Be [µg/g]	0.16	0.18	0.18
B [µg/g]	< 1	< 1	4
Bi [µg/g]	< 0.09	< 0.09	0.14
Ca [µg/g]	100	350	7600
Cd [µg/g]	0.06	0.14	< 0.05
Co [µg/g]	4.3	3.5	0.62
Cr [µg/g]	1.2	1.2	2.0
Cu [µg/g]	1.5	2.0	0.9
Fe [µg/g]	1500	1200	2700
K [µg/g]	15	22	120
Li [µg/g]	< 2	< 2	2
Mn [µg/g]	380	260	63
Mo [µg/g]	< 0.1	< 0.1	< 0.1
Ni [µg/g]	3.2	3.7	2.5
Pb [µg/g]	3.5	2.1	0.9
P [µg/g]	17	91	110
Sb [µg/g]	< 0.8	< 0.8	< 0.8
Se [µg/g]	< 0.7	< 0.7	< 0.7
Si [µg/g]	660	850	650
Sn [µg/g]	< 0.5	< 0.5	< 0.5
Sr [µg/g]	0.5	1.3	26
Ti [µg/g]	0.3	0.2	0.2
Tl [µg/g]	< 0.02	< 0.02	< 0.02
U [µg/g]	0.12	0.18	0.082
V [µg/g]	< 3	5	< 3
Zn [µg/g]	4.3	7.8	2.8

Fraction 4 Metals Bound to Fe and Mn Oxides



Catharine Arnold, B.Sc., C.Chem
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OnLine LIMS

0003245982

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28-February-2023

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Attn : Evvan Plank

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Syrascuse, New York
13221-7873, USA

Phone: 315-463-7554
Fax:

Date Rec. : 24 November 2022
LR Report: **CA19222-NOV22**
Reference: Baldwin Power plant Drilling

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: MW-358 (13-15)	6: MW-358 (47-49)	7: MW-358 (86-88)	8: MW-392 (80-82)	9: MW-392 (32-33.5)
Sample Date & Time			05-Oct-22 14:05	06-Oct-22 15:00	08-Oct-22 18:00	26-Sep-22 16:00	27-Sep-22 09:00
Ag [µg/g]	31-Jan-23	09:48	0.14	0.15	0.08	0.07	0.06
Al [µg/g]	31-Jan-23	09:48	980	1300	1100	130	610
As [µg/g]	31-Jan-23	09:48	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Ba [µg/g]	31-Jan-23	09:48	15	11	1.8	3.6	36
Be [µg/g]	31-Jan-23	09:48	0.13	0.32	0.16	0.07	0.12
B [µg/g]	31-Jan-23	09:48	< 1	2	2	2	< 1
Bi [µg/g]	31-Jan-23	09:48	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09
Ca [µg/g]	31-Jan-23	09:48	160	490	220	8600	840
Cd [µg/g]	31-Jan-23	09:48	< 0.05	< 0.05	< 0.05	0.20	< 0.05
Co [µg/g]	31-Jan-23	09:48	1.4	0.45	9.7	3.3	1.3
Cr [µg/g]	31-Jan-23	09:48	2.1	1.0	1.2	< 0.5	1.6
Cu [µg/g]	31-Jan-23	09:48	0.5	1.0	1.8	1.9	0.4
Fe [µg/g]	31-Jan-23	09:48	150	610	1800	220	83
K [µg/g]	31-Jan-23	09:48	15	104	79	25	15
Li [µg/g]	31-Jan-23	09:48	< 2	< 2	3	< 2	< 2
Mg [µg/g]	31-Jan-23	09:48	170	1100	870	200	500
Mn [µg/g]	31-Jan-23	09:48	85	3.6	15	16	92
Mo [µg/g]	31-Jan-23	09:48	< 0.1	< 0.1	< 0.1	0.2	0.4
Na [µg/g]	31-Jan-23	09:48	110	180	150	90	75
Ni [µg/g]	31-Jan-23	09:48	1.9	4.3	13	15	2.1
Pb [µg/g]	31-Jan-23	09:48	1.6	0.1	1.6	3.8	1.3
P [µg/g]	31-Jan-23	09:48	< 3	< 3	< 3	290	5
Sb [µg/g]	31-Jan-23	09:48	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Se [µg/g]	31-Jan-23	09:48	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Si [µg/g]	31-Jan-23	09:48	590	480	420	130	530
Sn [µg/g]	31-Jan-23	09:48	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Sr [µg/g]	31-Jan-23	09:48	0.5	5.1	2.8	48	0.9
Ti [µg/g]	31-Jan-23	09:48	0.7	< 0.1	< 0.1	< 0.1	2.9
Tl [µg/g]	31-Jan-23	09:48	< 0.02	< 0.02	0.02	0.05	< 0.02
U [µg/g]	31-Jan-23	09:48	0.17	0.13	0.19	0.25	0.060
V [µg/g]	31-Jan-23	09:48	< 3	< 3	< 3	< 3	3
Zn [µg/g]	31-Jan-23	09:48	1.4	< 0.7	1.8	41	1.7

OnLine LIMS

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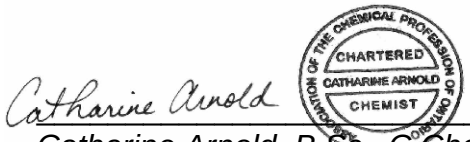
LR Report : **CA19222-NOV22**

Analysis	10: MW-393 (24-25.5)	11: MW-394 (20.5-22)	12: MW-392 (66-68)
Sample Date & Time	04-Oct-22 16:00	25-Sep-22 16:00	26-Sep-22 12:00
Ag [µg/g]	< 0.05	< 0.05	< 0.05
Al [µg/g]	660	870	820
As [µg/g]	< 0.5	< 0.5	< 0.5
Ba [µg/g]	33	45	1.5
Be [µg/g]	0.08	0.15	0.18
B [µg/g]	< 1	< 1	2
Bi [µg/g]	< 0.09	< 0.09	< 0.09
Ca [µg/g]	88	300	2400
Cd [µg/g]	< 0.05	< 0.05	< 0.05
Co [µg/g]	1.2	2.3	0.68
Cr [µg/g]	1.2	1.5	1.1
Cu [µg/g]	0.3	0.8	1.4
Fe [µg/g]	93	120	680
K [µg/g]	14	21	70
Li [µg/g]	< 2	< 2	< 2
Mg [µg/g]	150	280	730
Mn [µg/g]	100	164	15
Mo [µg/g]	0.1	0.3	< 0.1
Na [µg/g]	48	170	95
Ni [µg/g]	1.6	3.5	2.9
Pb [µg/g]	1.7	1.3	0.9
P [µg/g]	4	8	< 3
Sb [µg/g]	< 0.8	< 0.8	< 0.8
Se [µg/g]	< 0.7	< 0.7	< 0.7
Si [µg/g]	470	650	470
Sn [µg/g]	< 0.5	< 0.5	< 0.5
Sr [µg/g]	0.3	1.2	9.8
Ti [µg/g]	2.1	2.5	< 0.1
Tl [µg/g]	< 0.02	< 0.02	< 0.02
U [µg/g]	0.065	0.16	0.080
V [µg/g]	< 3	4	< 3
Zn [µg/g]	1.6	4.0	0.9

Fraction 5 Bound to Organic Material



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OnLine LIMS

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28-February-2023

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Attn : Evvan Plank

P.O# Box 4873
Syrascuse, New York
13221-7873, USA

Phone: 315-463-7554
Fax:

Date Rec. : 24 November 2022
LR Report: **CA19223-NOV22**
Reference: Baldwin Power Plant Drilling

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Completed Date	4: Analysis Completed Time	5: MW-358 (13-15)	6: MW-358 (47-49)	7: MW-358 (86-88)	8: MW-392 (80-82)	9: MW-392 (32-33.5)
Sample Date & Time			05-Oct-22 14:05	06-Oct-22 15:00	08-Oct-22 18:00	26-Sep-22 16:00	27-Sep-22 09:00
Ag [µg/g]	31-Jan-23	09:48	0.09	< 0.05	< 0.05	< 0.05	0.07
Al [µg/g]	31-Jan-23	09:48	44000	63000	71000	27000	45000
As [µg/g]	31-Jan-23	09:48	5.8	2.3	9.8	10	8.6
Ba [µg/g]	31-Jan-23	09:48	390	150	140	56	320
Be [µg/g]	31-Jan-23	09:48	0.65	1.4	1.5	0.68	0.87
B [µg/g]	31-Jan-23	09:48	13	60	62	26	21
Bi [µg/g]	31-Jan-23	09:48	0.25	0.26	0.18	0.14	0.25
Ca [µg/g]	31-Jan-23	09:48	2500	150	120	20000	1400
Cd [µg/g]	31-Jan-23	09:48	0.06	< 0.05	< 0.05	0.11	0.08
Co [µg/g]	31-Jan-23	09:48	3.3	7.2	6.4	2.0	6.4
Cr [µg/g]	31-Jan-23	09:48	34	69	75	37	40
Cu [µg/g]	31-Jan-23	09:48	10	9.9	5.7	7.2	15
Fe [µg/g]	31-Jan-23	09:48	22000	42000	22000	14000	28000
K [µg/g]	31-Jan-23	09:48	11000	18000	16000	5100	13000
Li [µg/g]	31-Jan-23	09:48	18	9	65	7	20
Mg [µg/g]	31-Jan-23	09:48	2700	7800	7600	4100	3300
Mn [µg/g]	31-Jan-23	09:48	110	70	51	50	130
Mo [µg/g]	31-Jan-23	09:48	0.9	0.3	0.1	0.1	0.9
Na [µg/g]	31-Jan-23	09:48	6700	560	830	550	5200
Ni [µg/g]	31-Jan-23	09:48	14	32	29	13	21
Pb [µg/g]	31-Jan-23	09:48	10	8.0	7.0	17	12
P [µg/g]	31-Jan-23	09:48	260	240	160	7200	300
Sb [µg/g]	31-Jan-23	09:48	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Se [µg/g]	31-Jan-23	09:48	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Si [µg/g]	31-Jan-23	09:48	160000	66000	51000	73000	65000
Sn [µg/g]	31-Jan-23	09:48	5.4	5.8	5.8	4.9	5.2
Sr [µg/g]	31-Jan-23	09:48	89	30	25	130	79
Ti [µg/g]	31-Jan-23	09:48	2400	670	570	520	980
Tl [µg/g]	31-Jan-23	09:48	0.47	0.42	0.42	0.17	0.51
U [µg/g]	31-Jan-23	09:48	1.3	0.30	0.99	2.7	1.1
V [µg/g]	31-Jan-23	09:48	54	73	86	95	57
Zn [µg/g]	31-Jan-23	09:48	37	47	32	43	53

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LR Report : **CA19223-NOV22**

Analysis	10: MW-393 (24-25.5)	11: MW-394 (20.5-22)	12: MW-392 (66-68)
Sample Date & Time	04-Oct-22 16:00	25-Sep-22 16:00	26-Sep-22 12:00
Ag [µg/g]	< 0.05	< 0.05	< 0.05
Al [µg/g]	33000	45000	59000
As [µg/g]	10	9.8	0.9
Ba [µg/g]	300	410	93
Be [µg/g]	0.56	0.83	1.2
B [µg/g]	15	16	53
Bi [µg/g]	0.18	0.27	0.20
Ca [µg/g]	1700	3000	170
Cd [µg/g]	< 0.05	0.11	< 0.05
Co [µg/g]	3.2	5.0	6.4
Cr [µg/g]	24	35	71
Cu [µg/g]	9.9	13	12
Fe [µg/g]	19000	27000	43000
K [µg/g]	12000	14000	17000
Li [µg/g]	13	16	19
Mg [µg/g]	2200	3400	9500
Mn [µg/g]	80	140	47
Mo [µg/g]	0.7	2.7	0.2
Na [µg/g]	5100	7700	490
Ni [µg/g]	13	18	31
Pb [µg/g]	9.1	13	4.1
P [µg/g]	230	460	170
Sb [µg/g]	< 0.8	< 0.8	< 0.8
Se [µg/g]	< 0.7	< 0.7	< 0.7
Si [µg/g]	61000	43000	62000
Sn [µg/g]	4.6	5.2	5.6
Sr [µg/g]	70	110	22
Ti [µg/g]	780	1100	560
Tl [µg/g]	0.35	0.50	0.36
U [µg/g]	0.61	1.1	0.097
V [µg/g]	35	57	70
Zn [µg/g]	37	54	48

Fraction 6 Residual metals

Catharine Arnold

CHARTERED CHEMICAL PROFESSION OF ONTARIO CATHARINE ARNOLD CHEMIST

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OnLine LIMS

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28-February-2023

Ramboll Americas Engineering Solutions, Inc.
Attn : Evvan Plank

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Syrascuse, New York
13221-7873, USA

Phone: 315-463-7554
Fax:

Date Rec. : 24 November 2022
LR Report: **CA19224-NOV22**
Reference: Baldwon Power Plant Drilling

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	6: MW-358 (47-49)	7: MW-358 (86-88)	8: MW-392 (80-82)	12: MW-392 (66-68)
Sample Date & Time					06-Oct-22 15:00	08-Oct-22 18:00	26-Sep-22 16:00	26-Sep-22 12:00
Hg MS [ug/g]	09-Dec-22	16:29	12-Dec-22	15:05	< 0.05	< 0.05	< 0.05	< 0.05
As [µg/g]	09-Dec-22	16:29	12-Dec-22	15:05	2.1	11	17	1.0
B [µg/g]	09-Dec-22	16:29	12-Dec-22	15:05	11	16	16	13
Ba [µg/g]	09-Dec-22	16:29	12-Dec-22	15:05	140	45	40	21
Be [µg/g]	09-Dec-22	16:29	12-Dec-22	15:05	0.85	0.67	0.85	0.70
Cd [µg/g]	09-Dec-22	16:29	12-Dec-22	15:05	< 0.02	< 0.02	0.36	0.09
Co [µg/g]	09-Dec-22	16:29	12-Dec-22	15:05	4.4	23	12	6.2
Cr [µg/g]	09-Dec-22	16:29	12-Dec-22	15:05	9.5	12	17	16
Li [µg/g]	09-Dec-22	16:29	12-Dec-22	15:05	6	20	8	15
Mo [µg/g]	09-Dec-22	16:29	12-Dec-22	15:05	0.3	0.3	0.3	0.3
Pb [µg/g]	09-Dec-22	16:29	12-Dec-22	15:05	5.7	9.6	17	4.9
Se [µg/g]	09-Dec-22	16:29	12-Dec-22	15:05	< 0.7	< 0.7	1.4	< 0.7
Tl [µg/g]	09-Dec-22	16:29	12-Dec-22	15:05	0.05	0.06	0.04	0.03

Catharine Arnold

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Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003246025

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LR Report : **CA19224-NOV22**

OnLine LIMS

0003246025

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Test method information available upon request. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
SGS Canada Inc. Environment-Health & Safety statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

Attachment H
X-Ray Diffraction Analytical Data

Quantitative X-Ray Diffraction by Rietveld Refinement

Report Prepared for:	*Environmental Services*
Project Number/ LIMS No.	*Custom XRD/MI4527-AUG23*
Sample Receipt:	*August 10, 2023*
Sample Analysis:	*August 25, 2023*
Reporting Date:	*September 15, 2023*

Instrument:	BRUKER AXS D8 Advance Diffractometer
Test Conditions:	Co radiation, 35 kV, 40 mA; Detector: LYNXEYE Regular Scanning: Step: 0.02°, Step time: 0.75s, 2θ range: 6-80° Clay Section Scanning: Step: 0.01°, Step time:0.2s, 2θ range: 3-40°
Interpretations :	PDF2/PDF4 powder diffraction databases issued by the International Center for Diffraction Data (ICDD). DiffracPlus Eva and Topas software.
Detection Limit :	0.5-2%. Strongly dependent on crystallinity.

Contents:

1) Method Summary
2) Quantitative XRD Results
3) XRD Pattern(s)

Kim Gibbs, H.B.Sc., P.Geo.
Senior Mineralogist

Huyun Zhou, Ph.D., P.Geo.
Senior Mineralogist

ACCREDITATION: SGS Natural Resources Lakefield is accredited to the requirements of ISO/IEC 17025 for specific tests as listed on our scope of accreditation, including geochemical, mineralogical and trade mineral tests. To view a list of the accredited methods, please visit the following website and search SGS Canada Inc. - Minerals: https://www.scc.ca/en/search/palcan.

Method Summary

The Rietveld Method of Mineral Identification by XRD (ME-LR-MIN-MET-MN-D05) method used by SGS Natural Resources is accredited to the requirements of ISO/IEC 17025.

Mineral Identification and Interpretation:

Mineral identification and interpretation involves matching the diffraction pattern of an unknown material to patterns of single-phase reference materials. The reference patterns are compiled by the Joint Committee on Powder Diffraction Standards - International Center for Diffraction Data (JCPDS-ICDD) database and released on software as Powder Diffraction Files (PDF).

Interpretations do not reflect the presence of non-crystalline and/or amorphous compounds, except when internal standards have been added by request. Mineral proportions may be strongly influenced by crystallinity, crystal structure and preferred orientations. Mineral or compound identification and quantitative analysis results should be accompanied by supporting chemical assay data or other additional tests.

Clay Mineral Separation and Identification:

Clay minerals are typically fine-grained (<2 µm) phyllosilicates in sedimentary rock. Due to the poor crystallinity and fine size of clay minerals, separation of the clay fraction from bulk samples by centrifuge is required. A slide of the oriented clay fraction is prepared and scanned followed by a series of procedures (the addition of ethylene glycol and high temperature heating). Clay minerals are identified by their individual diffraction patterns and changes in their diffraction pattern after different treatments. Clay speciation and mineral identification of the bulk sample are performed using DIFFRACplus EVA (Bruker AXS).

Quantitative Rietveld Analysis:

Quantitative Rietveld Analysis is performed by using Topas 4.2 (Bruker AXS), a graphics based profile analysis program built around a non-linear least squares fitting system, to determine the amount of different phases present in a multicomponent sample. Whole pattern analyses are predicated by the fact that the X-ray diffraction pattern is a total sum of both instrumental and specimen factors. Unlike other peak intensity-based methods, the Rietveld method uses a least squares approach to refine a theoretical line profile until it matches the obtained experimental patterns.

Rietveld refinement is completed with a set of minerals specifically identified for the sample. Zero values indicate that the mineral was included in the refinement calculations, but the calculated concentration was less than 0.05wt%. Minerals not identified by the analyst are not included in refinement calculations for specific samples and are indicated with a dash.

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Summary of Rietveld Quantitative Analysis X-Ray Diffraction Results

Mineral/Compound	BAL-1-15-20-20230620 AUG4527-01 (wt %)	BAL-1-20-25-20230620 AUG4527-02 (wt %)	BAL-1-35-40-20230620 AUG4527-03 (wt %)	BAL-1-42-46-20230620 AUG4527-04 (wt %)	BAL-1-42-46-2-20230620 AUG4527-05 (wt %)	BAL-2-50-60-20230621 AUG4527-06 (wt %)
Quartz	53.5	32.4	17.7	10.4	10.7	11.2
Actinolite	2.0	0.5	1.3	-	-	-
Albite	11.3	9.0	2.5	0.4	0.6	0.2
Microcline	8.0	9.7	4.6	2.1	0.5	2.1
Dolomite	9.4	11.2	4.4	0.8	0.4	3.5
Calcite	2.9	9.5	27.2	80.5	84.6	57.2
Magnetite	0.3	0.5	0.8	-	-	0.2
Muscovite	2.0	9.1	11.8	1.9	1.4	6.4
Chlorite	-	0.7	0.2	0.0	0.2	0.2
Pyrite	-	-	1.6	-	-	0.6
Ankerite	-	-	7.3	0.4	0.2	4.7
Gypsum	-	-	1.9	-	-	-
Hematite	-	-	0.4	-	-	0.2
Anatase	-	-	0.6	-	-	-
Rhodochrosite	-	-	0.7	-	-	-
Clay						
Montmorillonite	5.5	9.0	10.5	2.1	0.2	7.8
Illite	4.0	6.8	3.2	0.9	0.6	3.2
Kaolinite	1.0	1.5	3.2	0.5	0.6	2.4
Illite-Montmorillonite	-	-	-	-	-	-
TOTAL	100	100	100	100	100	100

Zero values indicate that the mineral was included in the refinement, but the calculated concentration is below a measurable value.

Dashes indicate that the mineral was not identified by the analyst and not included in the refinement calculation for the sample.

The weight percent quantities indicated have been normalized to a sum of 100%. The quantity of amorphous material has not been determined.

Mineral/Compound	Formula
Quartz	SiO_2
Actinolite	$Ca_2(Mg,Fe)_5Si_8O_{22}(OH)_2$
Albite	$NaAlSi_3O_8$
Microcline	$KAlSi_3O_8$
Dolomite	$CaMg(CO_3)_2$
Calcite	$CaCO_3$
Magnetite	Fe_3O_4
Muscovite	$KAl_2(AlSi_3O_{10})(OH)_2$
Chlorite	$(Fe,(Mg,Mn)_5,Al)(Si_3Al)O_{10}(OH)_8$
Pyrite	FeS_2
Ankerite	$CaFe(CO_3)_2$
Gypsum	$CaSO_4 \cdot 2H_2O$
Hematite	Fe_2O_3
Anatase	TiO_2
Rhodochrosite	$MnCO_3$
Montmorillonite	$(Na,Ca)_{0.3}(Al,Mg)_2Si_4O_{10}(OH)_2 \cdot 10H_2O$
Illite	$(K,H_3O)(Al,Mg,Fe)_2(Si,Al)_4O_{10}[(OH)_2,(H_2O)]$
Kaolinite	$Al_2Si_2O_5(OH)_4$
Illite-Montmorillonite	$KAl_4(Si,Al)_8O_{20}(OH)_4 \cdot 8H_2O$

Summary of Rietveld Quantitative Analysis X-Ray Diffraction Results

Mineral/Compound	BAL-2-60-70-20230621 AUG4527-07 (wt %)	BAL-3-40-52-20230621 AUG4527-08 (wt %)	BAL-4-50-51-20230622 AUG4527-09 (wt %)	BAL-4-51-55-20230622 AUG4527-10 (wt %)	BAL-4-55-72-20230622 AUG4527-11 (wt %)
Quartz	19.4	14.2	24.2	13.1	5.2
Actinolite	-	-	-	-	-
Albite	0.2	1.8	2.2	0.4	0.0
Microcline	1.3	5.3	3.2	1.9	0.3
Dolomite	6.2	0.3	-	-	-
Calcite	49.5	33.9	35.5	74.9	90.2
Magnetite	-	-	0.7	0.4	-
Muscovite	4.3	12.9	17.6	5.3	2.0
Chlorite	1.8	3.7	-	-	-
Pyrite	0.8	1.3	0.2	0.1	0.3
Ankerite	10.0	1.6	-	0.0	0.4
Gypsum	-	-	-	-	-
Hematite	0.4	-	-	-	-
Anatase	-	0.6	0.5	0.5	-
Rhodochrosite	-	-	-	-	-
Clay					
Montmorillonite	2.6	14.0	-	2.2	0.9
Illite	2.6	6.1	7.9	1.2	0.9
Kaolinite	0.8	4.2	-	-	-
Illite-Montmorillonite	-	-	8.0	-	-
TOTAL	100	100	100	100	100

Zero values indicate that the mineral was included in the refinement, but the calculated concentration is below a measurable value.

Dashes indicate that the mineral was not identified by the analyst and not included in the refinement calculation for the sample.

The weight percent quantities indicated have been normalized to a sum of 100%. The quantity of amorphous material has not been determined.

Mineral/Compound	Formula
Quartz	SiO_2
Actinolite	$Ca_2(Mg,Fe)_5Si_8O_{22}(OH)_2$
Albite	$NaAlSi_3O_8$
Microcline	$KAlSi_3O_8$
Dolomite	$CaMg(CO_3)_2$
Calcite	$CaCO_3$
Magnetite	Fe_3O_4
Muscovite	$KAl_2(AlSi_3O_{10})(OH)_2$
Chlorite	$(Fe,(Mg,Mn)_5,Al)(Si_3Al)O_{10}(OH)_8$
Pyrite	FeS_2
Ankerite	$CaFe(CO_3)_2$
Gypsum	$CaSO_4 \cdot 2H_2O$
Hematite	Fe_2O_3
Anatase	TiO_2
Rhodochrosite	$MnCO_3$
Montmorillonite	$(Na,Ca)_{0.3}(Al,Mg)_2Si_4O_{10}(OH)_2 \cdot 10H_2O$
Illite	$(K,H_3O)(Al,Mg,Fe)_2(Si,Al)_4O_{10}[(OH)_2,(H_2O)]$
Kaolinite	$Al_2Si_2O_5(OH)_4$
Illite-Montmorillonite	$KAl_4(Si,Al)_8O_{20}(OH)_4 \cdot 8H_2O$

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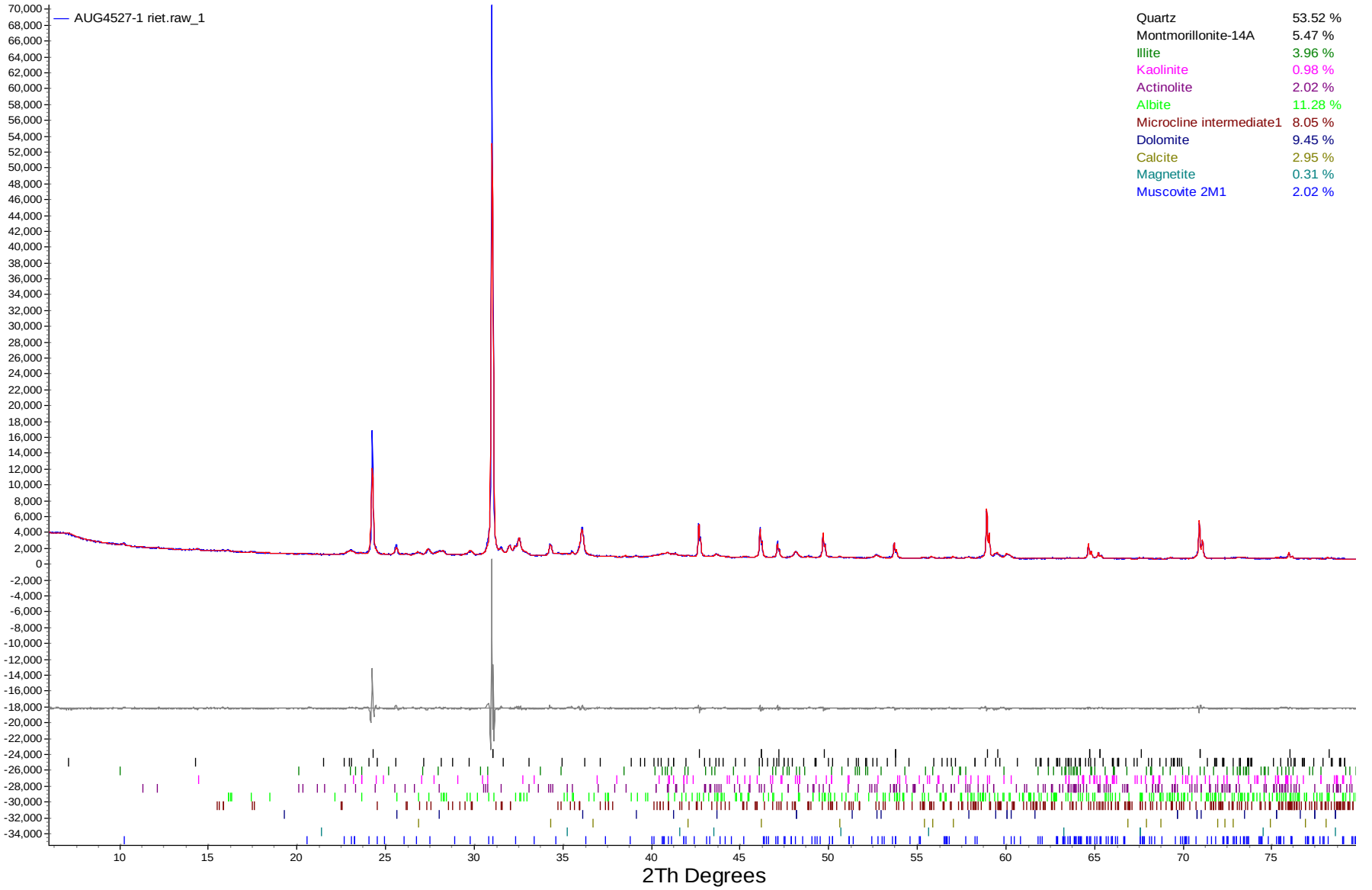

Quartz	53.52 %
Montmorillonite-14A	5.47 %
Illite	3.96 %
Kaolinite	0.98 %
Actinolite	2.02 %
Albite	11.28 %
Microcline intermediate1	8.05 %
Dolomite	9.45 %
Calcite	2.95 %
Magnetite	0.31 %
Muscovite 2M1	2.02 %

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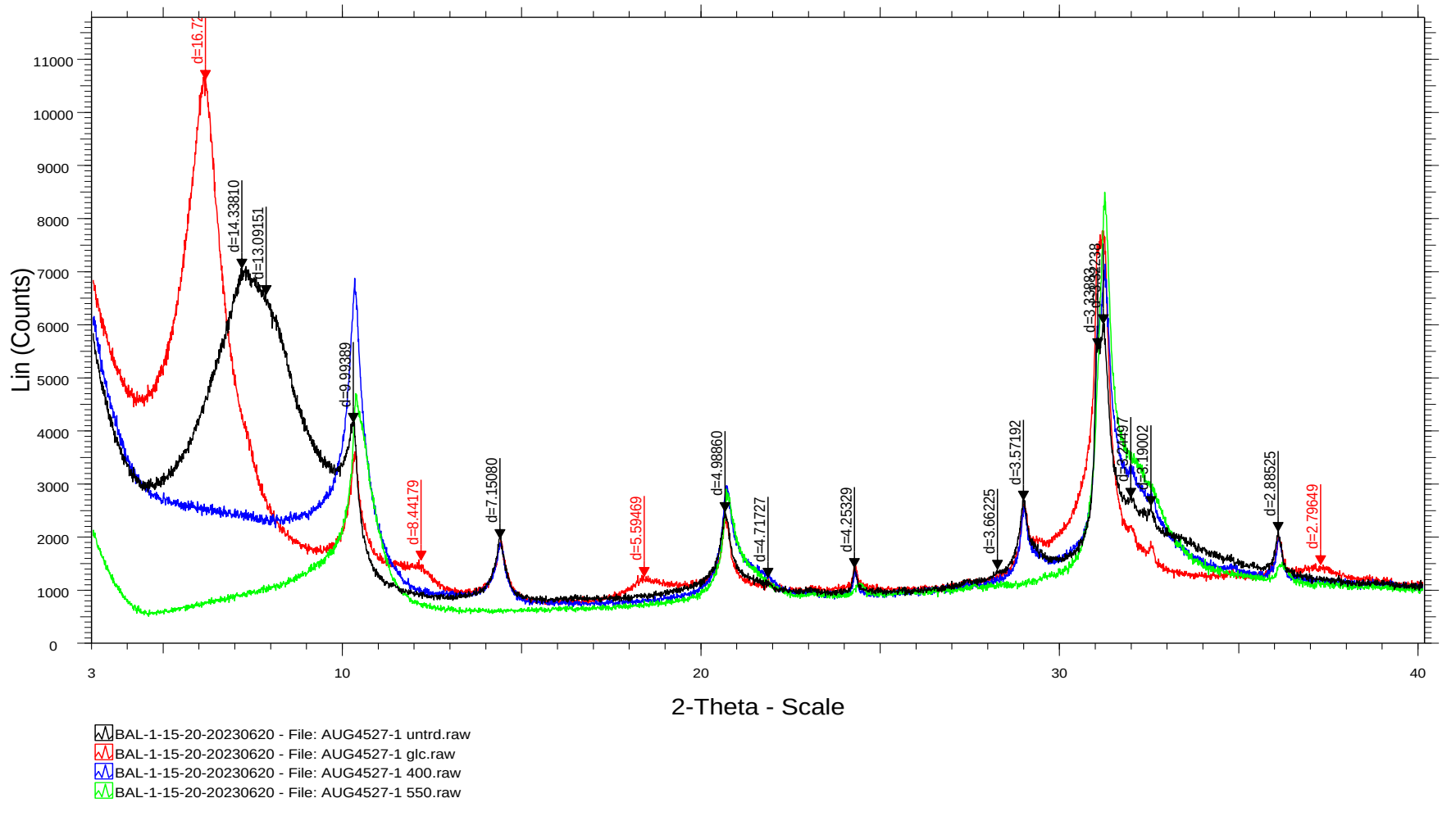

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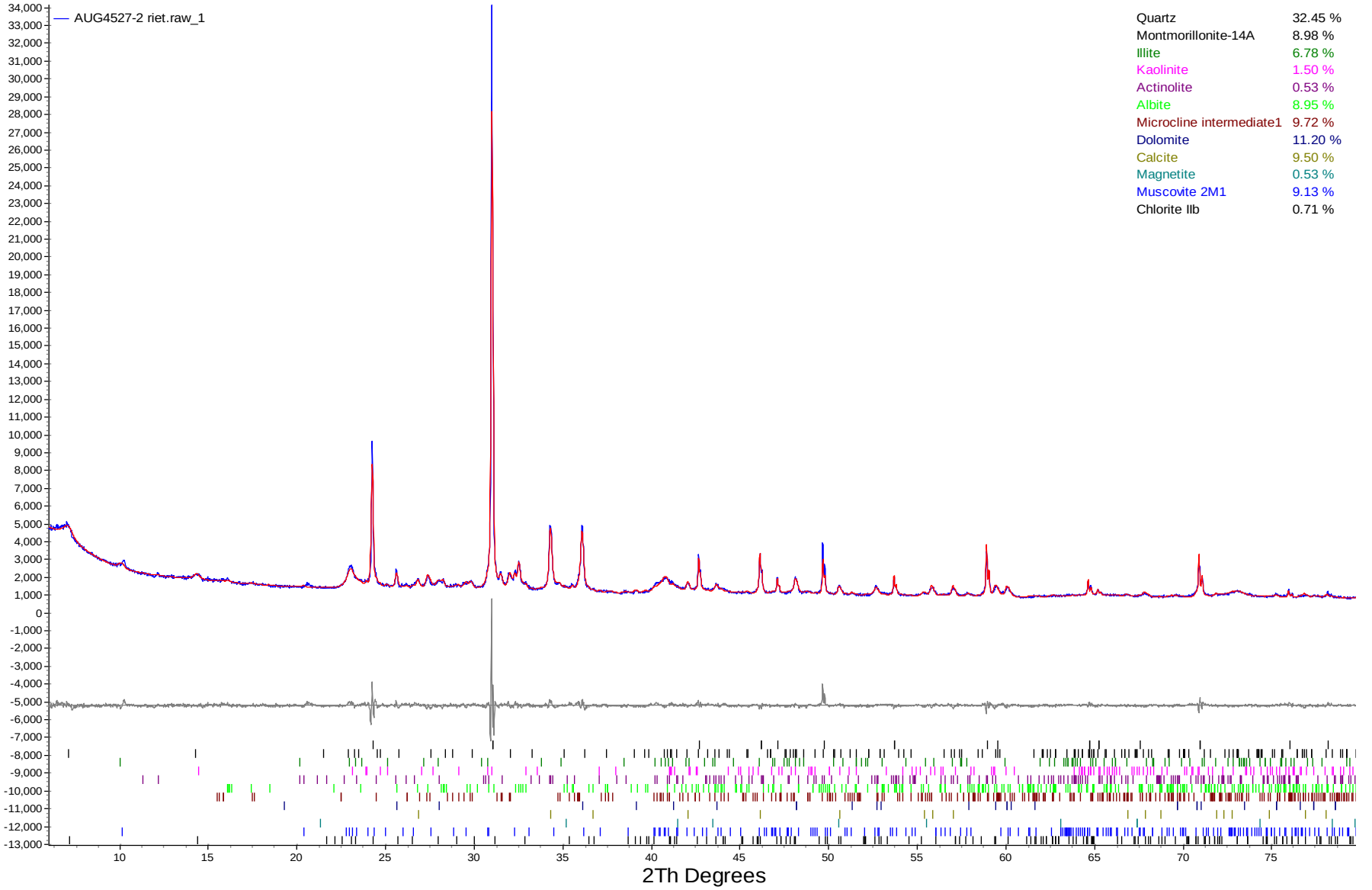

Quartz	32.45 %
Montmorillonite-14A	8.98 %
Illite	6.78 %
Kaolinite	1.50 %
Actinolite	0.53 %
Albite	8.95 %
Microcline intermediate1	9.72 %
Dolomite	11.20 %
Calcite	9.50 %
Magnetite	0.53 %
Muscovite 2M1	9.13 %
Chlorite IIb	0.71 %

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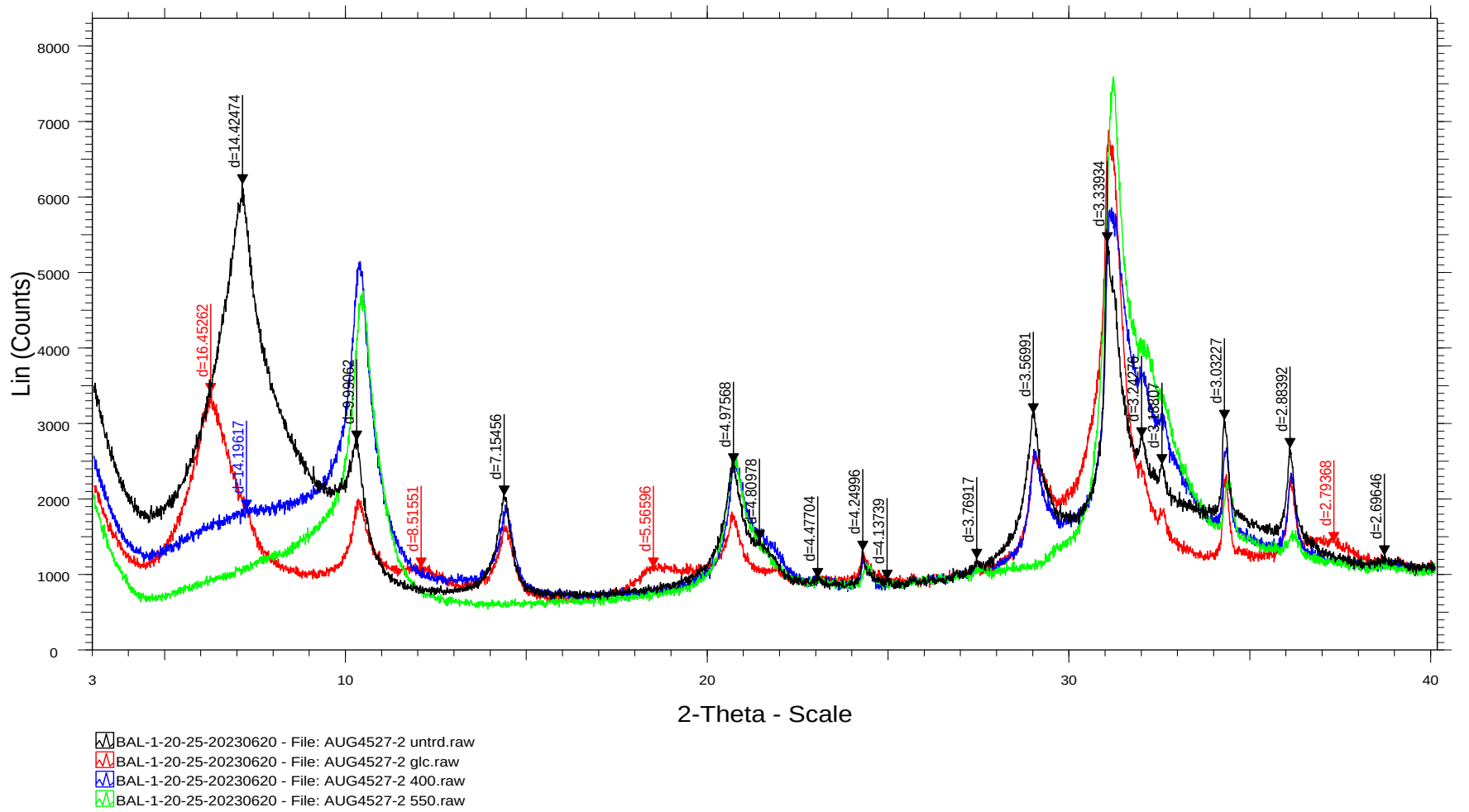

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15-Sep-23

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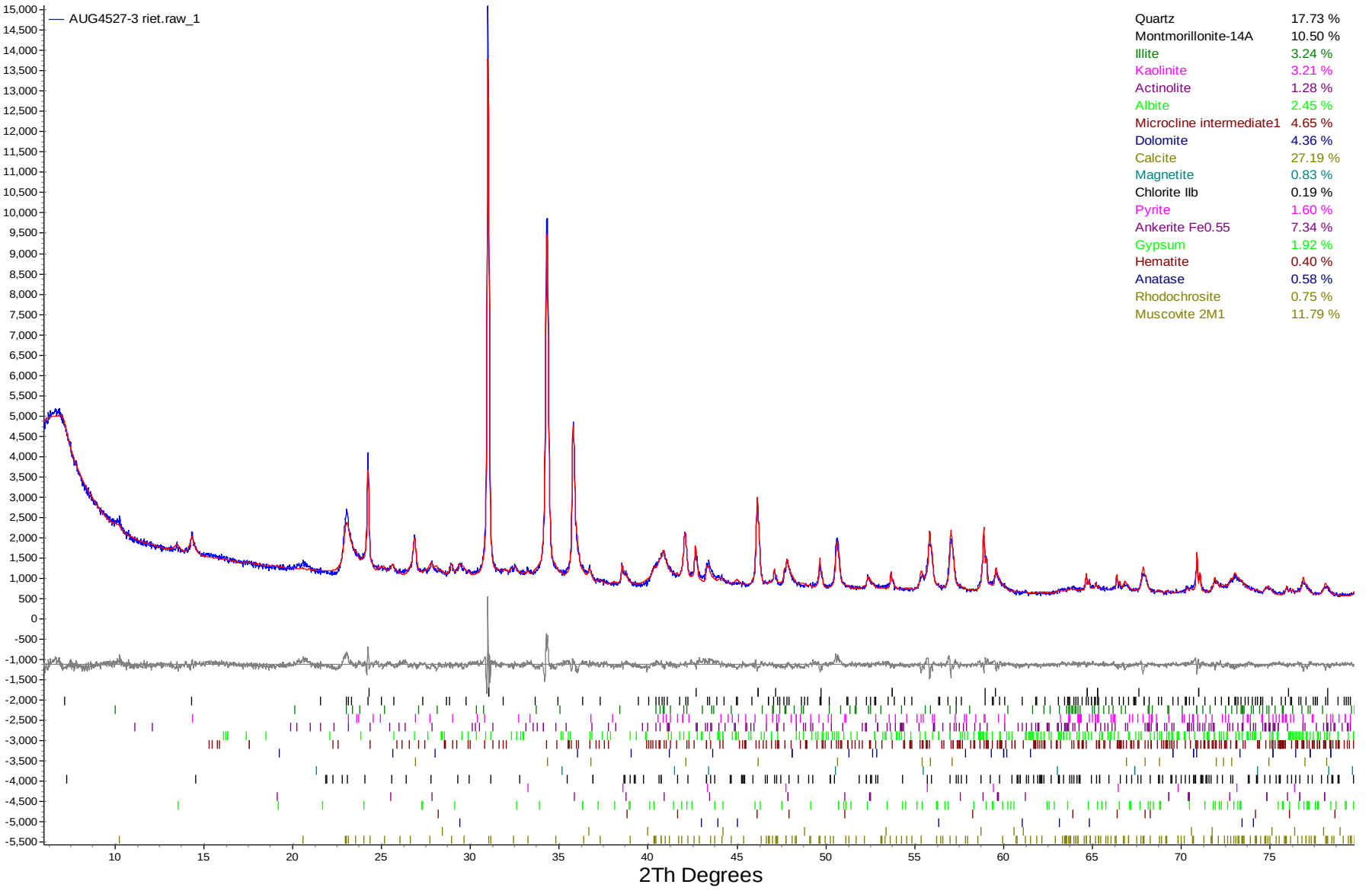
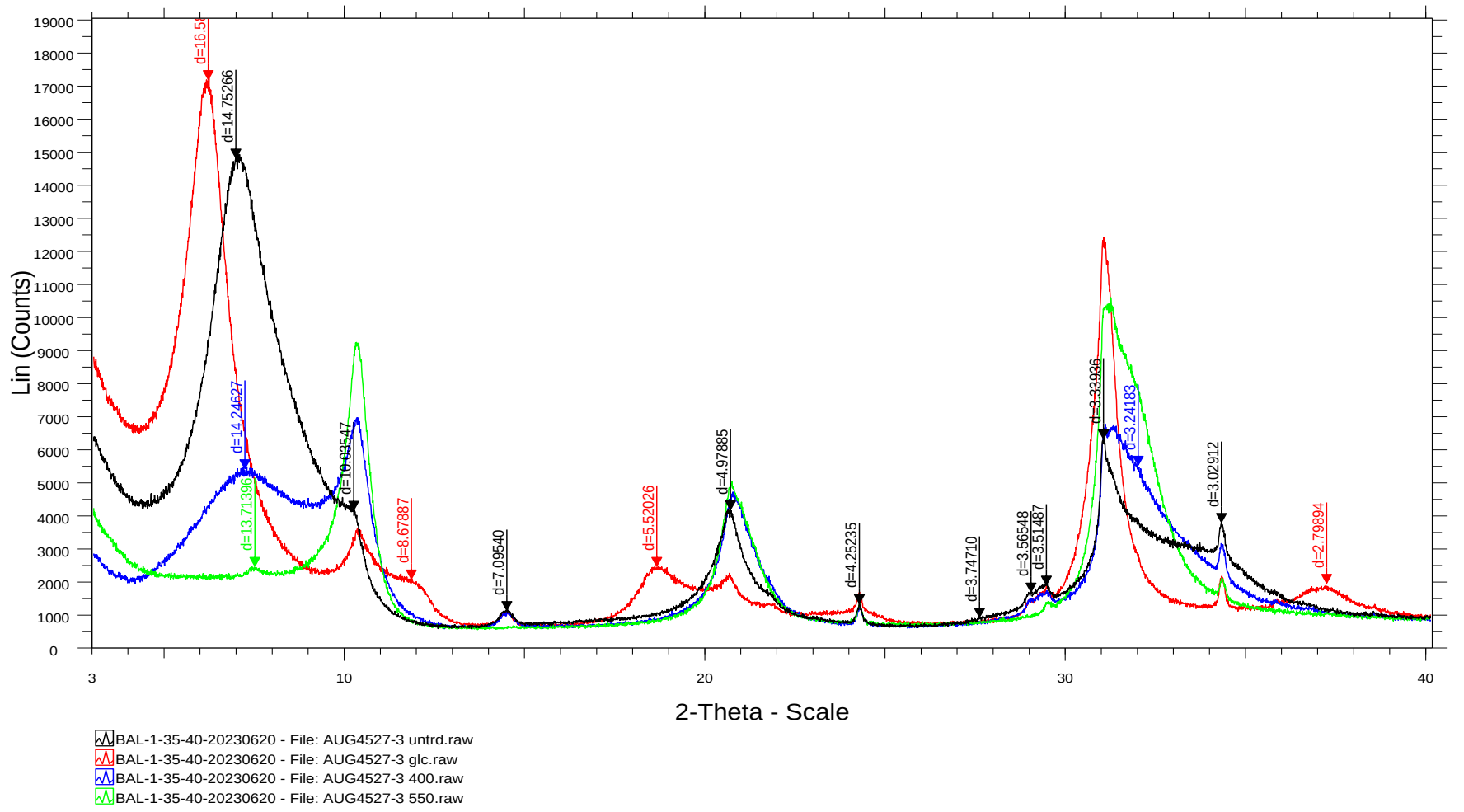


Quartz	17.73 %
Montmorillonite-14A	10.50 %
Illite	3.24 %
Kaolinite	3.21 %
Actinolite	1.28 %
Albite	2.45 %
Microcline intermediate1	4.65 %
Dolomite	4.36 %
Calcite	27.19 %
Magnetite	0.83 %
Chlorite IIb	0.19 %
Pyrite	1.60 %
Ankerite Fe0.55	7.34 %
Gypsum	1.92 %
Hematite	0.40 %
Anatase	0.58 %
Rhodochrosite	0.75 %
Muscovite 2M1	11.79 %

BAL-1-35-40-20230620



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Custom XRD/MI4527-AUG23
15-Sep-23

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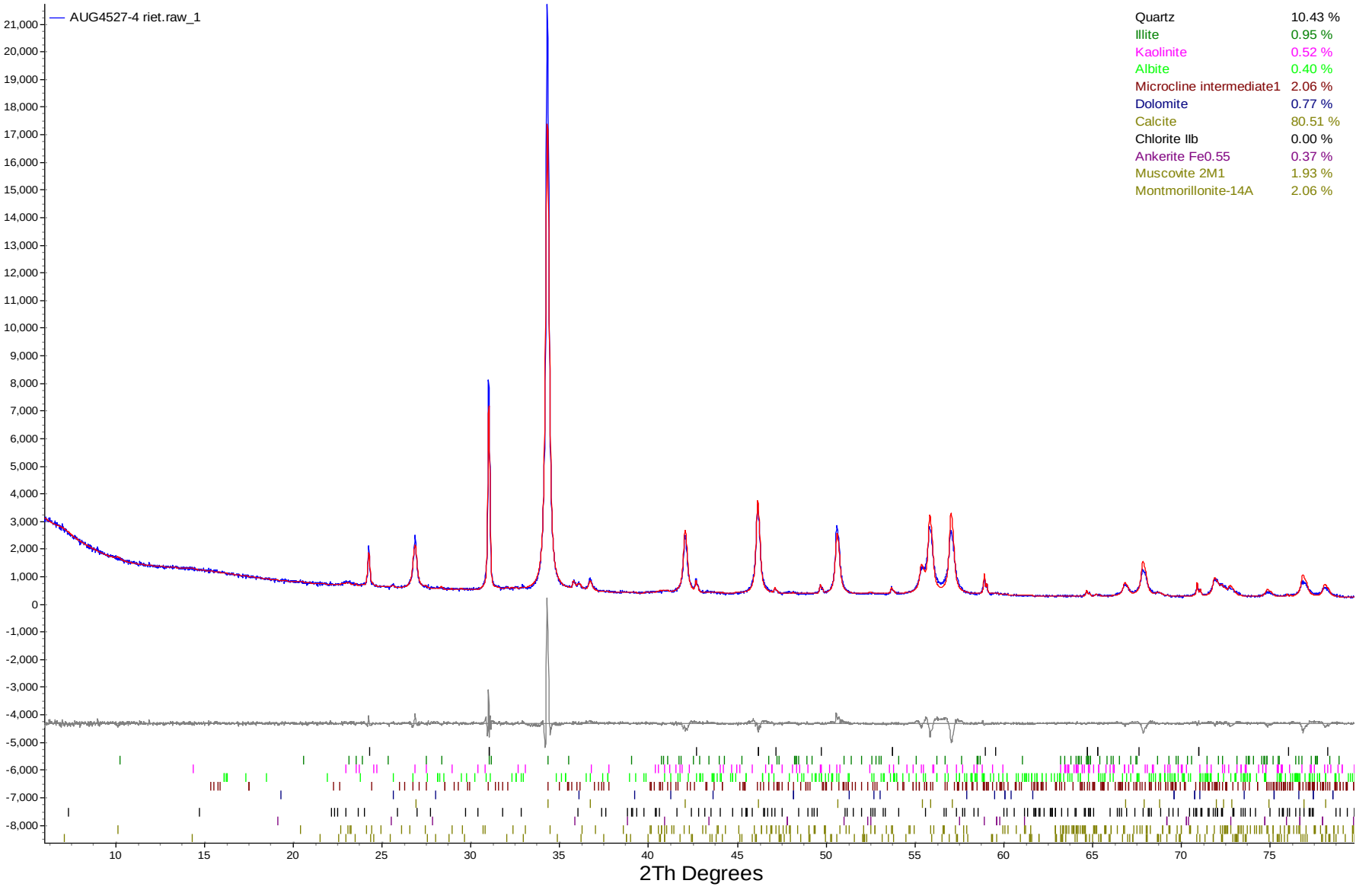

Quartz	10.43 %
Illite	0.95 %
Kaolinite	0.52 %
Albite	0.40 %
Microcline intermediate1	2.06 %
Dolomite	0.77 %
Calcite	80.51 %
Chlorite IIb	0.00 %
Ankerite Fe0.55	0.37 %
Muscovite 2M1	1.93 %
Montmorillonite-14A	2.06 %

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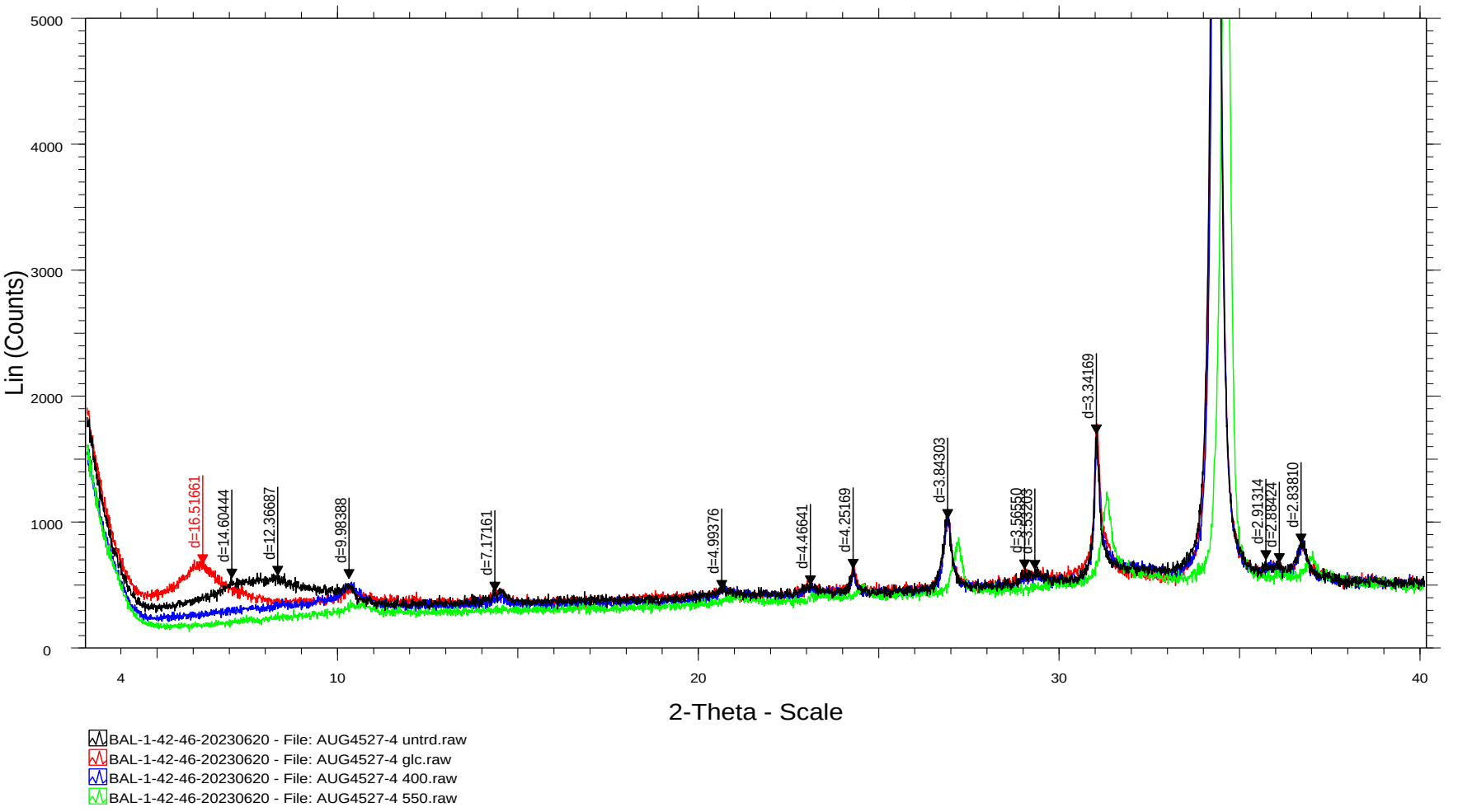

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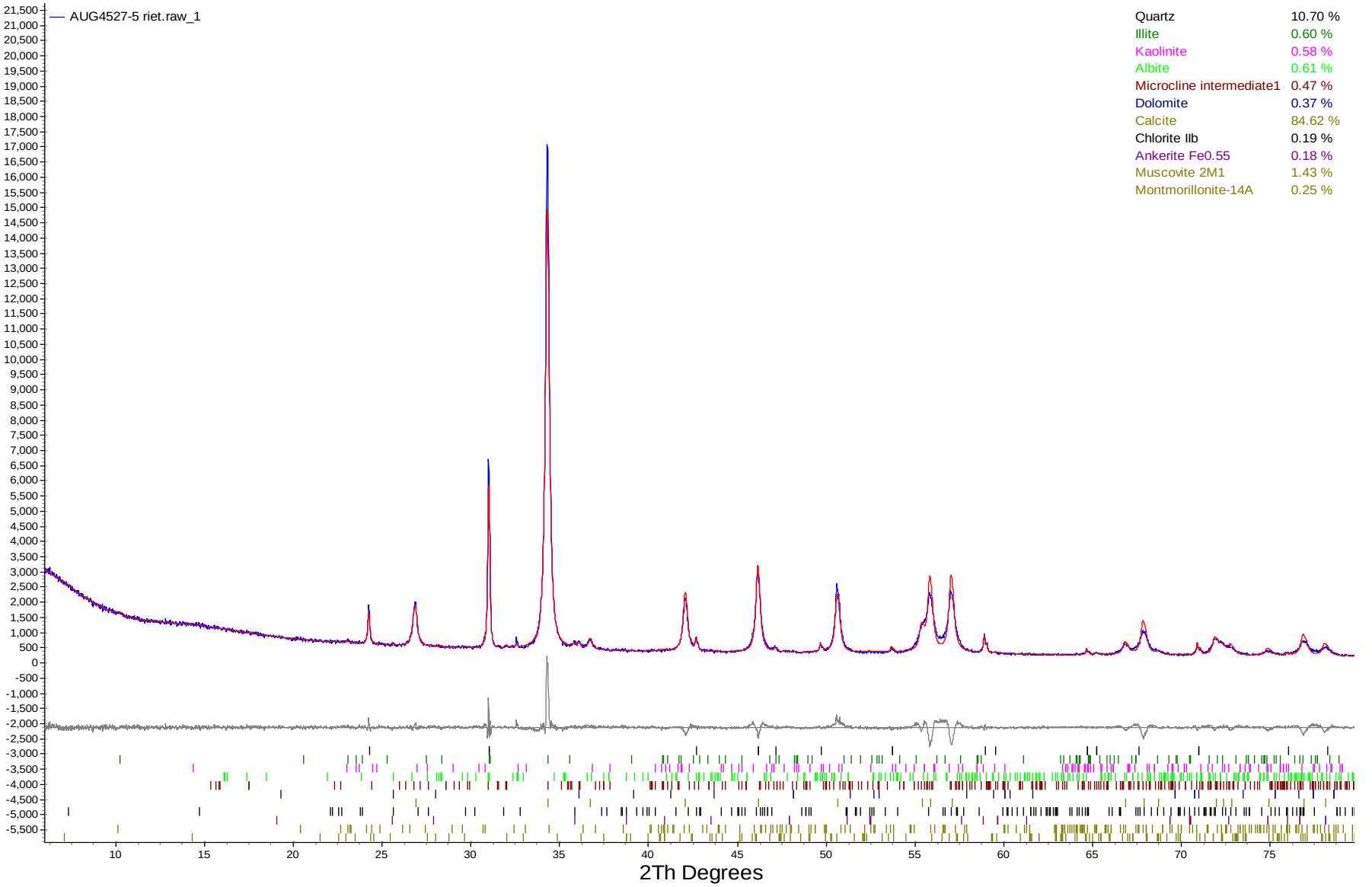

Quartz	10.70 %
Illite	0.60 %
Kaolinite	0.58 %
Albite	0.61 %
Microcline intermediate1	0.47 %
Dolomite	0.37 %
Calcite	84.62 %
Chlorite IIb	0.19 %
Ankerite Fe0.55	0.18 %
Muscovite 2M1	1.43 %
Montmorillonite-14A	0.25 %

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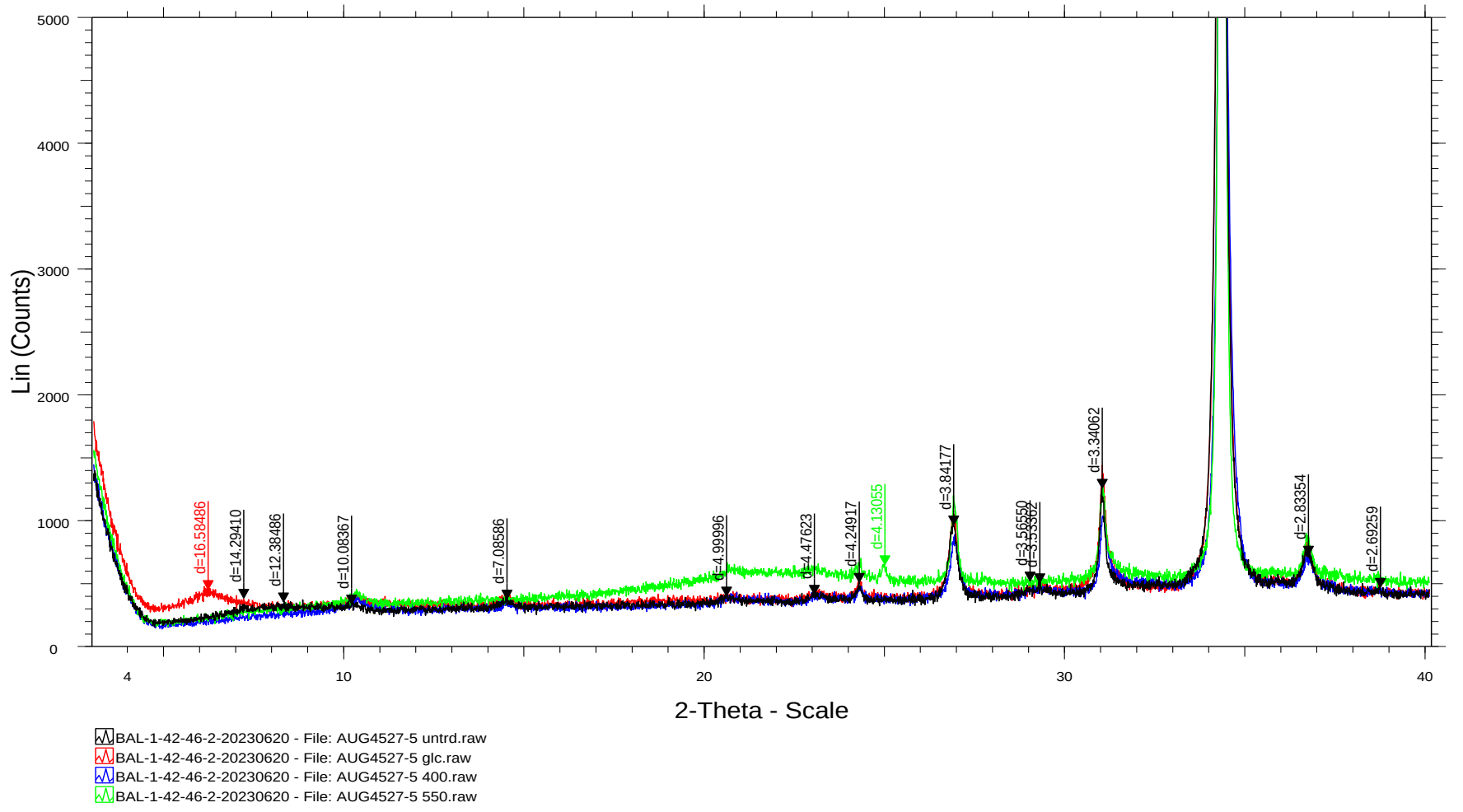

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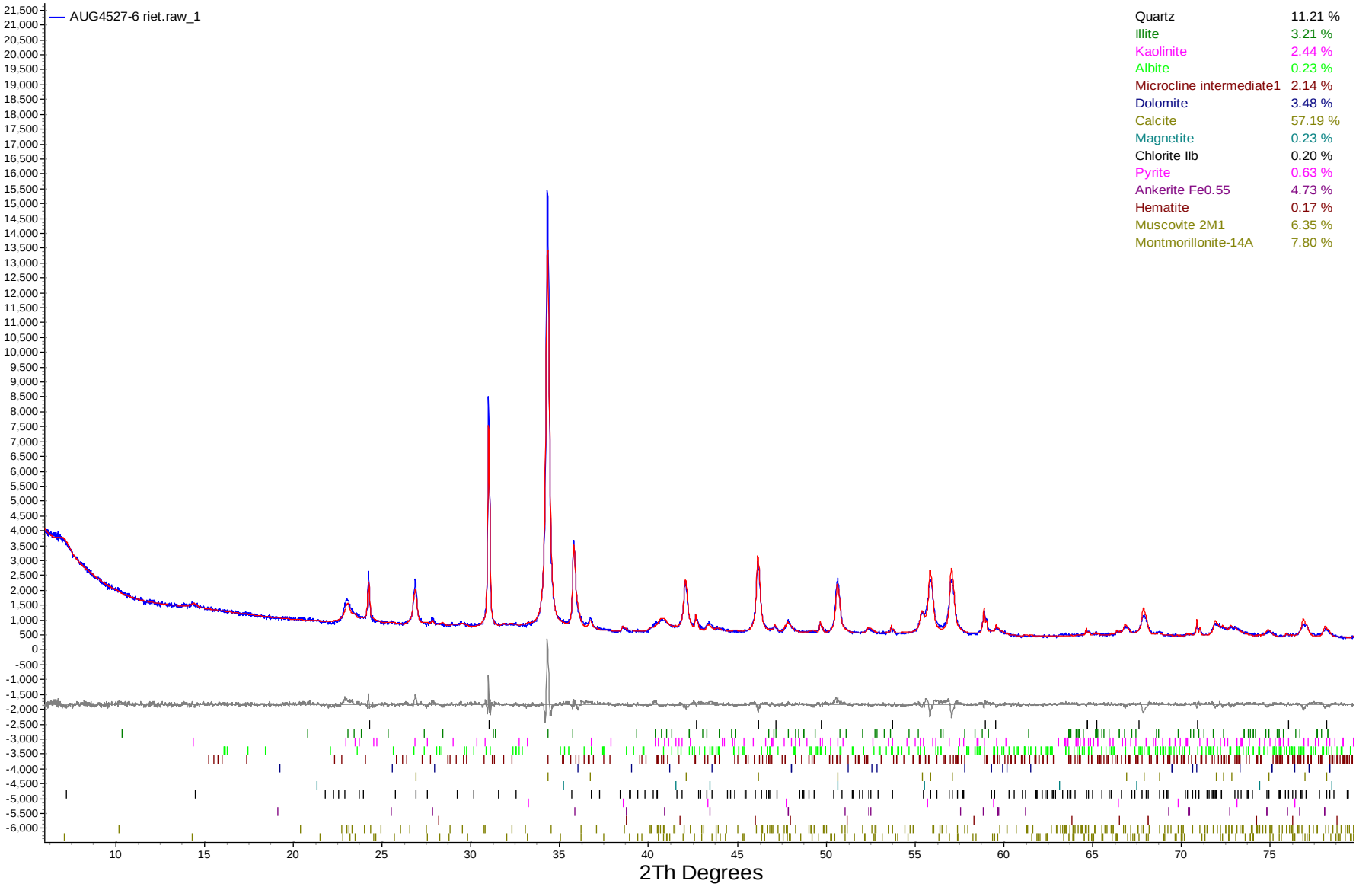

Quartz	11.21 %
Illite	3.21 %
Kaolinite	2.44 %
Albite	0.23 %
Microcline intermediate1	2.14 %
Dolomite	3.48 %
Calcite	57.19 %
Magnetite	0.23 %
Chlorite IIb	0.20 %
Pyrite	0.63 %
Ankerite Fe0.55	4.73 %
Hematite	0.17 %
Muscovite 2M1	6.35 %
Montmorillonite-14A	7.80 %

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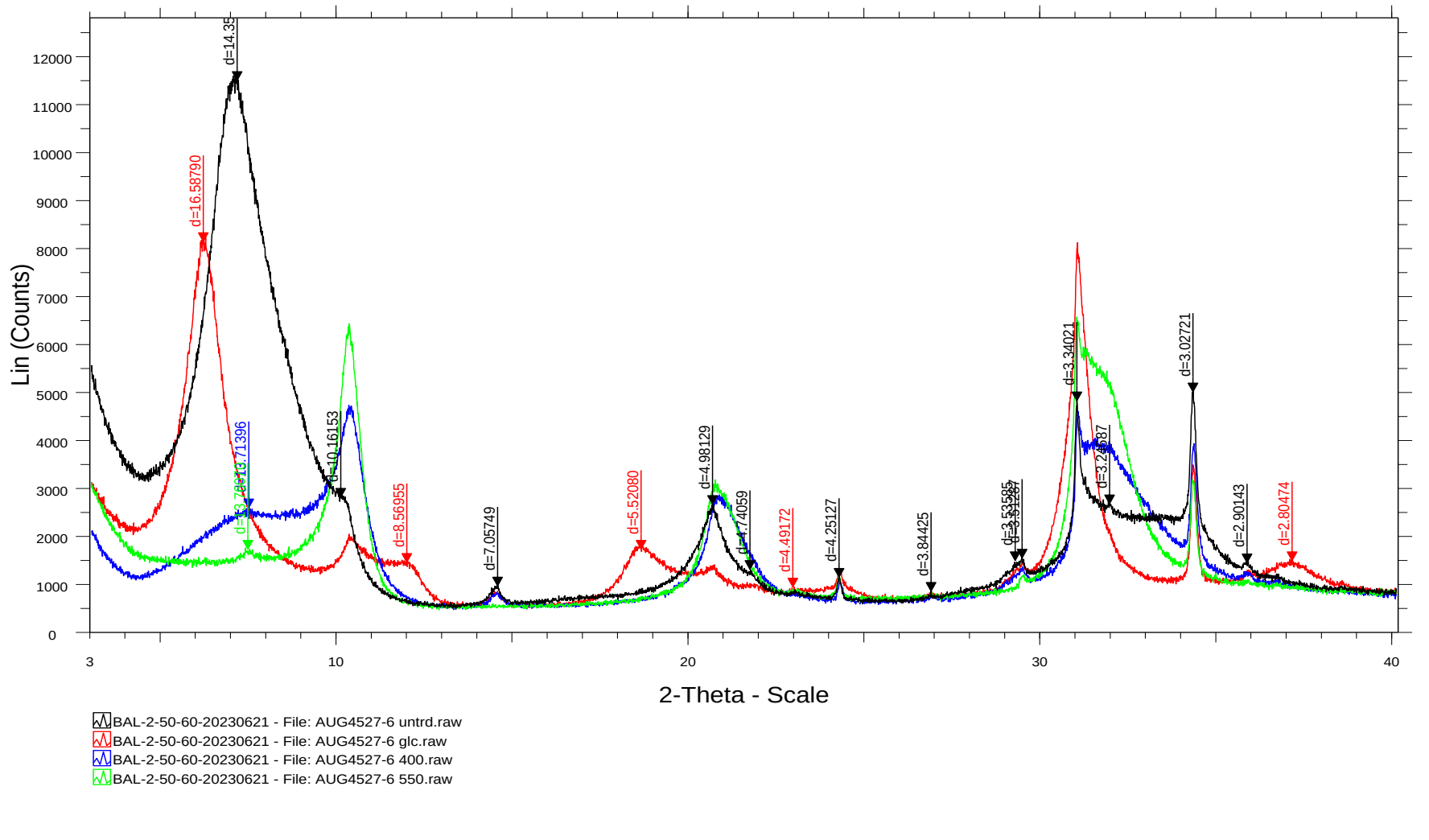

Environmental Services
Custom XRD/MI4527-AUG23
15-Sep-23

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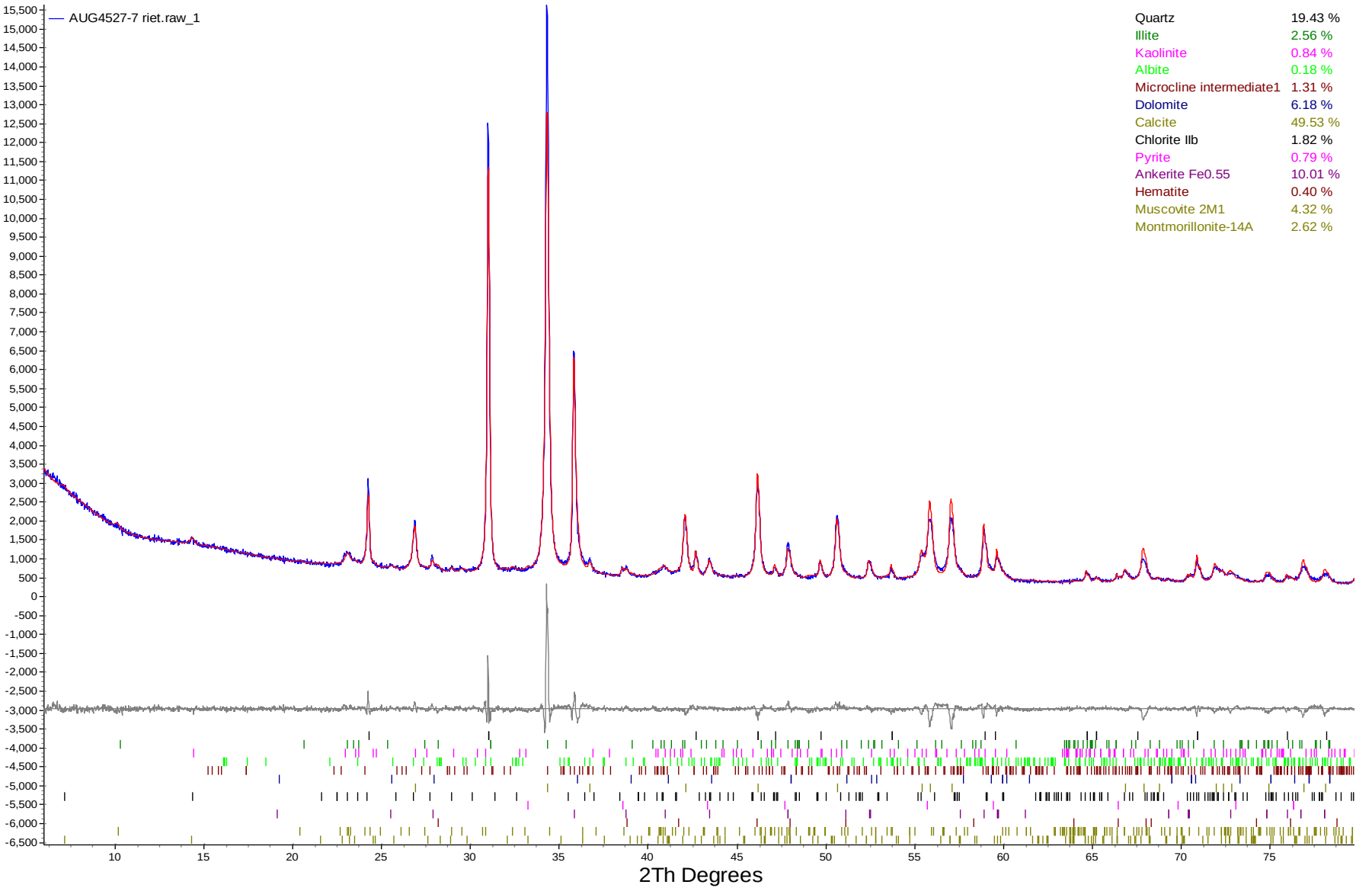
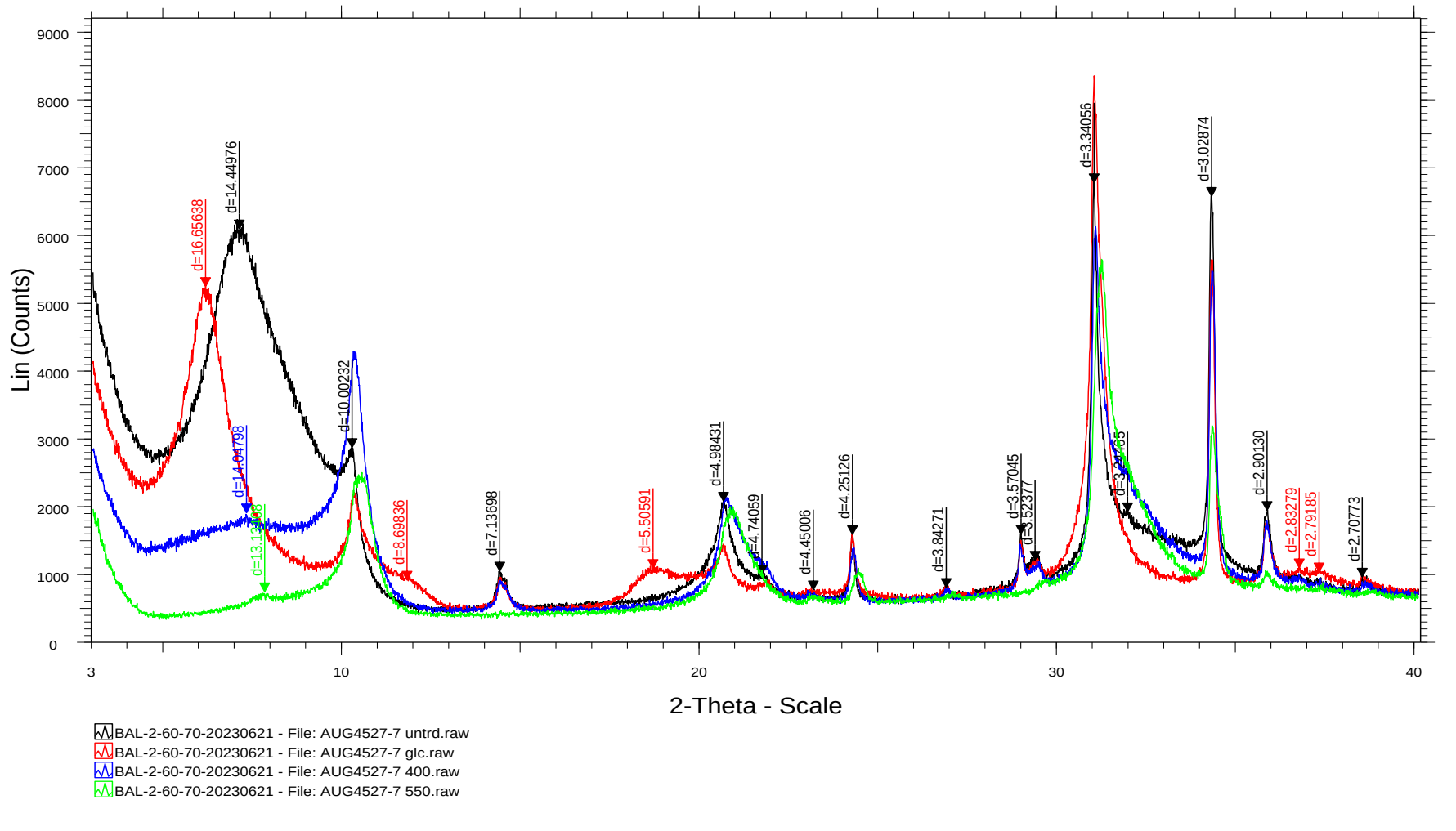


Quartz	19.43 %
Illite	2.56 %
Kaolinite	0.84 %
Albite	0.18 %
Microcline intermediate1	1.31 %
Dolomite	6.18 %
Calcite	49.53 %
Chlorite IIb	1.82 %
Pyrite	0.79 %
Ankerite Fe0.55	10.01 %
Hematite	0.40 %
Muscovite 2M1	4.32 %
Montmorillonite-14A	2.62 %

BAL-2-60-70-20230621



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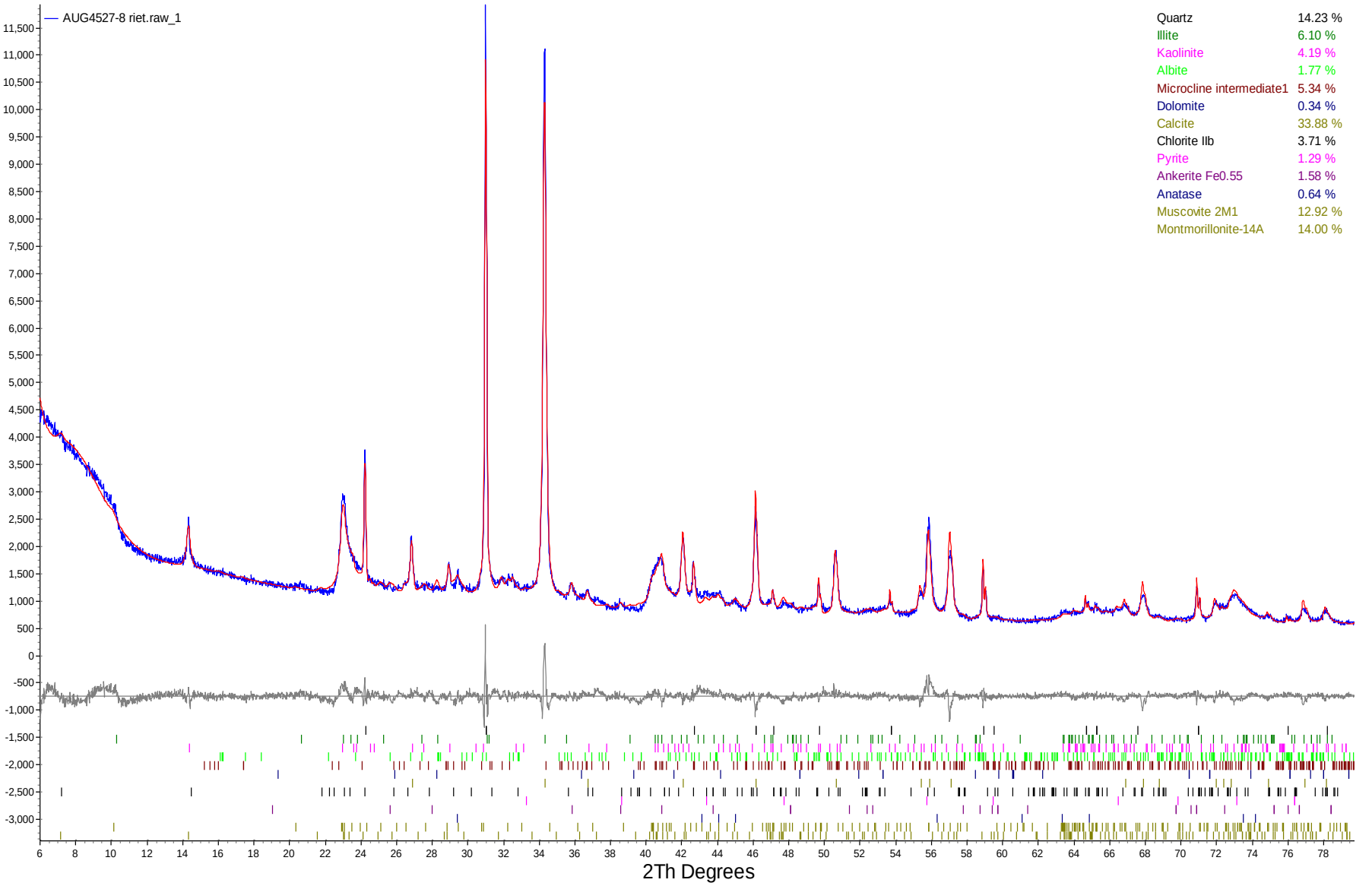
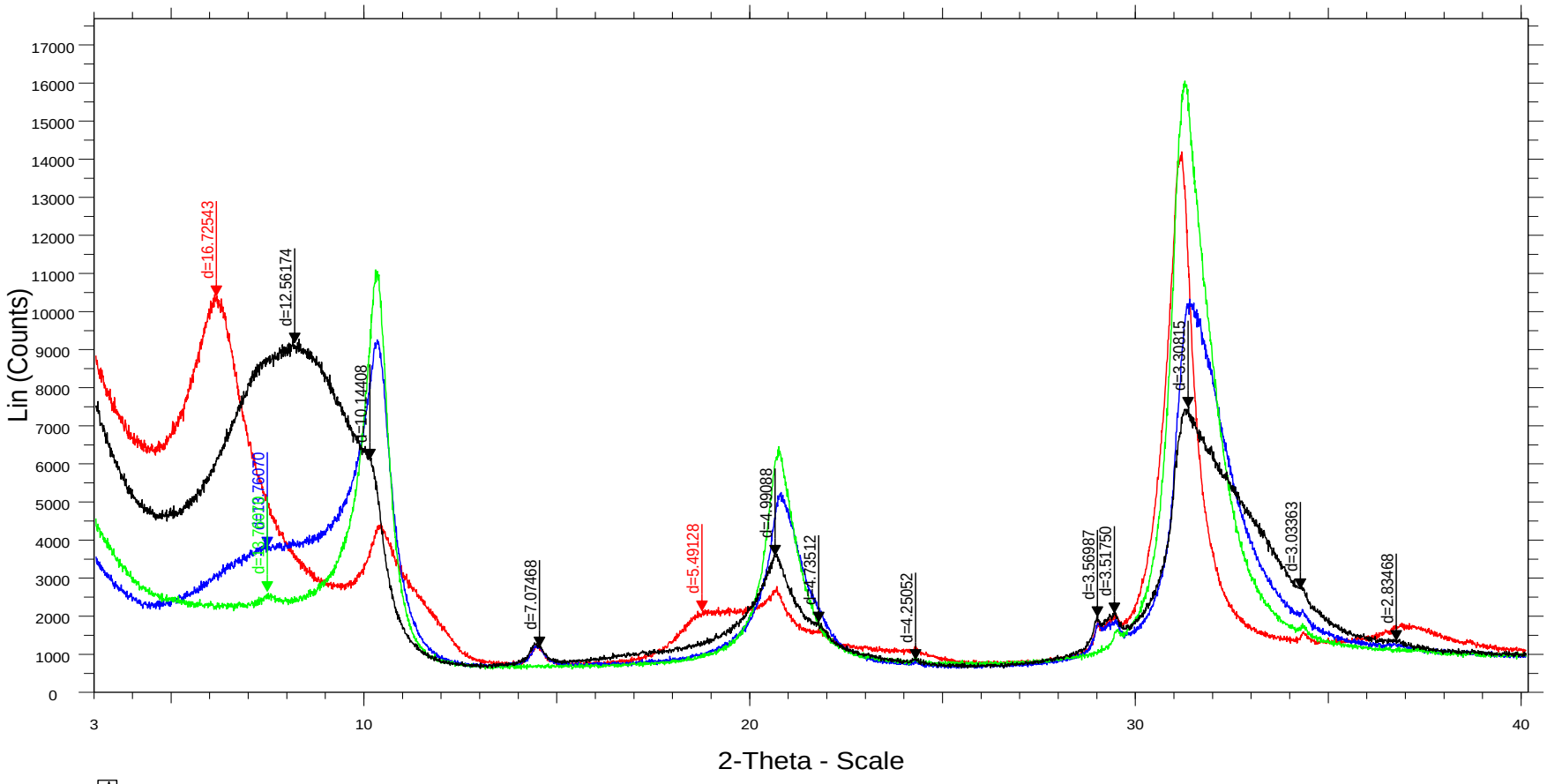


Quartz	14.23 %
Illite	6.10 %
Kaolinite	4.19 %
Albite	1.77 %
Microcline intermediate1	5.34 %
Dolomite	0.34 %
Calcite	33.88 %
Chlorite IIb	3.71 %
Pyrite	1.29 %
Ankerite Fe0.55	1.58 %
Anatase	0.64 %
Muscovite 2M1	12.92 %
Montmorillonite-14A	14.00 %

BAL-3-40-52-20230621



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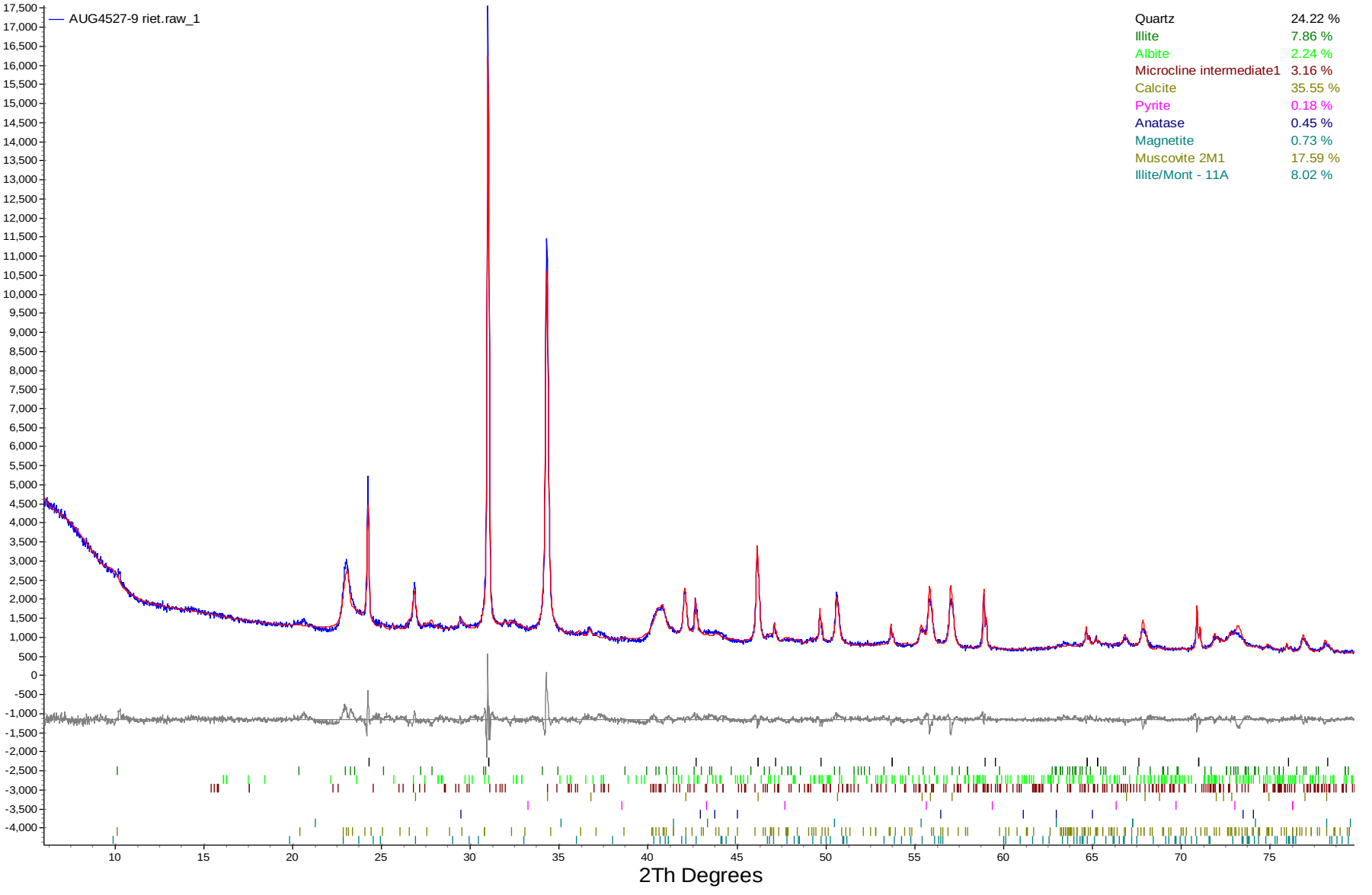
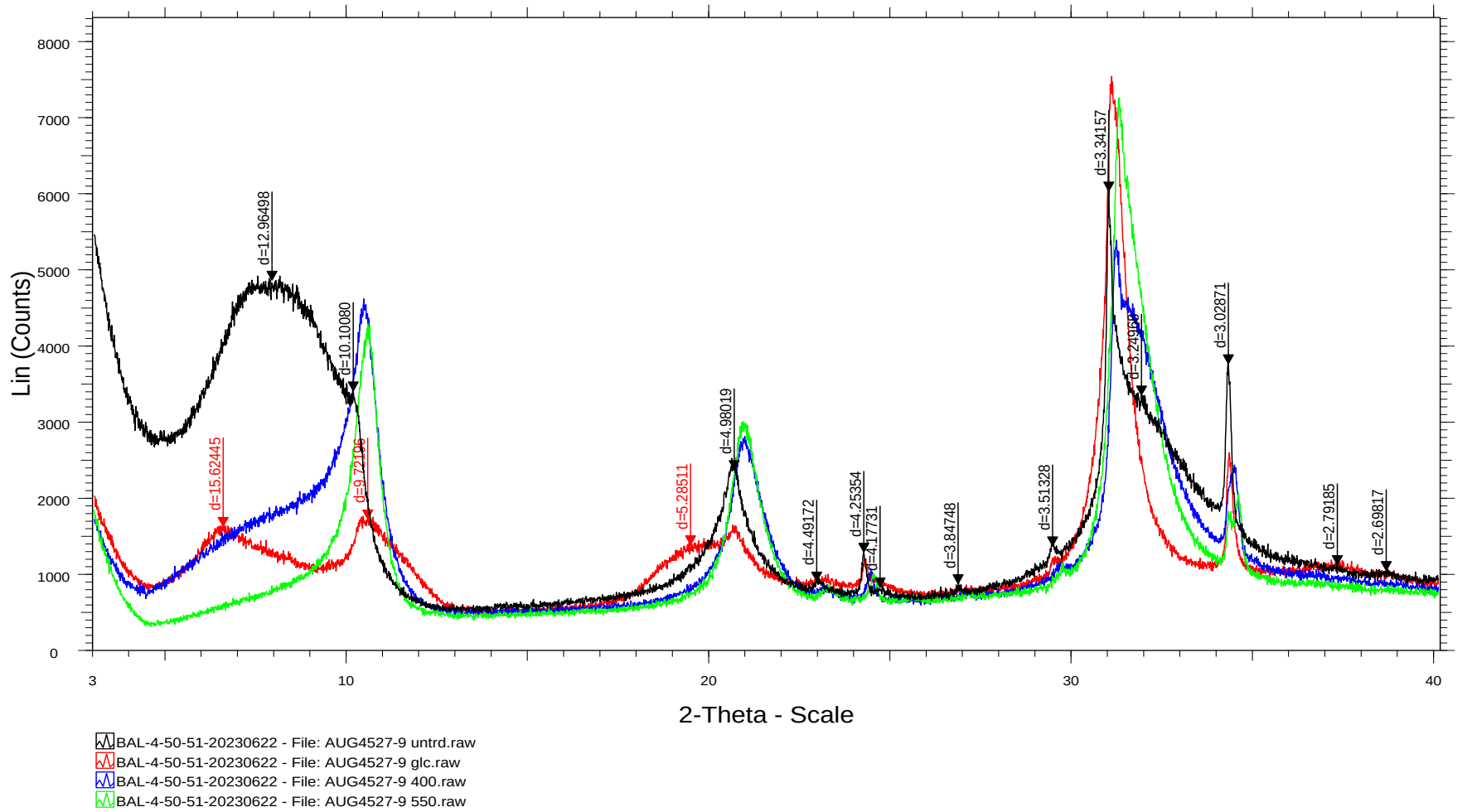


Quartz	24.22 %
Illite	7.86 %
Albite	2.24 %
Microcline intermediate1	3.16 %
Calcite	35.55 %
Pyrite	0.18 %
Anatase	0.45 %
Magnetite	0.73 %
Muscovite 2M1	17.59 %
Illite/Mont - 11A	8.02 %

BAL-4-50-51-20230622



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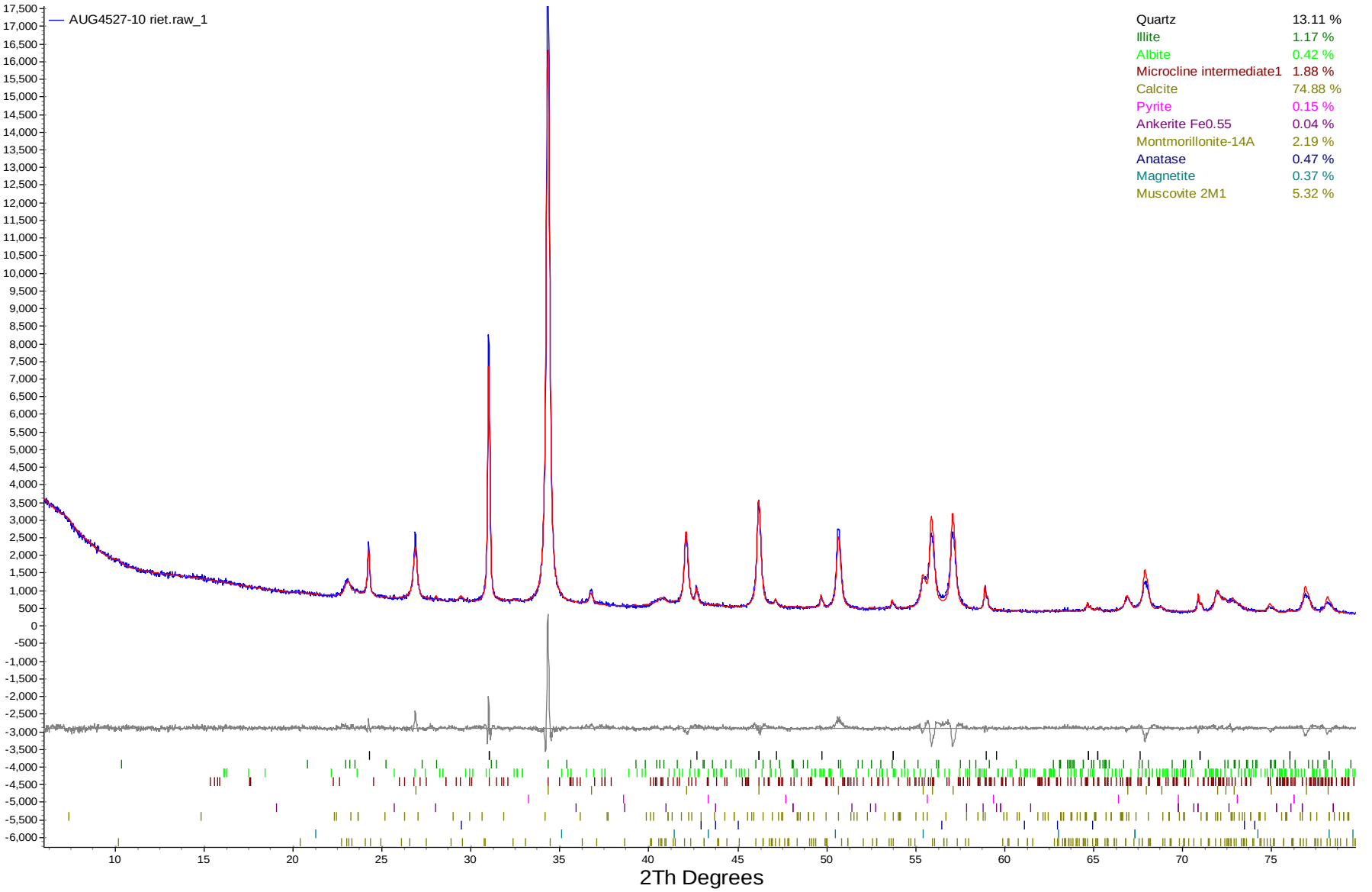
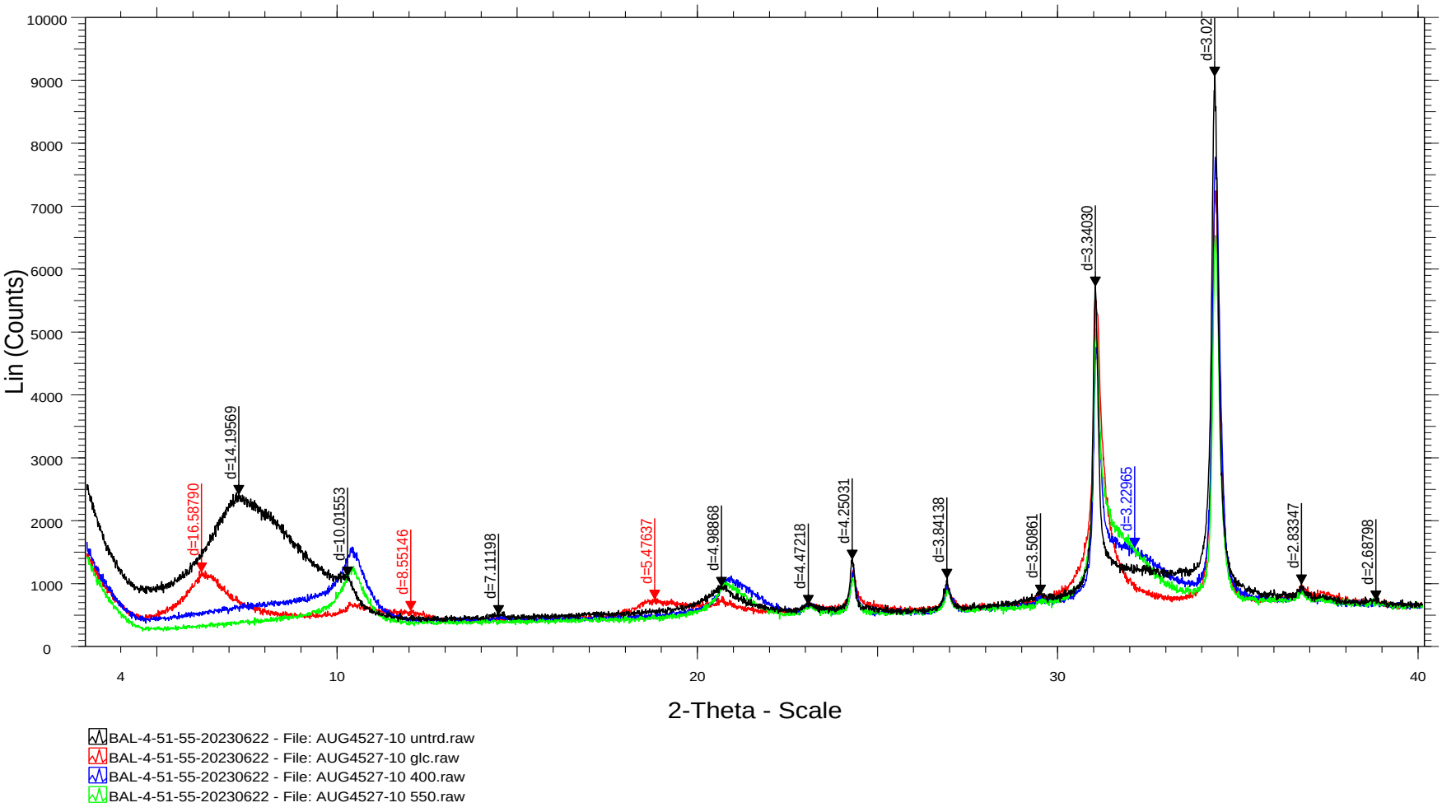


Quartz	13.11 %
Illite	1.17 %
Albite	0.42 %
Microcline intermediate1	1.88 %
Calcite	74.88 %
Pyrite	0.15 %
Ankerite Fe0.55	0.04 %
Montmorillonite-14A	2.19 %
Anatase	0.47 %
Magnetite	0.37 %
Muscovite 2M1	5.32 %

BAL-4-51-55-20230622



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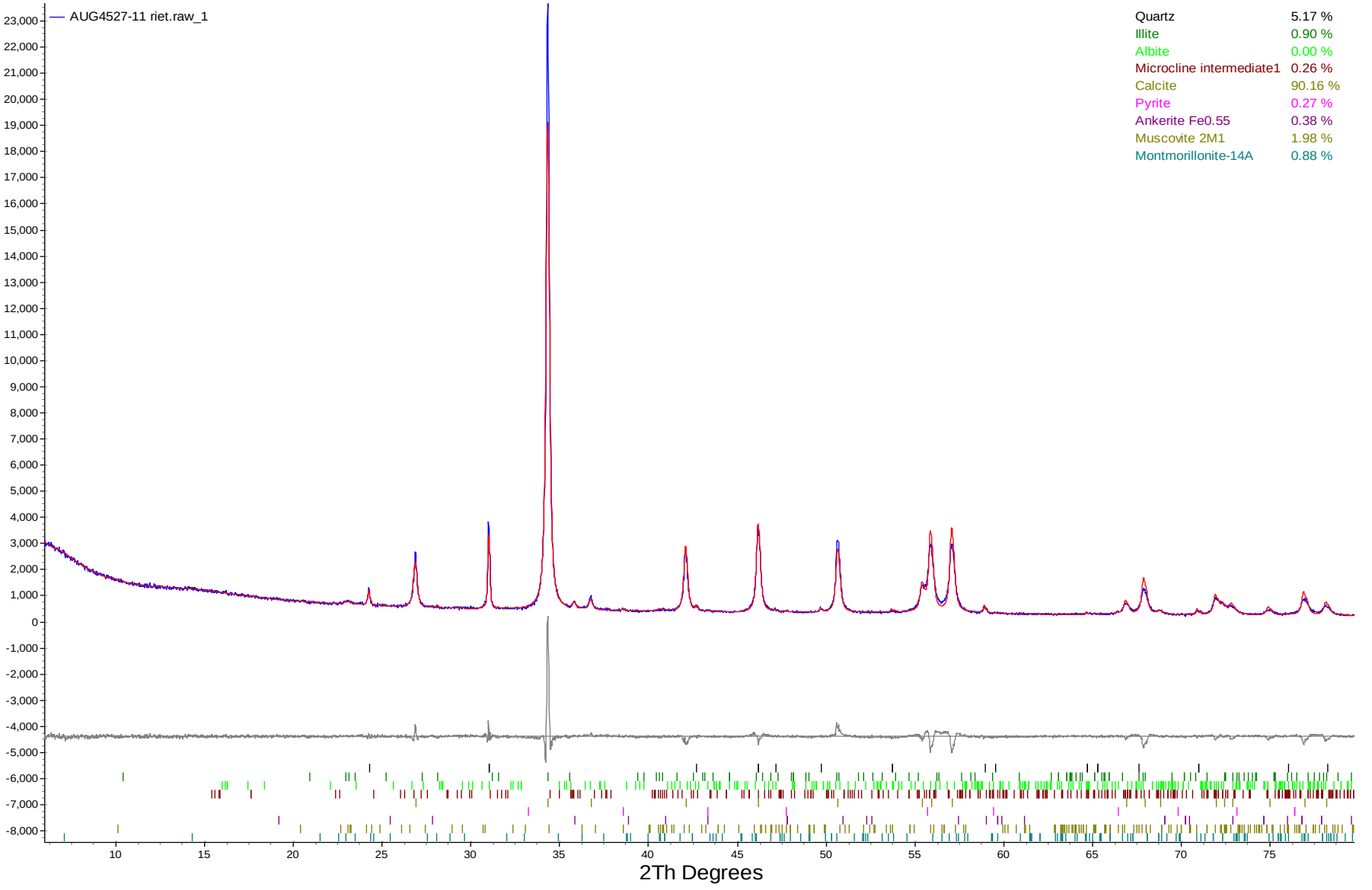
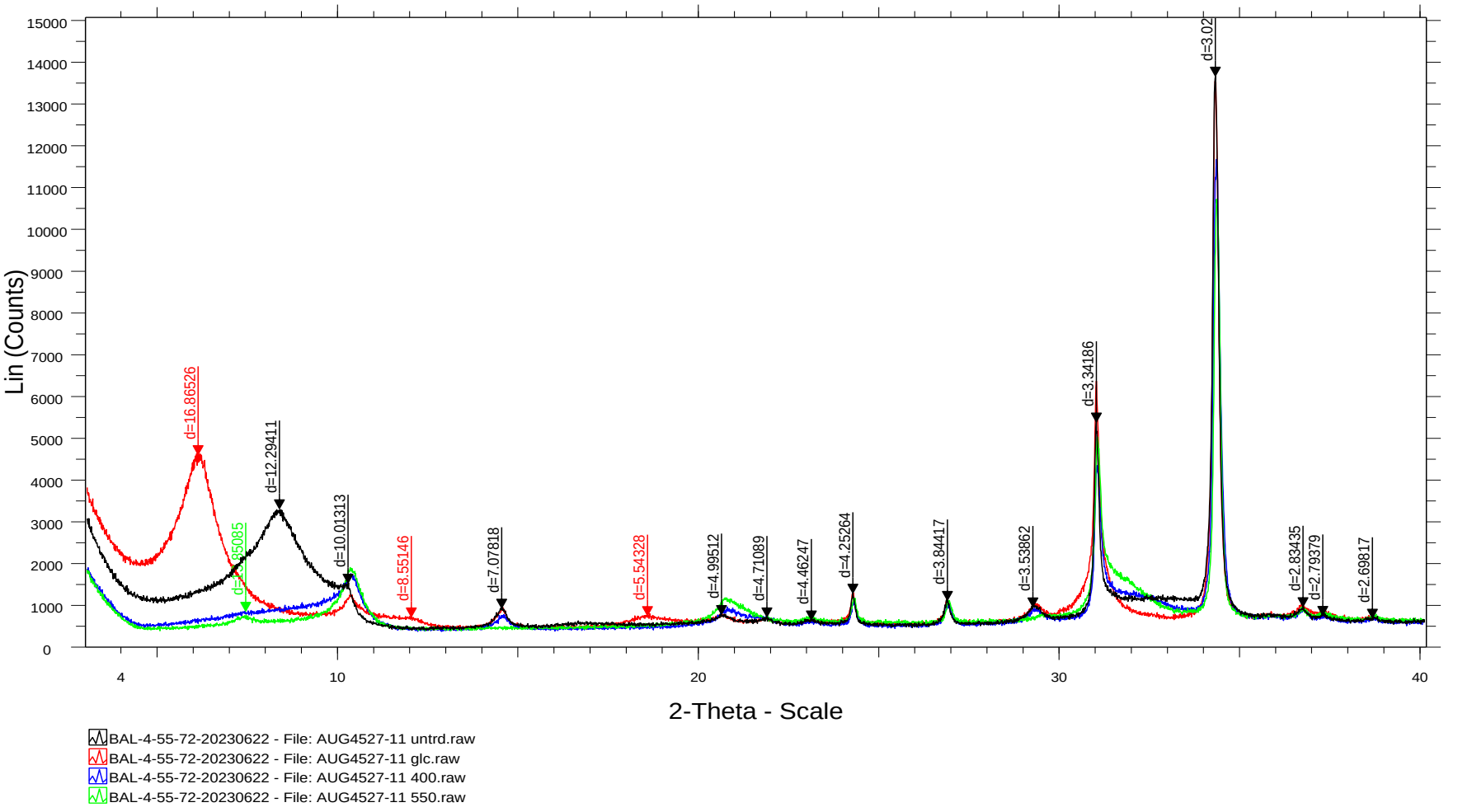


Quartz	5.17 %
Illite	0.90 %
Albite	0.00 %
Microcline intermediate1	0.26 %
Calcite	90.16 %
Pyrite	0.27 %
Ankerite Fe0.55	0.38 %
Muscovite 2M1	1.98 %
Montmorillonite-14A	0.88 %

BAL-4-55-72-20230622



Quantitative X-Ray Diffraction by Rietveld Refinement

Report Prepared for:	*Environmental Services*
Project Number/ LIMS No.	*Custom XRD/MI4508-DEC22*
Sample Receipt:	*December 7, 2022*
Sample Analysis:	*December 15, 2022*
Reporting Date:	*April 24, 2023*

Instrument:	BRUKER AXS D8 Advance Diffractometer
Test Conditions (Bulk):	Co radiation, 35 kV, 40 mA; Detector: LYNXEYE Regular Scanning: Step: 0.02°, Step time: 0.75s, 2θ range: 6-80°
Test Conditions (Clay):	Co radiation, 35 kV, 40 mA; Detector: LYNXEYE Regular Scanning: Step: 0.02°, Step time: 1s, 2θ range: 3-80° Clay Section Scanning: Step: 0.01°, Step time:0.2s, 2θ range: 3-40°
***Interpretations*:**	PDF2/PDF4 powder diffraction databases issued by the International Center for Diffraction Data (ICDD). DiffracPlus Eva and Topas software.
***Detection Limit*:**	0.5-2%. Strongly dependent on crystallinity.

Contents:

1) Method Summary
2) Quantitative XRD Results
3) XRD Pattern(s)

Kim Gibbs, H.B.Sc., P.Geo.
Senior Mineralogist

Huyun Zhou, Ph.D., P.Geo.
Senior Mineralogist

ACCREDITATION: SGS Natural Resources Lakefield is accredited to the requirements of ISO/IEC 17025 for specific tests as listed on our scope of accreditation, including geochemical, mineralogical and trade mineral tests. To view a list of the accredited methods, please visit the following website and search SGS Canada Inc. - Minerals: https://www.scc.ca/en/search/palcan.

Method Summary

The Rietveld Method of Mineral Identification by XRD (ME-LR-MIN-MET-MN-D05) method used by SGS Natural Resources is accredited to the requirements of ISO/IEC 17025.

***Mineral Identification and Interpretation*:**

Mineral identification and interpretation involves matching the diffraction pattern of an unknown material to patterns of single-phase reference materials. The reference patterns are compiled by the Joint Committee on Powder Diffraction Standards - International Center for Diffraction Data (JCPDS-ICDD) database and released on software as Powder Diffraction Files (PDF).

Interpretations do not reflect the presence of non-crystalline and/or amorphous compounds, except when internal standards have been added by request. Mineral proportions may be strongly influenced by crystallinity, crystal structure and preferred orientations. Mineral or compound identification and quantitative analysis results should be accompanied by supporting chemical assay data or other additional tests.

Clay Mineral Separation and Identification:

Clay minerals are typically fine-grained (<2 µm) phyllosilicates in sedimentary rock. Due to the poor crystallinity and fine size of clay minerals, separation of the clay fraction from bulk samples by centrifuge is required. A slide of the oriented clay fraction is prepared and scanned followed by a series of procedures (the addition of ethylene glycol and high temperature heating). Clay minerals are identified by their individual diffraction patterns and changes in their diffraction pattern after different treatments. Clay speciation and mineral identification of the bulk sample are performed using DIFFRACplus EVA (Bruker AXS).

Quantitative Rietveld Analysis:

Quantitative Rietveld Analysis is performed by using Topas 4.2 (Bruker AXS), a graphics based profile analysis program built around a non-linear least squares fitting system, to determine the amount of different phases present in a multicomponent sample. Whole pattern analyses are predicated by the fact that the X-ray diffraction pattern is a total sum of both instrumental and specimen factors. Unlike other peak intensity-based methods, the Rietveld method uses a least squares approach to refine a theoretical line profile until it matches the obtained experimental patterns.

Rietveld refinement is completed with a set of minerals specifically identified for the sample. Zero values indicate that the mineral was included in the refinement calculations, but the calculated concentration was less than 0.05wt%. Minerals not identified by the analyst are not included in refinement calculations for specific samples and are indicated with a dash.

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WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

Summary of Rietveld Quantitative Analysis X-Ray Diffraction Results

Mineral/Compound	MW-358 (13-15) DEC4508-1 (wt %)	MW-358 (47-49) DEC4508-2 (wt %)	MW-358 (86-88) DEC4508-3 (wt %)	MW-392 (80-82) DEC4508-4 (wt %)	MW-392 (32-33.5) DEC4508-5 (wt %)	MW-393 (24-25.5) DEC4508-6 (wt %)	MW-394 (20.5-22) DEC4508-7 (wt %)	MW-392 (66-68) DEC4508-8 (wt %)
Quartz	52.7	29.2	30.7	29.8	52.1	64.1	55.4	22.7
Muscovite	7.7	18.8	19.7	13.1	9.0	5.5	7.6	15.9
Albite	12.3	0.4	2.5	0.6	9.1	6.4	12.8	0.6
Microcline	7.3	8.6	5.9	1.0	6.5	10.1	7.3	5.1
Diaspore	0.3	-	-	-	-	0.2	0.5	2.8
Magnetite	0.9	0.5	0.3	1.4	0.1	0.0	0.1	0.1
Anatase	0.2	0.8	1.8	0.8	0.6	0.3	0.3	1.0
Calcite	-	0.5	1.0	28.1	0.0	0.0	0.2	14.9
Fluorapatite	-	-	-	2.7	0.3	-	0.2	0.2
Ankerite	-	-	-	-	1.4	0.9	0.5	0.8
Clay								
Kaolinite	5.3	4.8	15.0	5.5	6.8	3.2	4.2	3.6
Montmorillonite-12A	4.9	6.8	4.8	-	-	-	-	5.8
Montmorillonite-14A	-	-	-	3.5	3.3	3.5	3.6	-
Nontronite	0.6	4.6	4.3	4.2	1.6	1.4	0.5	3.3
Illite/Mont - 11A	-	8.8	2.7	3.6	2.7	2.1	3.0	7.1
Illite	5.0	15.0	9.2	4.1	0.7	1.0	0.6	10.4
Chlorite IIb	2.6	1.3	2.0	1.6	5.8	1.2	3.1	6.1
TOTAL	100	100	100	100	100	100	100	100

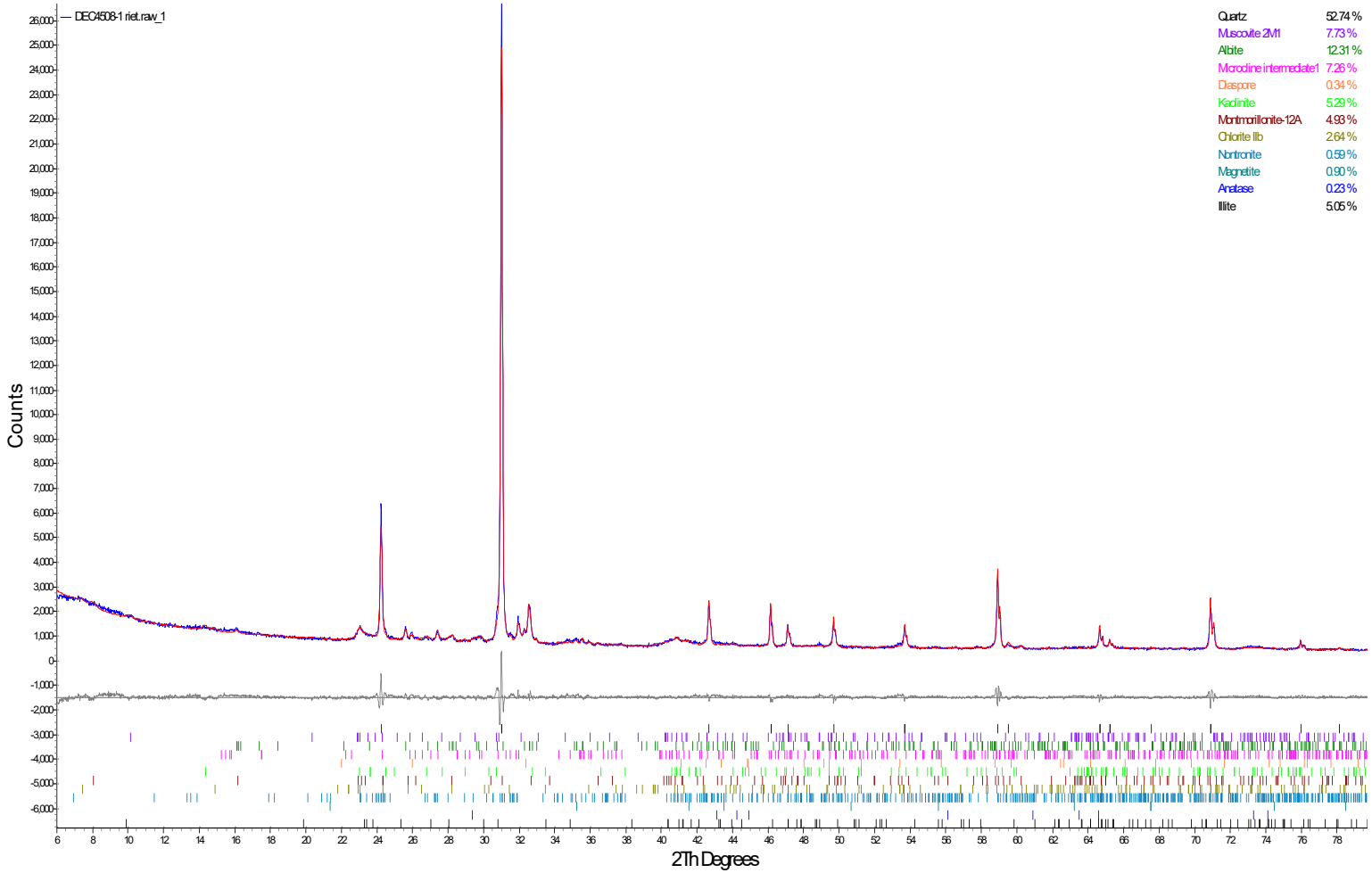
Zero values indicate that the mineral was included in the refinement, but the calculated concentration is below a measurable value.

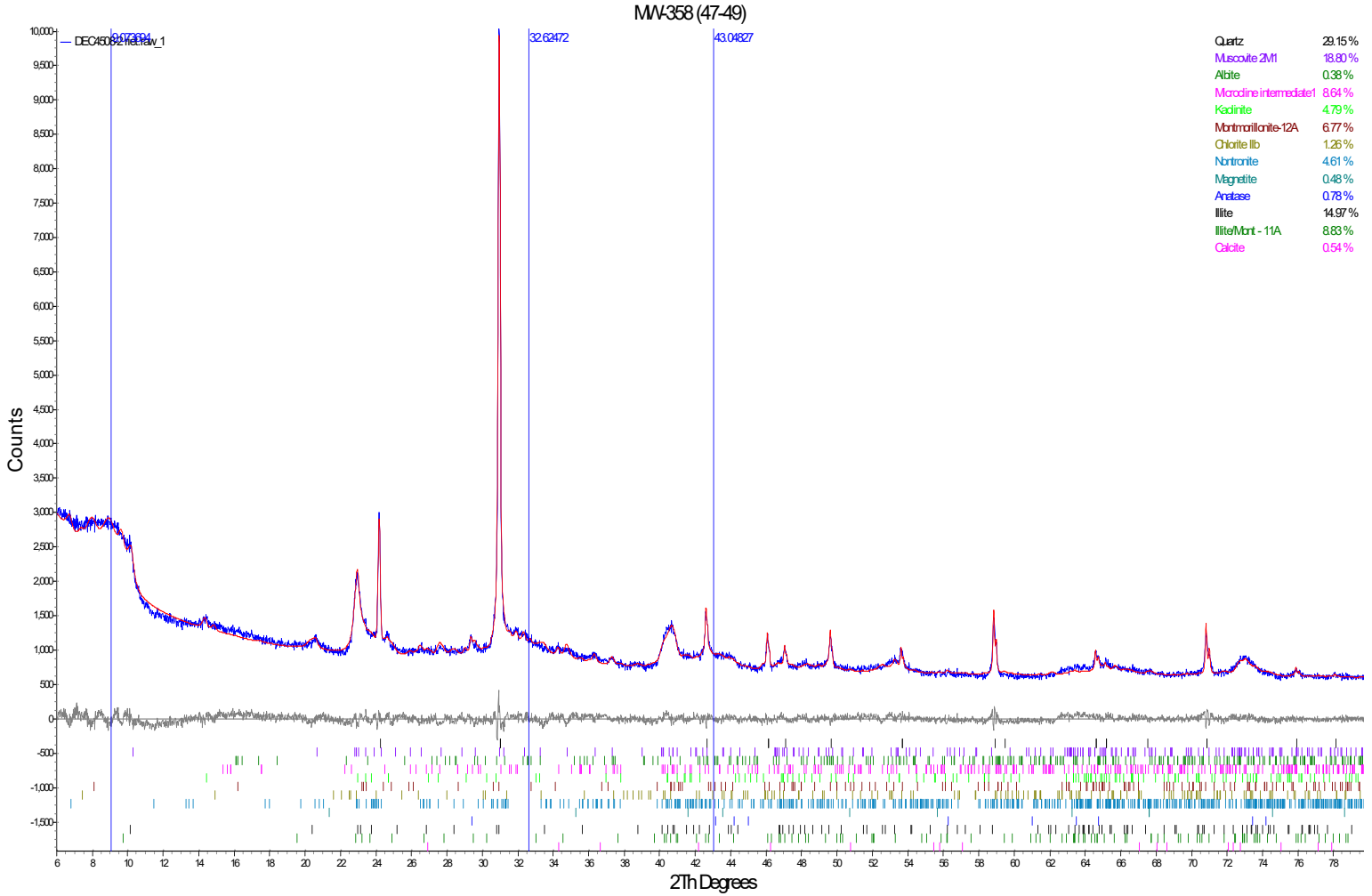
Dashes indicate that the mineral was not identified by the analyst and not included in the refinement calculation for the sample.

The weight percent quantities indicated have been normalized to a sum of 100%. The quantity of amorphous material has not been determined.

Mineral/Compound	Formula
Quartz	SiO_2
Muscovite	$KAl_2(AlSi_3O_{10})(OH)_2$
Albite	$NaAlSi_3O_8$
Microcline	$KAlSi_3O_8$
Diaspore	aAlO.OH
Magnetite	Fe_3O_4
Anatase	TiO_2
Calcite	$CaCO_3$
Fluorapatite	$Ca_5(PO_4)_3F$
Ankerite	$CaFe(CO_3)_2$
Kaolinite	$Al_2Si_2O_5(OH)_4$
Montmorillonite	$(Na,Ca)_{0.3}(Al,Mg)_2Si_4O_{10}(OH)_2 \cdot 10H_2O$
Nontronite	$Fe_2(Al,Si)_4O_{10}(OH)_2Na_{0.3}(H_2O)_4$
Illite/Mont	$KAl_4(Si,Al)_8O_{10}(OH)_4 \cdot 4H_2O$
Illite	$(K,H_3O)(Al,Mg,Fe)_2(Si,Al)_4O_{10}[(OH)_2,(H_2O)]$
Chlorite	$(Fe,(Mg,Mn)_5,Al)(Si_3Al)O_{10}(OH)_8$

MW-358 (13-15)


DEC4508-1 riet.raw_1
Counts
2Th Degrees
Quartz 52.74 %
Muscovite 2M1 7.73 %
Albite 12.31 %
Microcline intermediate1 7.26 %
Diaspore 0.34 %
Kaolinite 5.29 %
Montmorillonite-12A 4.93 %
Chlorite IIb 2.64 %
Nontronite 0.59 %
Magnetite 0.90 %
Anatase 0.23 %
Illite 5.05 %


MW-358 (47-49)
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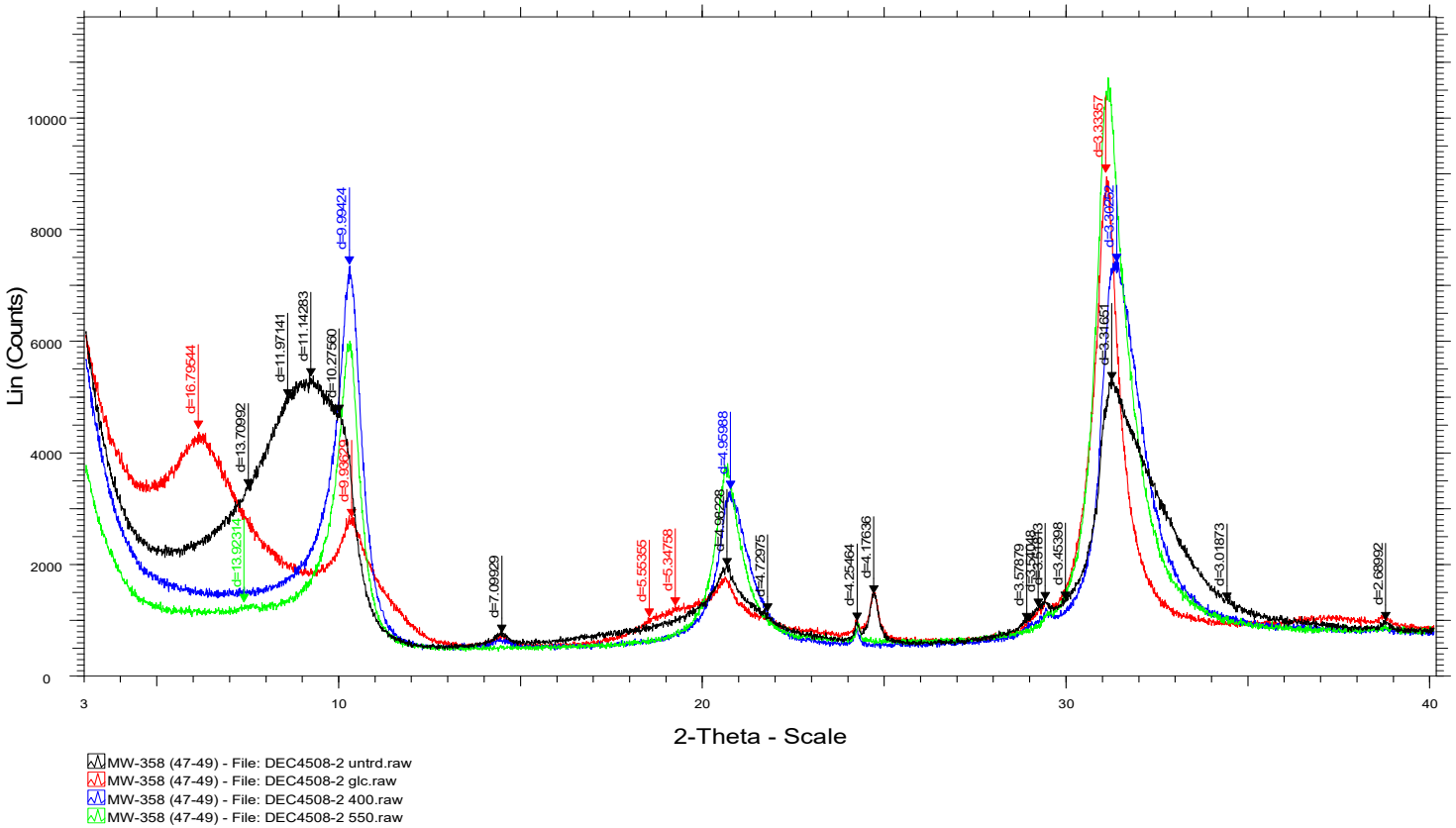
32.62472
43.04827
Counts
2Th Degrees
Quartz 29.15 %
Muscovite 2M1 18.80 %
Albite 0.38 %
Microcline intermediate1 8.64 %
Kaolinite 4.79 %
Montmorillonite-12A 6.77 %
Chlorite IIb 1.26 %
Nontronite 4.61 %
Magnetite 0.48 %
Anatase 0.78 %
Illite 14.97 %
Illite/Mont - 11A 8.83 %
Calcite 0.54 %

MW-358 (47-49)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d=11.14283
d=10.27560
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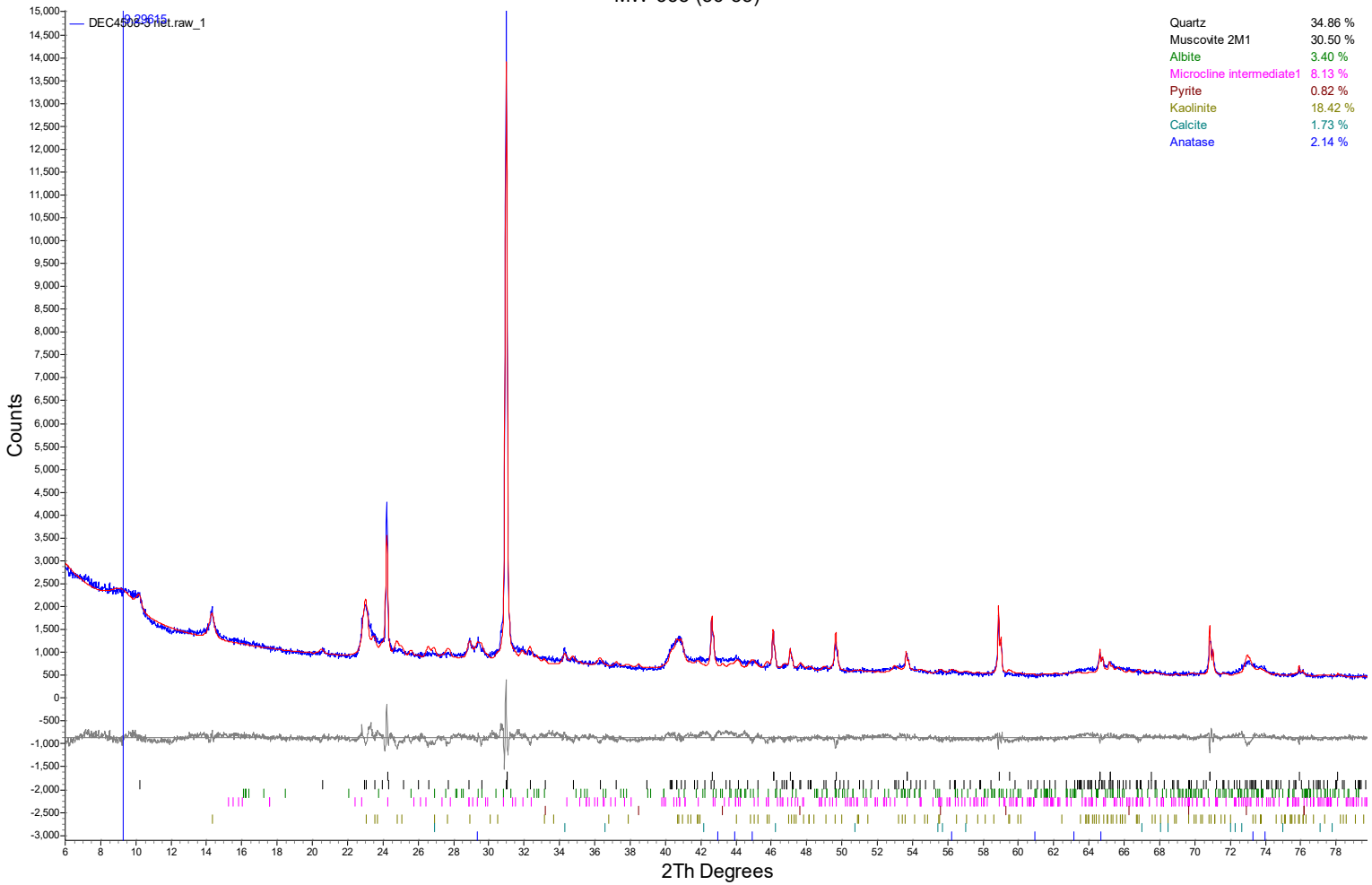
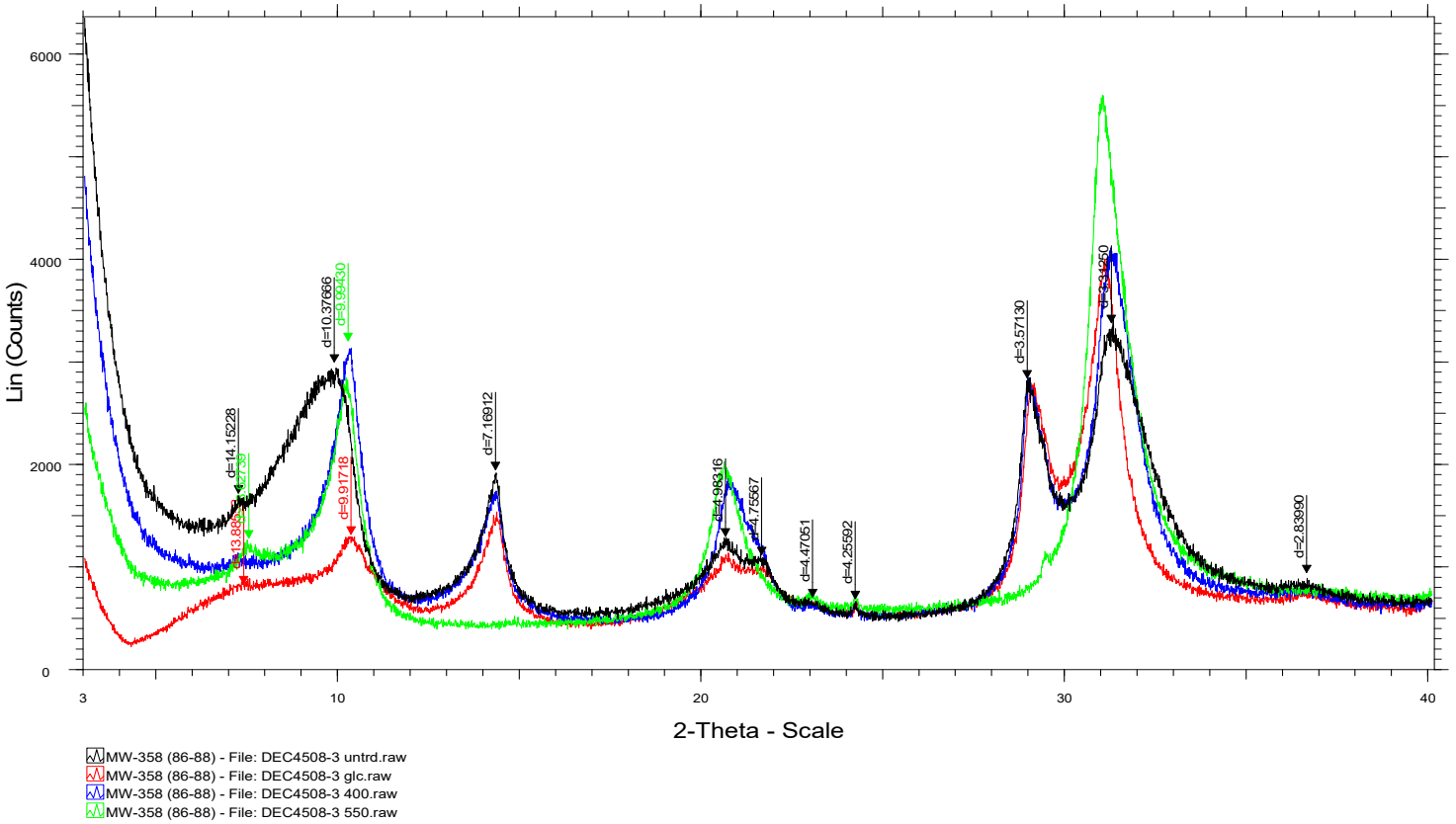
d=9.93221
d=7.09929
d=5.55355
d=5.34758
d=4.99228
d=4.95988
d=4.72975
d=4.25464
d=4.17636
d=3.57879
d=3.45398
d=3.33357
d=3.30252
d=3.31061
d=3.01673
d=2.69992
MW-358 (47-49) - File: DEC4508-2 untrd.raw
MW-358 (47-49) - File: DEC4508-2 glc.raw
MW-358 (47-49) - File: DEC4508-2 400.raw
MW-358 (47-49) - File: DEC4508-2 550.raw

MW-358 (86-88)


DEC4508-3 net.raw_1
Quartz 34.86 %
Muscovite 2M1 30.50 %
Albite 3.40 %
Microcline intermediate1 8.13 %
Pyrite 0.82 %
Kaolinite 18.42 %
Calcite 1.73 %
Anatase 2.14 %
Counts
2Th Degrees

MW-358 (86-88)


Lin (Counts)
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4000
2000
0
3
10
20
30
40
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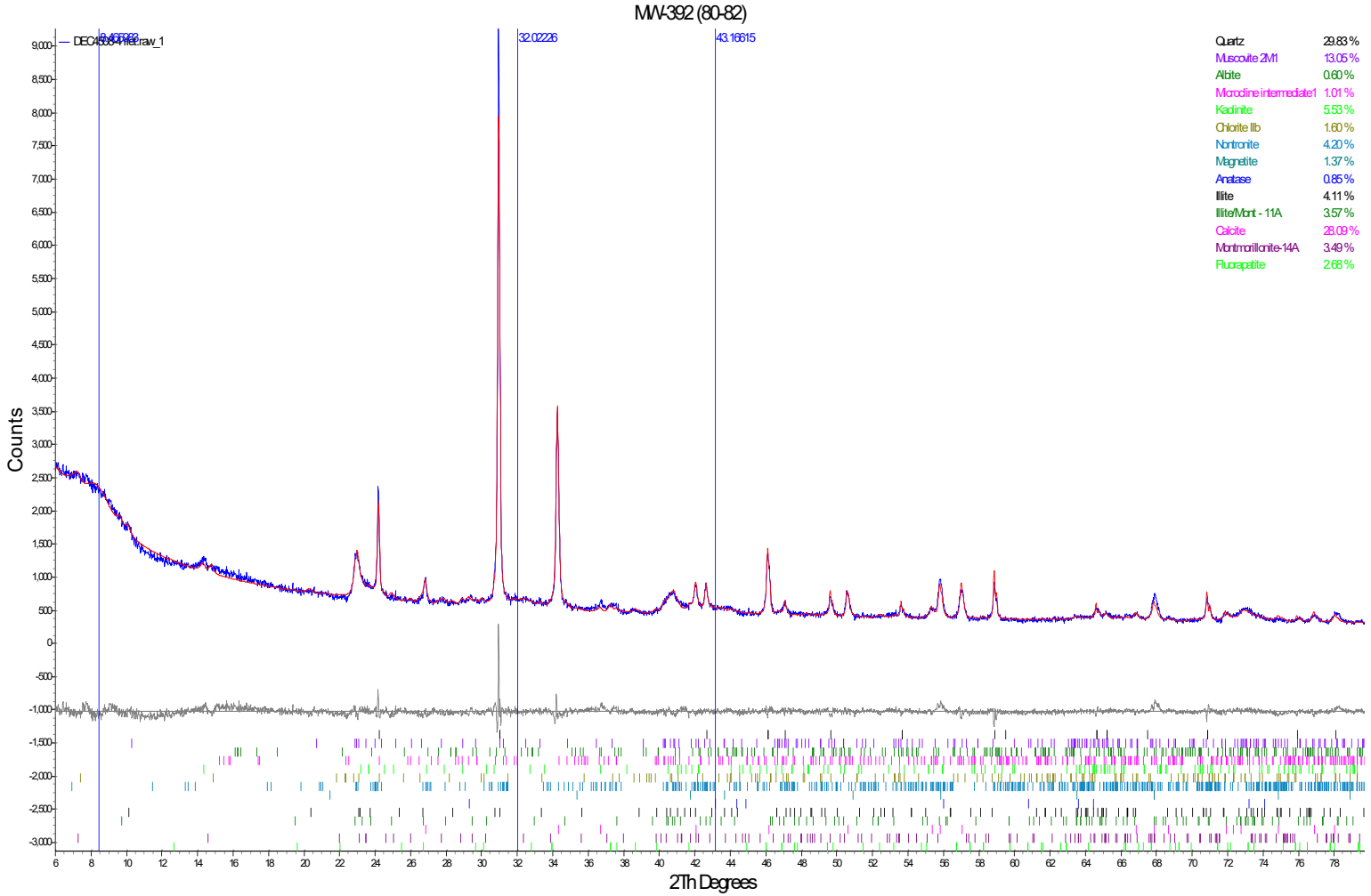
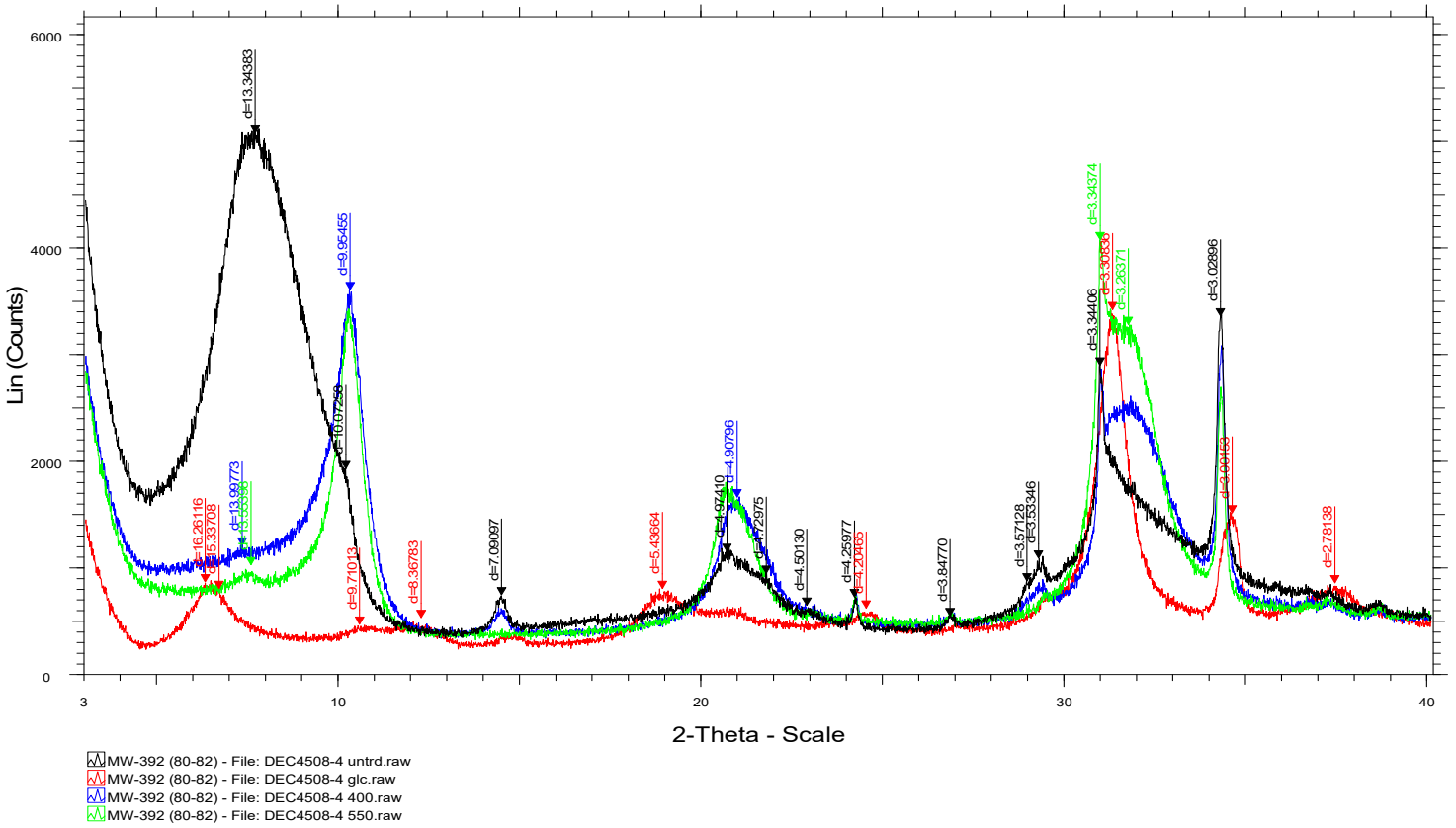
d=9.91718
d=7.16912
d=4.98316
d=4.75567
d=4.47051
d=4.25592
d=3.57130
d=3.34950
d=2.83990
MW-358 (86-88) - File: DEC4508-3 untrd.raw
MW-358 (86-88) - File: DEC4508-3 glc.raw
MW-358 (86-88) - File: DEC4508-3 400.raw
MW-358 (86-88) - File: DEC4508-3 550.raw


MW-392 (80-82)
DEC4508-Filter.raw_1
32.02226
43.16615
Quartz 29.83 %
Muscovite 2M1 13.05 %
Albite 0.60 %
Microcline intermediate1 1.01 %
Kaolinite 5.53 %
Chlorite IIb 1.60 %
Nontronite 4.20 %
Magnetite 1.37 %
Anatase 0.85 %
Illite 4.11 %
Illite/Mont - 11A 3.57 %
Calcite 28.09 %
Montmorillonite-14A 3.49 %
Fluorapatite 2.68 %
Counts
2Th Degrees

MW-392 (80-82)


Lin (Counts)
6000
4000
2000
0
3
10
20
30
40
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d=9.71013
d=8.36783
d=7.09097
d=5.43664
d=4.97410
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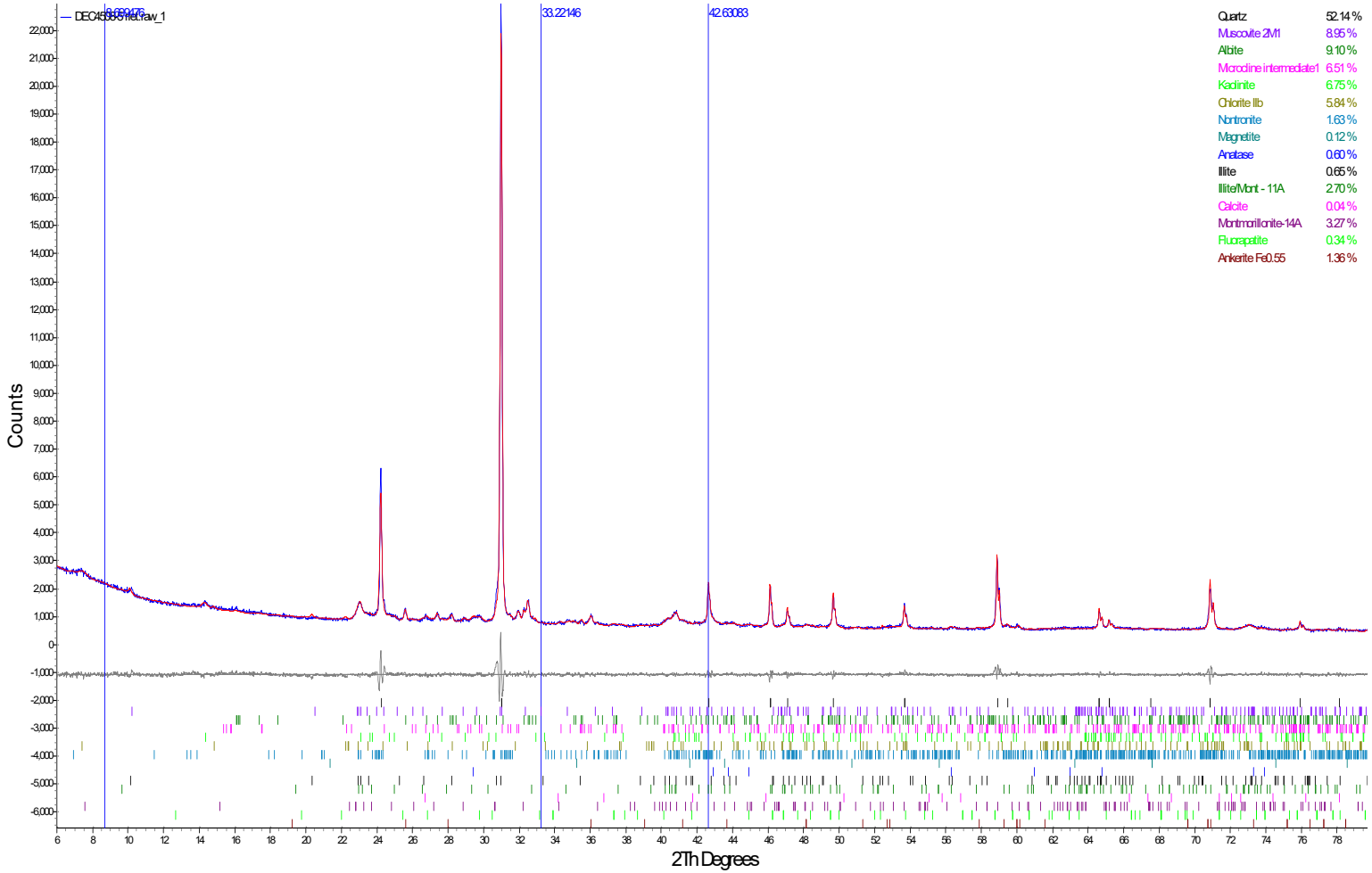
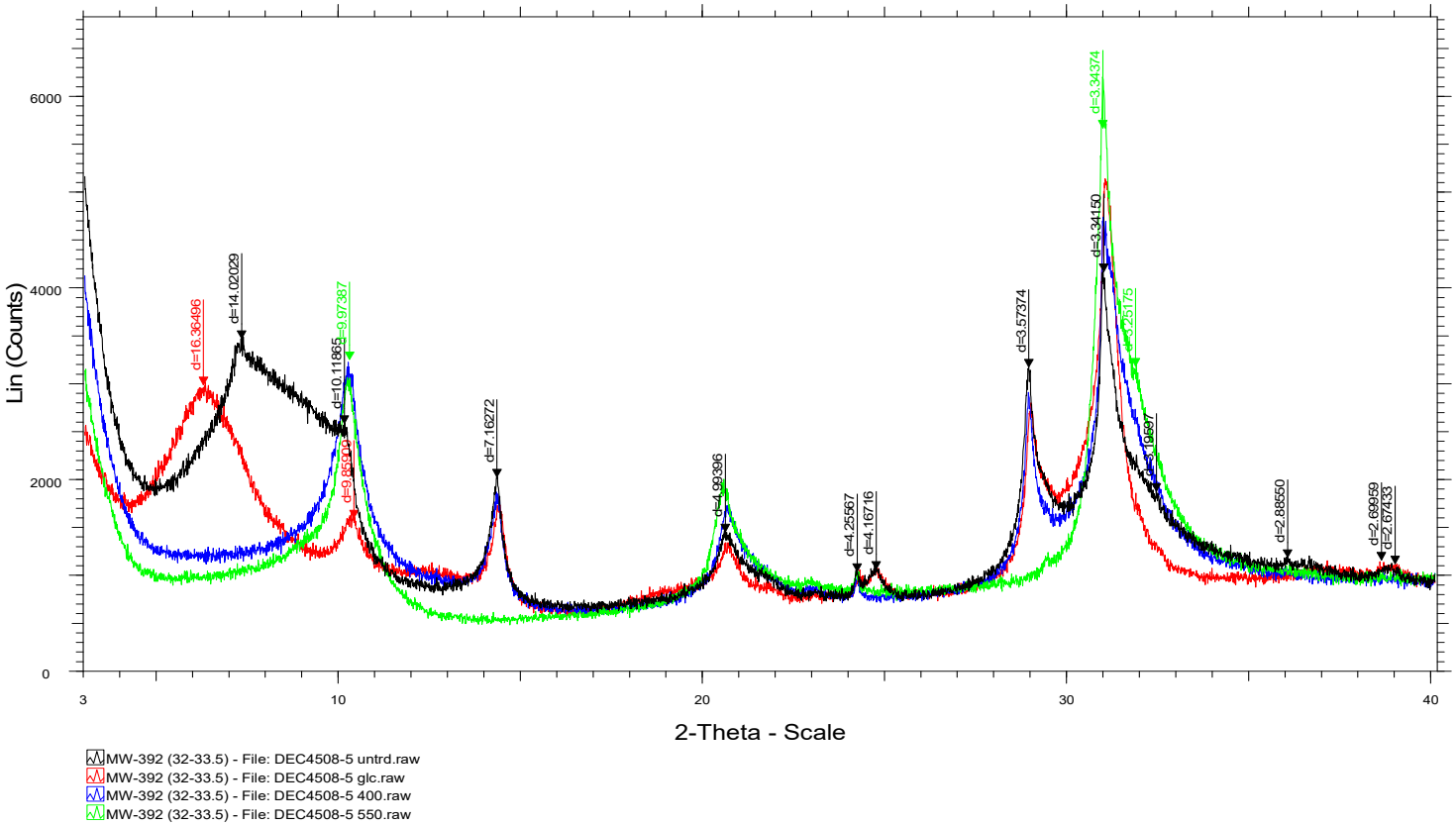
d=3.34374
d=3.30639
d=3.26371
d=3.02896
d=2.78138
MW-392 (80-82) - File: DEC4508-4 untrd.raw
MW-392 (80-82) - File: DEC4508-4 glc.raw
MW-392 (80-82) - File: DEC4508-4 400.raw
MW-392 (80-82) - File: DEC4508-4 550.raw

MW-392 (32-33.5)


DEC4508mdl.raw_1
8.859476
33.22146
42.63083
Counts
2Th Degrees
Quartz 52.14 %
Muscovite 2M1 8.95 %
Albite 9.10 %
Microcline intermediate1 6.51 %
Kaolinite 6.75 %
Chlorite IIb 5.84 %
Nontronite 1.63 %
Magnetite 0.12 %
Anatase 0.60 %
Illite 0.65 %
Illite/Mont - 11A 2.70 %
Calcite 0.04 %
Montmorillonite-14A 3.27 %
Fluorapatite 0.34 %
Ankerite Fe0.55 1.36 %

MW-392 (32-33.5)


Lin (Counts)
6000
4000
2000
0
3
10
20
30
40
2-Theta - Scale
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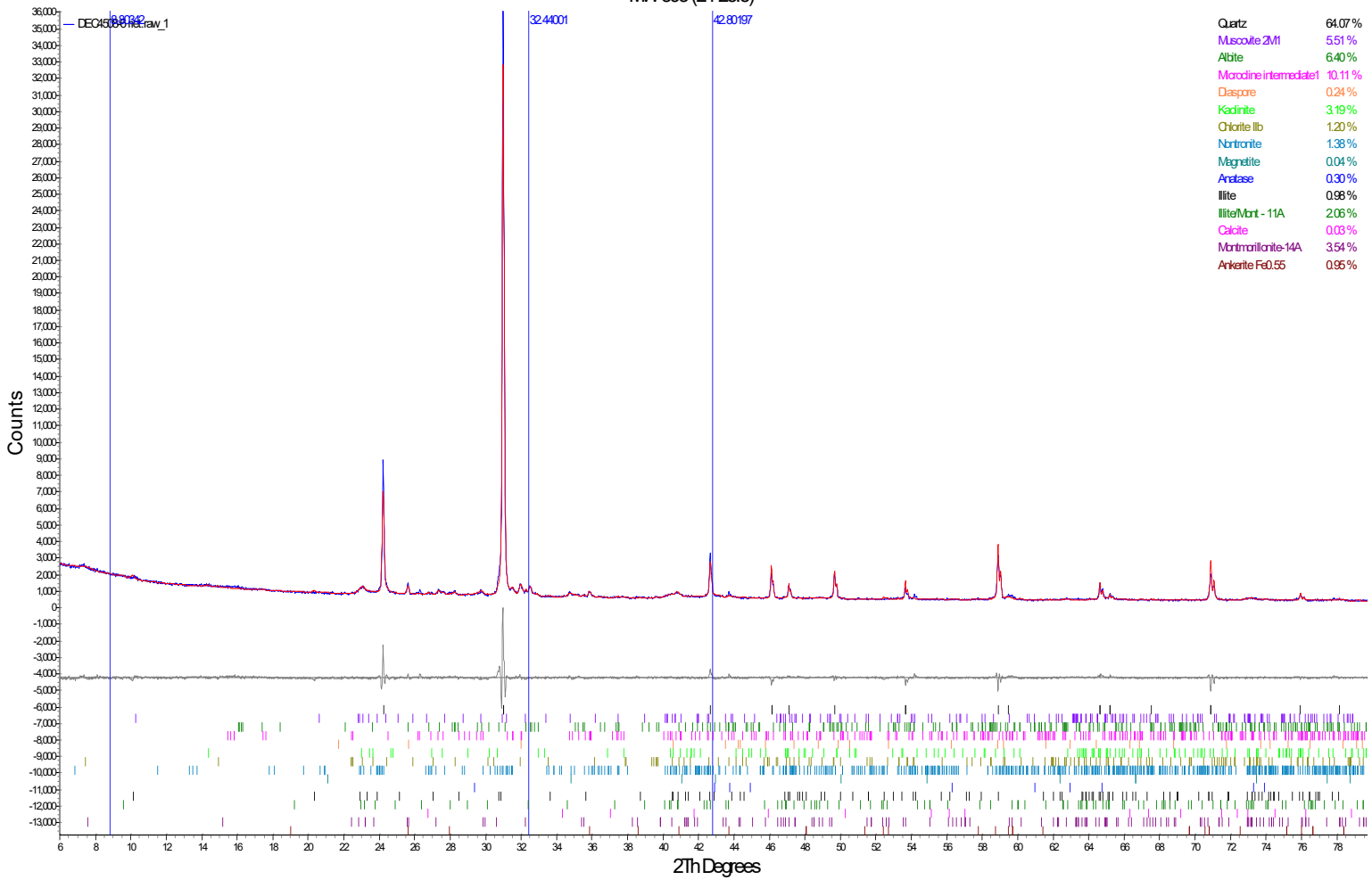
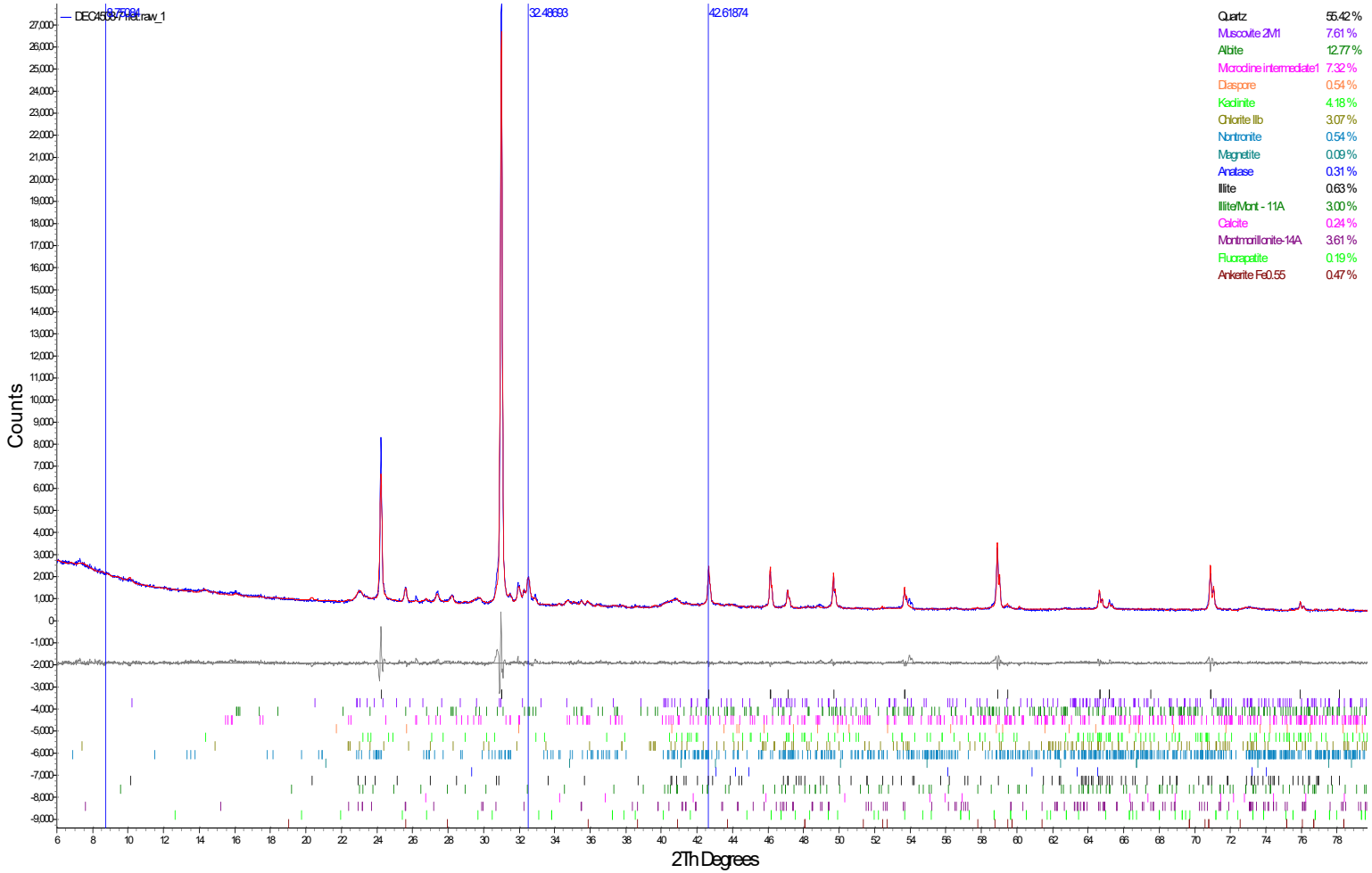
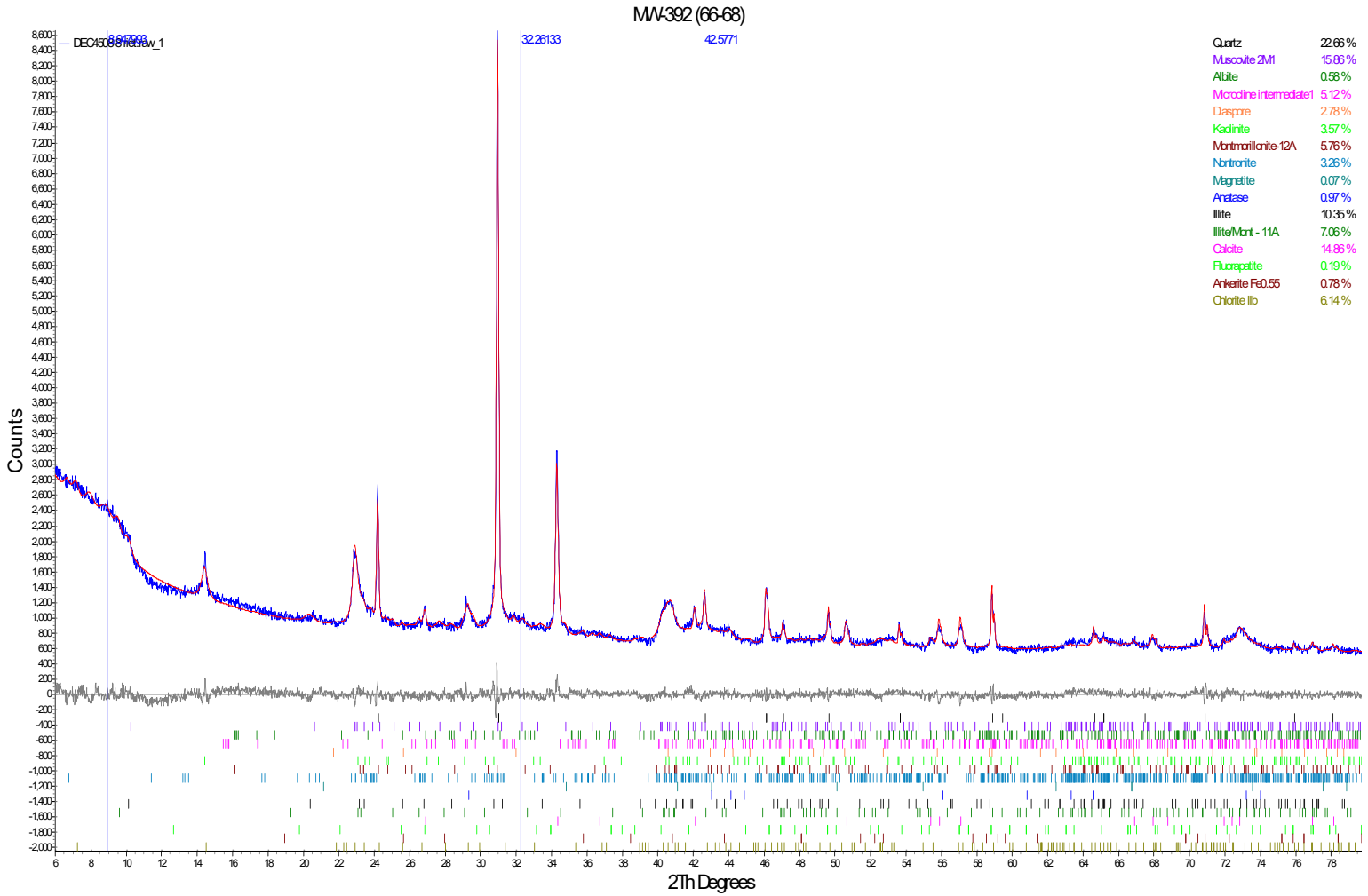
d=4.99396
d=4.25567
d=4.16716
d=3.57374
d=3.34374
d=3.34150
d=3.25175
d=3.19697
d=2.88550
d=2.69959
d=2.67433
MW-392 (32-33.5) - File: DEC4508-5 untrd.raw
MW-392 (32-33.5) - File: DEC4508-5 glc.raw
MW-392 (32-33.5) - File: DEC4508-5 400.raw
MW-392 (32-33.5) - File: DEC4508-5 550.raw

MW-393 (24-25.5)

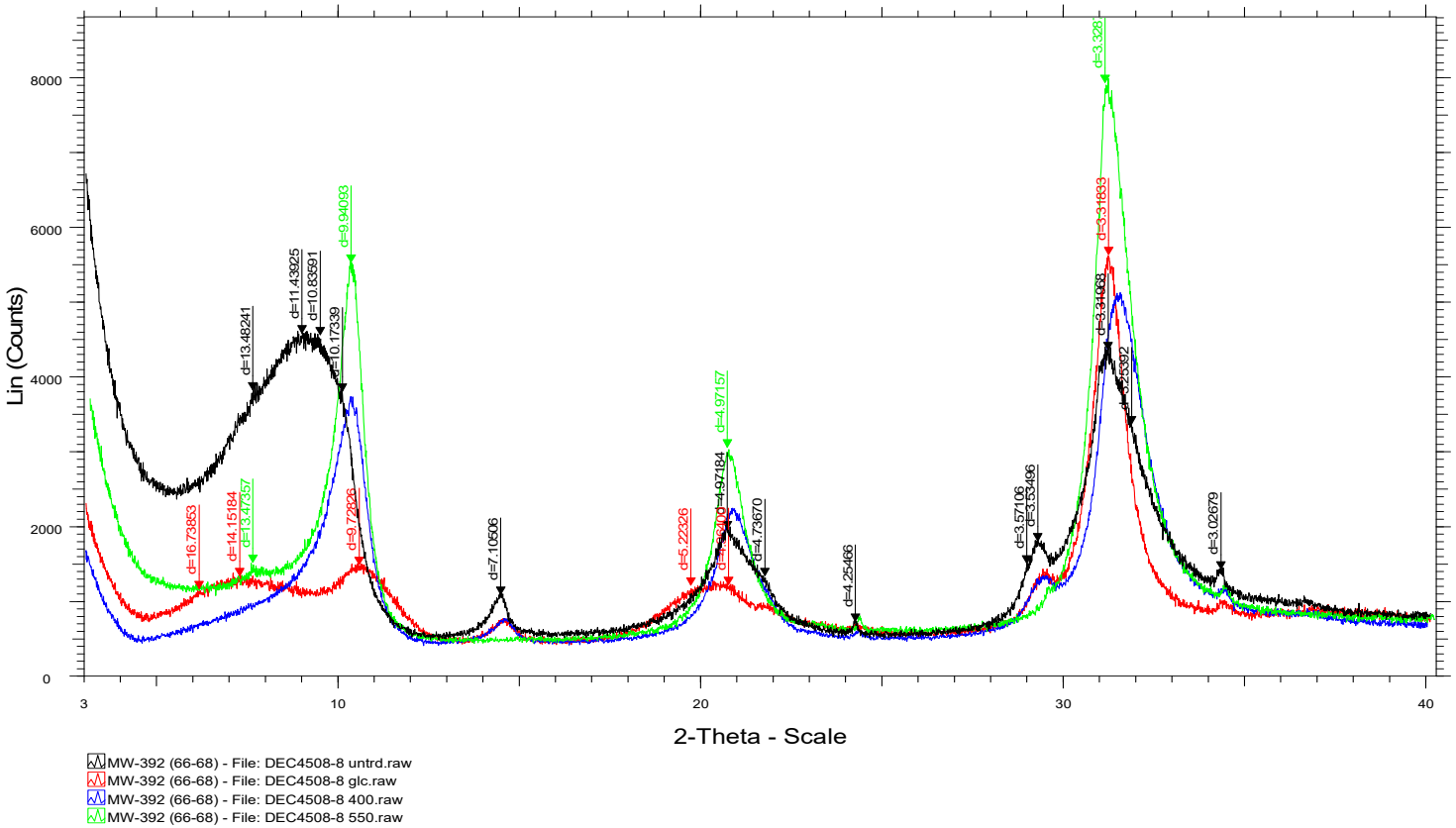

DEC4508-Mid.raw_1
8.80342
32.44001
42.80197
Counts
2Th Degrees
Quartz 64.07 %
Muscovite 2M1 5.51 %
Albite 6.40 %
Microcline intermediate1 10.11 %
Diaspore 0.24 %
Kaolinite 3.19 %
Chlorite IIb 1.20 %
Nontronite 1.38 %
Magnetite 0.04 %
Anatase 0.30 %
Illite 0.98 %
Illite/Mont - 11A 2.06 %
Calcite 0.03 %
Montmorillonite-14A 3.54 %
Ankerite Fe0.55 0.95 %

MW-394 (20.5-22)


DEC4508-1.raw_1
32.48693
42.61874
Counts
2Th Degrees
Quartz 55.42 %
Muscovite 2M1 7.61 %
Albite 12.77 %
Microcline intermediate1 7.32 %
Diaspore 0.54 %
Kaolinite 4.18 %
Chlorite IIb 3.07 %
Nontronite 0.54 %
Magnetite 0.09 %
Anatase 0.31 %
Illite 0.63 %
Illite/Mont - 11A 3.00 %
Calcite 0.24 %
Montmorillonite-14A 3.61 %
Fluorapatite 0.19 %
Ankerite Fe0.55 0.47 %


MW-392 (66-68)
32.26133
42.5771
Quartz 22.66 %
Muscovite 2M1 15.86 %
Albite 0.58 %
Microcline intermediate1 5.12 %
Diaspore 2.78 %
Kaolinite 3.57 %
Montmorillonite-12A 5.76 %
Nontronite 3.26 %
Magnetite 0.07 %
Anatase 0.97 %
Illite 10.35 %
Illite/Mont - 11A 7.06 %
Calcite 14.86 %
Fluorapatite 0.19 %
Ankerite Fe0.55 0.78 %
Chlorite IIb 6.14 %
Counts
2Th Degrees

MW-392 (66-68)


Lin (Counts)
0
2000
4000
6000
8000
3
10
20
30
40
2-Theta - Scale
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d=5.22326
d=4.97157
d=4.97184
d=4.73670
d=4.25466
d=3.57106
d=3.53496
d=3.328
d=3.31693
d=3.31693
d=3.22592
d=3.02679
MW-392 (66-68) - File: DEC4508-8 untrd.raw
MW-392 (66-68) - File: DEC4508-8 glc.raw
MW-392 (66-68) - File: DEC4508-8 400.raw
MW-392 (66-68) - File: DEC4508-8 550.raw

Attachment I
Aqueous Phase Data Summary

Attachment I. Site Groundwater Data
Geochemical Conceptual Site Model
Baldwin Fly Ash Pond System
Baldwin Power Plant
Baldwin, IL

HSU	Location	Well Type	Date	Parameter	Unit	Result
PMP	MW-150	C	2013/09/16	pH (field)	SU	7.6
PMP	MW-150	C	2013/11/20	pH (field)	SU	7.1
PMP	MW-150	C	2014/02/19	pH (field)	SU	7.0
PMP	MW-150	C	2014/06/11	pH (field)	SU	7.3
PMP	MW-150	C	2015/03/25	pH (field)	SU	7.4
PMP	MW-150	C	2015/06/24	pH (field)	SU	7.2
PMP	MW-150	C	2015/09/25	pH (field)	SU	7.2
PMP	MW-150	C	2015/11/10	pH (field)	SU	7.0
PMP	MW-150	C	2016/03/22	pH (field)	SU	7.5
PMP	MW-150	C	2016/06/21	pH (field)	SU	7.3
PMP	MW-150	C	2016/09/29	pH (field)	SU	7.3
PMP	MW-150	C	2016/12/21	pH (field)	SU	7.2
PMP	MW-150	C	2017/03/16	pH (field)	SU	7.3
PMP	MW-150	C	2017/06/22	pH (field)	SU	7.1
PMP	MW-150	C	2017/09/21	pH (field)	SU	7.1
PMP	MW-150	C	2017/11/28	pH (field)	SU	7.3
PMP	MW-150	C	2018/03/19	pH (field)	SU	7.2
PMP	MW-150	C	2018/06/28	pH (field)	SU	7.1
PMP	MW-150	C	2018/09/26	pH (field)	SU	7.2
PMP	MW-150	C	2018/12/18	pH (field)	SU	7.2
PMP	MW-150	C	2019/03/20	pH (field)	SU	7.2
PMP	MW-150	C	2019/06/25	pH (field)	SU	7.2
PMP	MW-150	C	2019/09/26	pH (field)	SU	6.7
PMP	MW-150	C	2019/12/19	pH (field)	SU	7.2
PMP	MW-150	C	2020/03/26	pH (field)	SU	7.2
PMP	MW-150	C	2020/06/23	pH (field)	SU	7.3
PMP	MW-150	C	2020/09/17	pH (field)	SU	7.2
PMP	MW-150	C	2020/12/17	pH (field)	SU	6.9
PMP	MW-150	C	2021/03/10	pH (field)	SU	7.0
PMP	MW-150	C	2021/06/21	pH (field)	SU	7.1
PMP	MW-150	C	2021/09/14	pH (field)	SU	7.0
PMP	MW-150	C	2021/12/14	pH (field)	SU	7.1
PMP	MW-150	C	2022/03/28	pH (field)	SU	7.0
PMP	MW-150	C	2022/06/14	pH (field)	SU	7.1
PMP	MW-150	C	2022/09/29	pH (field)	SU	7.2
PMP	MW-150	C	2022/12/06	pH (field)	SU	7.1
PMP	MW-150	C	2023/03/15	pH (field)	SU	7.0
PMP	MW-150	C	2023/05/18	pH (field)	SU	7.1
PMP	MW-150	C	2023/08/07	pH (field)	SU	7.0
PMP	MW-150	C	2023/11/03	pH (field)	SU	7.1
PMP	MW-150	C	2021/03/10	Oxidation Reduction Potential	mV	105
PMP	MW-150	C	2021/06/21	Oxidation Reduction Potential	mV	-110
PMP	MW-150	C	2021/09/14	Oxidation Reduction Potential	mV	-42.0
PMP	MW-150	C	2021/12/14	Oxidation Reduction Potential	mV	16.0
PMP	MW-150	C	2022/03/28	Oxidation Reduction Potential	mV	-26.0
PMP	MW-150	C	2022/06/14	Oxidation Reduction Potential	mV	120
PMP	MW-150	C	2022/09/29	Oxidation Reduction Potential	mV	80.0
PMP	MW-150	C	2022/12/06	Oxidation Reduction Potential	mV	<-300
PMP	MW-150	C	2023/03/15	Oxidation Reduction Potential	mV	-93.5
PMP	MW-150	C	2023/05/18	Oxidation Reduction Potential	mV	20.0
PMP	MW-150	C	2023/08/07	Oxidation Reduction Potential	mV	-65.0
PMP	MW-150	C	2023/11/03	Oxidation Reduction Potential	mV	-139
PMP	MW-150	C	2021/03/10	Eh	V	0.30
PMP	MW-150	C	2021/06/21	Eh	V	0.087
PMP	MW-150	C	2021/09/14	Eh	V	0.15

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Baldwin Power Plant
Baldwin, IL

PMP	MW-150	C	2021/12/14	Eh	V	0.21
PMP	MW-150	C	2022/03/28	Eh	V	0.17
PMP	MW-150	C	2022/06/14	Eh	V	0.32
PMP	MW-150	C	2022/09/29	Eh	V	0.28
PMP	MW-150	C	2022/12/06	Eh	V	-0.10
PMP	MW-150	C	2023/03/15	Eh	V	0.10
PMP	MW-150	C	2023/05/18	Eh	V	0.22
PMP	MW-150	C	2023/08/07	Eh	V	0.13
PMP	MW-150	C	2023/11/03	Eh	V	0.057
PMP	MW-150	C	2023/03/15	Alkalinity, bicarbonate	mg/L CaCO3	358
PMP	MW-150	C	2023/05/18	Alkalinity, bicarbonate	mg/L CaCO3	336
PMP	MW-150	C	2023/08/07	Alkalinity, bicarbonate	mg/L CaCO3	314
PMP	MW-150	C	2023/11/03	Alkalinity, bicarbonate	mg/L CaCO3	304
PMP	MW-150	C	2023/03/15	Barium, total	mg/L	0.0156
PMP	MW-150	C	2023/05/18	Barium, total	mg/L	0.0170
PMP	MW-150	C	2023/08/07	Barium, total	mg/L	0.0194
PMP	MW-150	C	2023/11/03	Barium, total	mg/L	0.0162
PMP	MW-150	C	2013/09/16	Boron, total	mg/L	0.680
PMP	MW-150	C	2023/03/15	Boron, total	mg/L	3.43
PMP	MW-150	C	2023/05/18	Boron, total	mg/L	4.12
PMP	MW-150	C	2023/08/07	Boron, total	mg/L	4.38
PMP	MW-150	C	2023/11/03	Boron, total	mg/L	3.59
PMP	MW-150	C	2023/03/15	Calcium, total	mg/L	188
PMP	MW-150	C	2023/05/18	Calcium, total	mg/L	223
PMP	MW-150	C	2023/08/07	Calcium, total	mg/L	186
PMP	MW-150	C	2023/11/03	Calcium, total	mg/L	206
PMP	MW-150	C	2013/09/16	Chloride, total	mg/L	54.0
PMP	MW-150	C	2023/03/15	Chloride, total	mg/L	56.0
PMP	MW-150	C	2023/05/18	Chloride, total	mg/L	56.0
PMP	MW-150	C	2023/08/07	Chloride, total	mg/L	53.0
PMP	MW-150	C	2023/11/03	Chloride, total	mg/L	49.0
PMP	MW-150	C	2013/11/20	Iron, dissolved	mg/L	0.0700
PMP	MW-150	C	2014/02/19	Iron, dissolved	mg/L	<0.007
PMP	MW-150	C	2014/06/11	Iron, dissolved	mg/L	<0.007
PMP	MW-150	C	2015/03/25	Iron, dissolved	mg/L	<0.007
PMP	MW-150	C	2015/06/24	Iron, dissolved	mg/L	0.0350
PMP	MW-150	C	2015/09/25	Iron, dissolved	mg/L	0.127
PMP	MW-150	C	2015/11/10	Iron, dissolved	mg/L	0.0388
PMP	MW-150	C	2016/03/22	Iron, dissolved	mg/L	0.0247
PMP	MW-150	C	2016/06/21	Iron, dissolved	mg/L	0.0276
PMP	MW-150	C	2016/09/29	Iron, dissolved	mg/L	<0.007
PMP	MW-150	C	2016/12/21	Iron, dissolved	mg/L	<0.007
PMP	MW-150	C	2017/03/16	Iron, dissolved	mg/L	<0.007
PMP	MW-150	C	2017/06/22	Iron, dissolved	mg/L	<0.007
PMP	MW-150	C	2017/09/21	Iron, dissolved	mg/L	<0.007
PMP	MW-150	C	2017/11/28	Iron, dissolved	mg/L	<0.007
PMP	MW-150	C	2018/03/19	Iron, dissolved	mg/L	<0.007
PMP	MW-150	C	2018/06/28	Iron, dissolved	mg/L	<0.02
PMP	MW-150	C	2018/09/26	Iron, dissolved	mg/L	<0.02
PMP	MW-150	C	2018/12/18	Iron, dissolved	mg/L	<0.02
PMP	MW-150	C	2019/03/20	Iron, dissolved	mg/L	<0.02
PMP	MW-150	C	2019/06/25	Iron, dissolved	mg/L	<0.02
PMP	MW-150	C	2019/09/26	Iron, dissolved	mg/L	<0.02
PMP	MW-150	C	2019/12/19	Iron, dissolved	mg/L	<0.02
PMP	MW-150	C	2020/03/26	Iron, dissolved	mg/L	<0.02
PMP	MW-150	C	2020/06/23	Iron, dissolved	mg/L	<0.02
PMP	MW-150	C	2020/09/17	Iron, dissolved	mg/L	0.106

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PMP	MW-150	C	2020/12/17	Iron, dissolved	mg/L	<0.02
PMP	MW-150	C	2021/03/10	Iron, dissolved	mg/L	<0.04
PMP	MW-150	C	2021/06/21	Iron, dissolved	mg/L	<0.04
PMP	MW-150	C	2021/09/14	Iron, dissolved	mg/L	<0.02
PMP	MW-150	C	2021/12/14	Iron, dissolved	mg/L	<0.02
PMP	MW-150	C	2022/03/28	Iron, dissolved	mg/L	<0.015
PMP	MW-150	C	2022/06/14	Iron, dissolved	mg/L	<0.02
PMP	MW-150	C	2022/09/29	Iron, dissolved	mg/L	<0.0115
PMP	MW-150	C	2022/12/06	Iron, dissolved	mg/L	<0.0115
PMP	MW-150	C	2023/03/15	Iron, dissolved	mg/L	0.0140
PMP	MW-150	C	2023/05/18	Iron, dissolved	mg/L	<0.02
PMP	MW-150	C	2023/08/07	Iron, dissolved	mg/L	0.0666
PMP	MW-150	C	2023/11/03	Iron, dissolved	mg/L	0.0728
PMP	MW-150	C	2023/03/15	Magnesium, total	mg/L	175
PMP	MW-150	C	2023/05/18	Magnesium, total	mg/L	173
PMP	MW-150	C	2023/08/07	Magnesium, total	mg/L	145
PMP	MW-150	C	2023/11/03	Magnesium, total	mg/L	135
PMP	MW-150	C	2013/11/20	Manganese, dissolved	mg/L	0.0300
PMP	MW-150	C	2014/02/19	Manganese, dissolved	mg/L	<0.0016
PMP	MW-150	C	2014/06/11	Manganese, dissolved	mg/L	0.00600
PMP	MW-150	C	2015/03/25	Manganese, dissolved	mg/L	0.0240
PMP	MW-150	C	2015/06/24	Manganese, dissolved	mg/L	0.00300
PMP	MW-150	C	2015/09/25	Manganese, dissolved	mg/L	0.0125
PMP	MW-150	C	2015/11/10	Manganese, dissolved	mg/L	0.00480
PMP	MW-150	C	2016/03/22	Manganese, dissolved	mg/L	<0.0005
PMP	MW-150	C	2016/06/21	Manganese, dissolved	mg/L	<0.0005
PMP	MW-150	C	2016/09/29	Manganese, dissolved	mg/L	<0.0005
PMP	MW-150	C	2016/12/21	Manganese, dissolved	mg/L	<0.0005
PMP	MW-150	C	2017/03/16	Manganese, dissolved	mg/L	<0.0005
PMP	MW-150	C	2017/06/22	Manganese, dissolved	mg/L	<0.0005
PMP	MW-150	C	2017/09/21	Manganese, dissolved	mg/L	<0.0005
PMP	MW-150	C	2017/11/28	Manganese, dissolved	mg/L	<0.0005
PMP	MW-150	C	2018/03/19	Manganese, dissolved	mg/L	<0.0005
PMP	MW-150	C	2018/06/28	Manganese, dissolved	mg/L	<0.0025
PMP	MW-150	C	2018/09/26	Manganese, dissolved	mg/L	<0.0025
PMP	MW-150	C	2018/12/18	Manganese, dissolved	mg/L	<0.0025
PMP	MW-150	C	2019/03/20	Manganese, dissolved	mg/L	<0.0025
PMP	MW-150	C	2019/06/25	Manganese, dissolved	mg/L	<0.0025
PMP	MW-150	C	2019/09/26	Manganese, dissolved	mg/L	<0.0025
PMP	MW-150	C	2019/12/19	Manganese, dissolved	mg/L	<0.0025
PMP	MW-150	C	2020/03/26	Manganese, dissolved	mg/L	<0.0025
PMP	MW-150	C	2020/06/23	Manganese, dissolved	mg/L	<0.0025
PMP	MW-150	C	2020/09/17	Manganese, dissolved	mg/L	<0.0025
PMP	MW-150	C	2020/12/17	Manganese, dissolved	mg/L	<0.0025
PMP	MW-150	C	2021/03/10	Manganese, dissolved	mg/L	<0.0025
PMP	MW-150	C	2021/06/21	Manganese, dissolved	mg/L	<0.0025
PMP	MW-150	C	2021/09/14	Manganese, dissolved	mg/L	<0.0025
PMP	MW-150	C	2021/12/14	Manganese, dissolved	mg/L	<0.0025
PMP	MW-150	C	2022/03/28	Manganese, dissolved	mg/L	<0.0008
PMP	MW-150	C	2022/06/14	Manganese, dissolved	mg/L	<0.0025
PMP	MW-150	C	2022/09/29	Manganese, dissolved	mg/L	0.00160
PMP	MW-150	C	2022/12/06	Manganese, dissolved	mg/L	0.00180
PMP	MW-150	C	2023/03/15	Manganese, dissolved	mg/L	<0.0008
PMP	MW-150	C	2023/05/18	Manganese, dissolved	mg/L	0.00380
PMP	MW-150	C	2023/08/07	Manganese, dissolved	mg/L	0.00250
PMP	MW-150	C	2023/11/03	Manganese, dissolved	mg/L	0.00250
PMP	MW-150	C	2023/05/18	Phosphate, dissolved	mg/L	0.0980

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PMP	MW-150	C	2023/08/07	Phosphate, dissolved	mg/L	0.0710
PMP	MW-150	C	2023/03/15	Potassium, total	mg/L	0.731
PMP	MW-150	C	2023/05/18	Potassium, total	mg/L	0.893
PMP	MW-150	C	2023/08/07	Potassium, total	mg/L	0.864
PMP	MW-150	C	2023/11/03	Potassium, total	mg/L	0.806
PMP	MW-150	C	2023/05/18	Silicon, dissolved	mg/L	10.3
PMP	MW-150	C	2023/08/07	Silicon, dissolved	mg/L	9.45
PMP	MW-150	C	2023/03/15	Sodium, total	mg/L	125
PMP	MW-150	C	2023/05/18	Sodium, total	mg/L	121
PMP	MW-150	C	2023/08/07	Sodium, total	mg/L	94.8
PMP	MW-150	C	2023/11/03	Sodium, total	mg/L	102
PMP	MW-150	C	2013/09/16	Sulfate, total	mg/L	570
PMP	MW-150	C	2023/03/15	Sulfate, total	mg/L	927
PMP	MW-150	C	2023/05/18	Sulfate, total	mg/L	970
PMP	MW-150	C	2023/08/07	Sulfate, total	mg/L	852
PMP	MW-150	C	2023/11/03	Sulfate, total	mg/L	832
PMP	MW-150	C	2013/09/16	Temperature (Celsius)	degrees C	14.8
PMP	MW-150	C	2013/11/20	Temperature (Celsius)	degrees C	13.3
PMP	MW-150	C	2014/02/19	Temperature (Celsius)	degrees C	12.7
PMP	MW-150	C	2014/06/11	Temperature (Celsius)	degrees C	13.0
PMP	MW-150	C	2015/03/25	Temperature (Celsius)	degrees C	13.7
PMP	MW-150	C	2015/06/24	Temperature (Celsius)	degrees C	13.5
PMP	MW-150	C	2015/09/25	Temperature (Celsius)	degrees C	14.0
PMP	MW-150	C	2015/11/10	Temperature (Celsius)	degrees C	13.5
PMP	MW-150	C	2016/03/22	Temperature (Celsius)	degrees C	14.5
PMP	MW-150	C	2016/06/21	Temperature (Celsius)	degrees C	14.3
PMP	MW-150	C	2016/09/29	Temperature (Celsius)	degrees C	14.0
PMP	MW-150	C	2016/12/21	Temperature (Celsius)	degrees C	13.8
PMP	MW-150	C	2017/03/16	Temperature (Celsius)	degrees C	13.6
PMP	MW-150	C	2017/06/22	Temperature (Celsius)	degrees C	14.4
PMP	MW-150	C	2017/09/21	Temperature (Celsius)	degrees C	15.0
PMP	MW-150	C	2017/11/28	Temperature (Celsius)	degrees C	14.9
PMP	MW-150	C	2018/03/19	Temperature (Celsius)	degrees C	14.9
PMP	MW-150	C	2018/06/28	Temperature (Celsius)	degrees C	14.4
PMP	MW-150	C	2018/09/26	Temperature (Celsius)	degrees C	14.4
PMP	MW-150	C	2018/12/18	Temperature (Celsius)	degrees C	14.1
PMP	MW-150	C	2019/03/20	Temperature (Celsius)	degrees C	13.0
PMP	MW-150	C	2019/06/25	Temperature (Celsius)	degrees C	13.5
PMP	MW-150	C	2019/09/26	Temperature (Celsius)	degrees C	13.8
PMP	MW-150	C	2019/12/19	Temperature (Celsius)	degrees C	13.9
PMP	MW-150	C	2020/03/26	Temperature (Celsius)	degrees C	13.4
PMP	MW-150	C	2020/06/23	Temperature (Celsius)	degrees C	13.3
PMP	MW-150	C	2020/09/17	Temperature (Celsius)	degrees C	13.8
PMP	MW-150	C	2020/12/17	Temperature (Celsius)	degrees C	12.3
PMP	MW-150	C	2021/03/10	Temperature (Celsius)	degrees C	13.6
PMP	MW-150	C	2021/06/21	Temperature (Celsius)	degrees C	13.2
PMP	MW-150	C	2021/09/14	Temperature (Celsius)	degrees C	13.9
PMP	MW-150	C	2021/12/14	Temperature (Celsius)	degrees C	14.3
PMP	MW-150	C	2022/03/28	Temperature (Celsius)	degrees C	13.2
PMP	MW-150	C	2022/06/14	Temperature (Celsius)	degrees C	14.3
PMP	MW-150	C	2022/09/29	Temperature (Celsius)	degrees C	13.8
PMP	MW-150	C	2022/12/06	Temperature (Celsius)	degrees C	13.6
PMP	MW-150	C	2023/03/15	Temperature (Celsius)	degrees C	13.4
PMP	MW-150	C	2023/05/18	Temperature (Celsius)	degrees C	13.6
PMP	MW-150	C	2023/08/07	Temperature (Celsius)	degrees C	14.0
PMP	MW-150	C	2023/11/03	Temperature (Celsius)	degrees C	13.6
PMP	MW-150	C	2013/09/16	Total Dissolved Solids	mg/L	1,090

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PMP	MW-150	C	2013/11/20	Total Dissolved Solids	mg/L	1,090
PMP	MW-150	C	2014/02/19	Total Dissolved Solids	mg/L	1,200
PMP	MW-150	C	2014/06/11	Total Dissolved Solids	mg/L	1,300
PMP	MW-150	C	2015/03/25	Total Dissolved Solids	mg/L	1,270
PMP	MW-150	C	2015/06/24	Total Dissolved Solids	mg/L	1,340
PMP	MW-150	C	2015/09/25	Total Dissolved Solids	mg/L	1,210
PMP	MW-150	C	2015/11/10	Total Dissolved Solids	mg/L	1,180
PMP	MW-150	C	2016/03/22	Total Dissolved Solids	mg/L	1,410
PMP	MW-150	C	2016/06/21	Total Dissolved Solids	mg/L	1,440
PMP	MW-150	C	2016/09/29	Total Dissolved Solids	mg/L	1,470
PMP	MW-150	C	2016/12/21	Total Dissolved Solids	mg/L	1,440
PMP	MW-150	C	2017/03/16	Total Dissolved Solids	mg/L	1,570
PMP	MW-150	C	2017/06/22	Total Dissolved Solids	mg/L	1,520
PMP	MW-150	C	2017/09/21	Total Dissolved Solids	mg/L	1,390
PMP	MW-150	C	2017/11/28	Total Dissolved Solids	mg/L	1,500
PMP	MW-150	C	2018/03/19	Total Dissolved Solids	mg/L	1,540
PMP	MW-150	C	2018/06/28	Total Dissolved Solids	mg/L	1,530
PMP	MW-150	C	2018/09/26	Total Dissolved Solids	mg/L	1,550
PMP	MW-150	C	2018/12/18	Total Dissolved Solids	mg/L	1,620
PMP	MW-150	C	2019/03/20	Total Dissolved Solids	mg/L	1,520
PMP	MW-150	C	2019/06/25	Total Dissolved Solids	mg/L	1,700
PMP	MW-150	C	2019/09/26	Total Dissolved Solids	mg/L	1,490
PMP	MW-150	C	2019/12/19	Total Dissolved Solids	mg/L	1,540
PMP	MW-150	C	2020/03/26	Total Dissolved Solids	mg/L	1,580
PMP	MW-150	C	2020/06/23	Total Dissolved Solids	mg/L	1,640
PMP	MW-150	C	2020/09/17	Total Dissolved Solids	mg/L	1,590
PMP	MW-150	C	2020/12/17	Total Dissolved Solids	mg/L	1,590
PMP	MW-150	C	2021/03/10	Total Dissolved Solids	mg/L	1,730
PMP	MW-150	C	2021/06/21	Total Dissolved Solids	mg/L	1,660
PMP	MW-150	C	2021/09/14	Total Dissolved Solids	mg/L	1,550
PMP	MW-150	C	2021/12/14	Total Dissolved Solids	mg/L	1,560
PMP	MW-150	C	2022/03/28	Total Dissolved Solids	mg/L	1,770
PMP	MW-150	C	2022/06/14	Total Dissolved Solids	mg/L	1,790
PMP	MW-150	C	2022/09/29	Total Dissolved Solids	mg/L	1,680
PMP	MW-150	C	2022/12/06	Total Dissolved Solids	mg/L	1,640
PMP	MW-150	C	2023/03/15	Total Dissolved Solids	mg/L	1,770
PMP	MW-150	C	2023/05/18	Total Dissolved Solids	mg/L	1,790
PMP	MW-150	C	2023/08/07	Total Dissolved Solids	mg/L	1,670
PMP	MW-150	C	2023/11/03	Total Dissolved Solids	mg/L	1,620
PMP	MW-151	C	2013/09/16	pH (field)	SU	7.2
PMP	MW-151	C	2013/11/20	pH (field)	SU	7.1
PMP	MW-151	C	2014/02/19	pH (field)	SU	7.1
PMP	MW-151	C	2014/06/12	pH (field)	SU	6.3
PMP	MW-151	C	2017/03/16	pH (field)	SU	7.2
PMP	MW-151	C	2017/06/21	pH (field)	SU	6.9
PMP	MW-151	C	2017/09/21	pH (field)	SU	6.9
PMP	MW-151	C	2017/11/28	pH (field)	SU	7.2
PMP	MW-151	C	2018/03/20	pH (field)	SU	7.1
PMP	MW-151	C	2018/06/27	pH (field)	SU	6.9
PMP	MW-151	C	2018/09/26	pH (field)	SU	6.9
PMP	MW-151	C	2018/12/18	pH (field)	SU	6.9
PMP	MW-151	C	2019/03/20	pH (field)	SU	7.0
PMP	MW-151	C	2019/06/25	pH (field)	SU	6.9
PMP	MW-151	C	2019/09/26	pH (field)	SU	6.7
PMP	MW-151	C	2019/12/19	pH (field)	SU	7.2
PMP	MW-151	C	2020/03/27	pH (field)	SU	6.9
PMP	MW-151	C	2020/06/23	pH (field)	SU	7.0

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PMP	MW-151	C	2020/09/17	pH (field)	SU	7.0
PMP	MW-151	C	2020/12/16	pH (field)	SU	7.1
PMP	MW-151	C	2021/03/09	pH (field)	SU	6.9
PMP	MW-151	C	2021/06/21	pH (field)	SU	6.8
PMP	MW-151	C	2021/09/14	pH (field)	SU	6.9
PMP	MW-151	C	2021/12/14	pH (field)	SU	6.9
PMP	MW-151	C	2022/03/28	pH (field)	SU	6.9
PMP	MW-151	C	2022/06/14	pH (field)	SU	6.9
PMP	MW-151	C	2022/09/29	pH (field)	SU	6.7
PMP	MW-151	C	2022/12/06	pH (field)	SU	7.0
PMP	MW-151	C	2023/03/15	pH (field)	SU	6.9
PMP	MW-151	C	2023/05/18	pH (field)	SU	6.8
PMP	MW-151	C	2023/07/10	pH (field)	SU	7.0
PMP	MW-151	C	2023/08/07	pH (field)	SU	6.8
PMP	MW-151	C	2023/10/31	pH (field)	SU	6.9
PMP	MW-151	C	2021/03/09	Oxidation Reduction Potential	mV	79.0
PMP	MW-151	C	2021/06/21	Oxidation Reduction Potential	mV	32.0
PMP	MW-151	C	2021/09/14	Oxidation Reduction Potential	mV	90.0
PMP	MW-151	C	2021/12/14	Oxidation Reduction Potential	mV	78.0
PMP	MW-151	C	2022/03/28	Oxidation Reduction Potential	mV	50.0
PMP	MW-151	C	2022/06/14	Oxidation Reduction Potential	mV	104
PMP	MW-151	C	2022/09/29	Oxidation Reduction Potential	mV	155
PMP	MW-151	C	2022/12/06	Oxidation Reduction Potential	mV	97.0
PMP	MW-151	C	2023/03/15	Oxidation Reduction Potential	mV	96.8
PMP	MW-151	C	2023/05/18	Oxidation Reduction Potential	mV	125
PMP	MW-151	C	2023/07/10	Oxidation Reduction Potential	mV	125
PMP	MW-151	C	2023/08/07	Oxidation Reduction Potential	mV	166
PMP	MW-151	C	2023/10/31	Oxidation Reduction Potential	mV	40.0
PMP	MW-151	C	2021/03/09	Eh	V	0.28
PMP	MW-151	C	2021/06/21	Eh	V	0.23
PMP	MW-151	C	2021/09/14	Eh	V	0.28
PMP	MW-151	C	2021/12/14	Eh	V	0.27
PMP	MW-151	C	2022/03/28	Eh	V	0.25
PMP	MW-151	C	2022/06/14	Eh	V	0.30
PMP	MW-151	C	2022/09/29	Eh	V	0.35
PMP	MW-151	C	2022/12/06	Eh	V	0.29
PMP	MW-151	C	2023/03/15	Eh	V	0.29
PMP	MW-151	C	2023/05/18	Eh	V	0.32
PMP	MW-151	C	2023/07/10	Eh	V	0.32
PMP	MW-151	C	2023/08/07	Eh	V	0.36
PMP	MW-151	C	2023/10/31	Eh	V	0.23
PMP	MW-151	C	2023/03/15	Alkalinity, bicarbonate	mg/L CaCO3	436
PMP	MW-151	C	2023/05/18	Alkalinity, bicarbonate	mg/L CaCO3	523
PMP	MW-151	C	2023/08/07	Alkalinity, bicarbonate	mg/L CaCO3	443
PMP	MW-151	C	2023/10/31	Alkalinity, bicarbonate	mg/L CaCO3	474
PMP	MW-151	C	2023/03/15	Barium, total	mg/L	0.0599
PMP	MW-151	C	2023/05/18	Barium, total	mg/L	0.138
PMP	MW-151	C	2023/07/10	Barium, total	mg/L	0.0550
PMP	MW-151	C	2023/08/07	Barium, total	mg/L	0.0666
PMP	MW-151	C	2023/10/31	Barium, total	mg/L	0.0759
PMP	MW-151	C	2013/09/16	Boron, total	mg/L	0.240
PMP	MW-151	C	2023/03/15	Boron, total	mg/L	0.459
PMP	MW-151	C	2023/05/18	Boron, total	mg/L	0.345
PMP	MW-151	C	2023/07/10	Boron, total	mg/L	0.749
PMP	MW-151	C	2023/08/07	Boron, total	mg/L	0.887
PMP	MW-151	C	2023/10/31	Boron, total	mg/L	0.889
PMP	MW-151	C	2023/03/15	Calcium, total	mg/L	113

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PMP	MW-151	C	2023/05/18	Calcium, total	mg/L	187
PMP	MW-151	C	2023/07/10	Calcium, total	mg/L	116
PMP	MW-151	C	2023/08/07	Calcium, total	mg/L	108
PMP	MW-151	C	2023/10/31	Calcium, total	mg/L	123
PMP	MW-151	C	2013/09/16	Chloride, total	mg/L	36.0
PMP	MW-151	C	2023/03/15	Chloride, total	mg/L	37.0
PMP	MW-151	C	2023/05/18	Chloride, total	mg/L	46.0
PMP	MW-151	C	2023/07/10	Chloride, total	mg/L	38.0
PMP	MW-151	C	2023/08/07	Chloride, total	mg/L	38.0
PMP	MW-151	C	2023/10/31	Chloride, total	mg/L	41.0
PMP	MW-151	C	2013/11/20	Iron, dissolved	mg/L	<0.007
PMP	MW-151	C	2014/02/19	Iron, dissolved	mg/L	<0.007
PMP	MW-151	C	2014/06/12	Iron, dissolved	mg/L	<0.007
PMP	MW-151	C	2017/03/16	Iron, dissolved	mg/L	<0.007
PMP	MW-151	C	2017/06/21	Iron, dissolved	mg/L	<0.007
PMP	MW-151	C	2017/09/21	Iron, dissolved	mg/L	<0.007
PMP	MW-151	C	2017/11/28	Iron, dissolved	mg/L	<0.007
PMP	MW-151	C	2018/03/20	Iron, dissolved	mg/L	<0.007
PMP	MW-151	C	2018/06/27	Iron, dissolved	mg/L	<0.02
PMP	MW-151	C	2018/09/26	Iron, dissolved	mg/L	<0.02
PMP	MW-151	C	2018/12/18	Iron, dissolved	mg/L	<0.02
PMP	MW-151	C	2019/03/20	Iron, dissolved	mg/L	<0.02
PMP	MW-151	C	2019/06/25	Iron, dissolved	mg/L	<0.02
PMP	MW-151	C	2019/09/26	Iron, dissolved	mg/L	<0.02
PMP	MW-151	C	2019/12/19	Iron, dissolved	mg/L	<0.02
PMP	MW-151	C	2020/03/27	Iron, dissolved	mg/L	<0.02
PMP	MW-151	C	2020/06/23	Iron, dissolved	mg/L	<0.02
PMP	MW-151	C	2020/09/17	Iron, dissolved	mg/L	<0.02
PMP	MW-151	C	2020/12/16	Iron, dissolved	mg/L	<0.02
PMP	MW-151	C	2021/03/09	Iron, dissolved	mg/L	<0.02
PMP	MW-151	C	2021/06/21	Iron, dissolved	mg/L	<0.02
PMP	MW-151	C	2021/09/14	Iron, dissolved	mg/L	<0.02
PMP	MW-151	C	2021/12/14	Iron, dissolved	mg/L	<0.02
PMP	MW-151	C	2022/03/28	Iron, dissolved	mg/L	<0.015
PMP	MW-151	C	2022/06/14	Iron, dissolved	mg/L	<0.02
PMP	MW-151	C	2022/09/29	Iron, dissolved	mg/L	<0.0115
PMP	MW-151	C	2022/12/06	Iron, dissolved	mg/L	<0.0115
PMP	MW-151	C	2023/03/15	Iron, dissolved	mg/L	<0.0115
PMP	MW-151	C	2023/05/18	Iron, dissolved	mg/L	<0.02
PMP	MW-151	C	2023/08/07	Iron, dissolved	mg/L	<0.0115
PMP	MW-151	C	2023/10/31	Iron, dissolved	mg/L	0.0130
PMP	MW-151	C	2023/03/15	Magnesium, total	mg/L	41.7
PMP	MW-151	C	2023/05/18	Magnesium, total	mg/L	51.7
PMP	MW-151	C	2023/08/07	Magnesium, total	mg/L	40.5
PMP	MW-151	C	2023/10/31	Magnesium, total	mg/L	43.6
PMP	MW-151	C	2013/11/20	Manganese, dissolved	mg/L	<0.0016
PMP	MW-151	C	2014/02/19	Manganese, dissolved	mg/L	<0.0016
PMP	MW-151	C	2014/06/12	Manganese, dissolved	mg/L	0.00500
PMP	MW-151	C	2017/03/16	Manganese, dissolved	mg/L	0.0100
PMP	MW-151	C	2017/06/21	Manganese, dissolved	mg/L	0.00320
PMP	MW-151	C	2017/09/21	Manganese, dissolved	mg/L	0.00300
PMP	MW-151	C	2017/11/28	Manganese, dissolved	mg/L	0.00630
PMP	MW-151	C	2018/03/20	Manganese, dissolved	mg/L	0.00320
PMP	MW-151	C	2018/06/27	Manganese, dissolved	mg/L	<0.0025
PMP	MW-151	C	2018/09/26	Manganese, dissolved	mg/L	0.0689
PMP	MW-151	C	2018/12/18	Manganese, dissolved	mg/L	<0.0025
PMP	MW-151	C	2019/03/20	Manganese, dissolved	mg/L	<0.0025

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PMP	MW-151	C	2019/06/25	Manganese, dissolved	mg/L	<0.0025
PMP	MW-151	C	2019/09/26	Manganese, dissolved	mg/L	0.00900
PMP	MW-151	C	2019/12/19	Manganese, dissolved	mg/L	<0.0025
PMP	MW-151	C	2020/03/27	Manganese, dissolved	mg/L	<0.0025
PMP	MW-151	C	2020/06/23	Manganese, dissolved	mg/L	<0.0025
PMP	MW-151	C	2020/09/17	Manganese, dissolved	mg/L	0.00880
PMP	MW-151	C	2020/12/16	Manganese, dissolved	mg/L	<0.0025
PMP	MW-151	C	2021/03/09	Manganese, dissolved	mg/L	<0.0025
PMP	MW-151	C	2021/06/21	Manganese, dissolved	mg/L	<0.0025
PMP	MW-151	C	2021/09/14	Manganese, dissolved	mg/L	0.00810
PMP	MW-151	C	2021/12/14	Manganese, dissolved	mg/L	0.00910
PMP	MW-151	C	2022/03/28	Manganese, dissolved	mg/L	0.00320
PMP	MW-151	C	2022/06/14	Manganese, dissolved	mg/L	0.00470
PMP	MW-151	C	2022/09/29	Manganese, dissolved	mg/L	0.00320
PMP	MW-151	C	2022/12/06	Manganese, dissolved	mg/L	0.00370
PMP	MW-151	C	2023/03/15	Manganese, dissolved	mg/L	0.00350
PMP	MW-151	C	2023/05/18	Manganese, dissolved	mg/L	0.0151
PMP	MW-151	C	2023/08/07	Manganese, dissolved	mg/L	0.0177
PMP	MW-151	C	2023/10/31	Manganese, dissolved	mg/L	0.0133
PMP	MW-151	C	2023/05/18	Phosphate, dissolved	mg/L	<0.005
PMP	MW-151	C	2023/08/07	Phosphate, dissolved	mg/L	<0.005
PMP	MW-151	C	2023/03/15	Potassium, total	mg/L	1.68
PMP	MW-151	C	2023/05/18	Potassium, total	mg/L	5.43
PMP	MW-151	C	2023/08/07	Potassium, total	mg/L	2.37
PMP	MW-151	C	2023/10/31	Potassium, total	mg/L	2.64
PMP	MW-151	C	2023/05/18	Silicon, dissolved	mg/L	5.37
PMP	MW-151	C	2023/08/07	Silicon, dissolved	mg/L	5.38
PMP	MW-151	C	2023/03/15	Sodium, total	mg/L	48.2
PMP	MW-151	C	2023/05/18	Sodium, total	mg/L	56.3
PMP	MW-151	C	2023/08/07	Sodium, total	mg/L	64.6
PMP	MW-151	C	2023/10/31	Sodium, total	mg/L	64.9
PMP	MW-151	C	2013/09/16	Sulfate, total	mg/L	90.0
PMP	MW-151	C	2023/03/15	Sulfate, total	mg/L	81.0
PMP	MW-151	C	2023/05/18	Sulfate, total	mg/L	74.0
PMP	MW-151	C	2023/07/10	Sulfate, total	mg/L	82.0
PMP	MW-151	C	2023/08/07	Sulfate, total	mg/L	93.0
PMP	MW-151	C	2023/10/31	Sulfate, total	mg/L	95.0
PMP	MW-151	C	2013/09/16	Temperature (Celsius)	degrees C	17.3
PMP	MW-151	C	2013/11/20	Temperature (Celsius)	degrees C	14.2
PMP	MW-151	C	2014/02/19	Temperature (Celsius)	degrees C	8.50
PMP	MW-151	C	2014/06/12	Temperature (Celsius)	degrees C	13.8
PMP	MW-151	C	2017/03/16	Temperature (Celsius)	degrees C	10.8
PMP	MW-151	C	2017/06/21	Temperature (Celsius)	degrees C	15.1
PMP	MW-151	C	2017/09/21	Temperature (Celsius)	degrees C	18.1
PMP	MW-151	C	2017/11/28	Temperature (Celsius)	degrees C	16.3
PMP	MW-151	C	2018/03/20	Temperature (Celsius)	degrees C	10.8
PMP	MW-151	C	2018/06/27	Temperature (Celsius)	degrees C	14.6
PMP	MW-151	C	2018/09/26	Temperature (Celsius)	degrees C	18.3
PMP	MW-151	C	2018/12/18	Temperature (Celsius)	degrees C	13.1
PMP	MW-151	C	2019/03/20	Temperature (Celsius)	degrees C	9.30
PMP	MW-151	C	2019/06/25	Temperature (Celsius)	degrees C	14.2
PMP	MW-151	C	2019/09/26	Temperature (Celsius)	degrees C	17.0
PMP	MW-151	C	2019/12/19	Temperature (Celsius)	degrees C	12.8
PMP	MW-151	C	2020/06/23	Temperature (Celsius)	degrees C	14.0
PMP	MW-151	C	2020/09/17	Temperature (Celsius)	degrees C	17.3
PMP	MW-151	C	2020/12/16	Temperature (Celsius)	degrees C	13.1
PMP	MW-151	C	2021/03/09	Temperature (Celsius)	degrees C	10.9

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PMP	MW-151	C	2021/06/21	Temperature (Celsius)	degrees C	14.3
PMP	MW-151	C	2021/09/14	Temperature (Celsius)	degrees C	18.7
PMP	MW-151	C	2021/12/14	Temperature (Celsius)	degrees C	15.2
PMP	MW-151	C	2022/03/28	Temperature (Celsius)	degrees C	10.4
PMP	MW-151	C	2022/06/14	Temperature (Celsius)	degrees C	19.9
PMP	MW-151	C	2022/09/29	Temperature (Celsius)	degrees C	16.9
PMP	MW-151	C	2022/12/06	Temperature (Celsius)	degrees C	13.9
PMP	MW-151	C	2023/03/15	Temperature (Celsius)	degrees C	11.6
PMP	MW-151	C	2023/05/18	Temperature (Celsius)	degrees C	12.6
PMP	MW-151	C	2023/07/10	Temperature (Celsius)	degrees C	15.2
PMP	MW-151	C	2023/08/07	Temperature (Celsius)	degrees C	16.3
PMP	MW-151	C	2023/10/31	Temperature (Celsius)	degrees C	16.4
PMP	MW-151	C	2013/09/16	Total Dissolved Solids	mg/L	526
PMP	MW-151	C	2013/11/20	Total Dissolved Solids	mg/L	542
PMP	MW-151	C	2014/02/19	Total Dissolved Solids	mg/L	538
PMP	MW-151	C	2014/06/12	Total Dissolved Solids	mg/L	562
PMP	MW-151	C	2017/03/16	Total Dissolved Solids	mg/L	514
PMP	MW-151	C	2017/06/21	Total Dissolved Solids	mg/L	536
PMP	MW-151	C	2017/09/21	Total Dissolved Solids	mg/L	514
PMP	MW-151	C	2017/11/28	Total Dissolved Solids	mg/L	590
PMP	MW-151	C	2018/03/20	Total Dissolved Solids	mg/L	542
PMP	MW-151	C	2018/06/27	Total Dissolved Solids	mg/L	568
PMP	MW-151	C	2018/09/26	Total Dissolved Solids	mg/L	588
PMP	MW-151	C	2018/12/18	Total Dissolved Solids	mg/L	550
PMP	MW-151	C	2019/03/20	Total Dissolved Solids	mg/L	550
PMP	MW-151	C	2019/06/25	Total Dissolved Solids	mg/L	525
PMP	MW-151	C	2019/09/26	Total Dissolved Solids	mg/L	584
PMP	MW-151	C	2019/12/19	Total Dissolved Solids	mg/L	604
PMP	MW-151	C	2020/03/27	Total Dissolved Solids	mg/L	556
PMP	MW-151	C	2020/06/23	Total Dissolved Solids	mg/L	496
PMP	MW-151	C	2020/09/17	Total Dissolved Solids	mg/L	556
PMP	MW-151	C	2020/12/16	Total Dissolved Solids	mg/L	552
PMP	MW-151	C	2021/03/09	Total Dissolved Solids	mg/L	542
PMP	MW-151	C	2021/06/21	Total Dissolved Solids	mg/L	566
PMP	MW-151	C	2021/09/14	Total Dissolved Solids	mg/L	518
PMP	MW-151	C	2021/12/14	Total Dissolved Solids	mg/L	520
PMP	MW-151	C	2022/03/28	Total Dissolved Solids	mg/L	558
PMP	MW-151	C	2022/06/14	Total Dissolved Solids	mg/L	544
PMP	MW-151	C	2022/09/29	Total Dissolved Solids	mg/L	586
PMP	MW-151	C	2022/12/06	Total Dissolved Solids	mg/L	560
PMP	MW-151	C	2023/03/15	Total Dissolved Solids	mg/L	586
PMP	MW-151	C	2023/05/18	Total Dissolved Solids	mg/L	545
PMP	MW-151	C	2023/07/10	Total Dissolved Solids	mg/L	602
PMP	MW-151	C	2023/08/07	Total Dissolved Solids	mg/L	595
PMP	MW-151	C	2023/10/31	Total Dissolved Solids	mg/L	600
PMP	MW-152	C	2013/09/16	pH (field)	SU	7.0
PMP	MW-152	C	2013/11/20	pH (field)	SU	7.2
PMP	MW-152	C	2014/02/19	pH (field)	SU	6.4
PMP	MW-152	C	2014/06/12	pH (field)	SU	6.5
PMP	MW-152	C	2015/03/25	pH (field)	SU	6.9
PMP	MW-152	C	2015/06/24	pH (field)	SU	6.8
PMP	MW-152	C	2015/09/25	pH (field)	SU	6.8
PMP	MW-152	C	2015/11/10	pH (field)	SU	6.7
PMP	MW-152	C	2016/03/22	pH (field)	SU	6.9
PMP	MW-152	C	2016/06/23	pH (field)	SU	7.5
PMP	MW-152	C	2016/09/29	pH (field)	SU	6.7
PMP	MW-152	C	2016/12/21	pH (field)	SU	6.8

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PMP	MW-152	C	2017/03/16	pH (field)	SU	7.0
PMP	MW-152	C	2017/06/21	pH (field)	SU	6.6
PMP	MW-152	C	2017/09/21	pH (field)	SU	6.7
PMP	MW-152	C	2017/11/28	pH (field)	SU	7.2
PMP	MW-152	C	2018/03/20	pH (field)	SU	6.9
PMP	MW-152	C	2018/06/27	pH (field)	SU	6.8
PMP	MW-152	C	2018/09/26	pH (field)	SU	6.7
PMP	MW-152	C	2018/12/18	pH (field)	SU	6.9
PMP	MW-152	C	2019/03/20	pH (field)	SU	7.0
PMP	MW-152	C	2019/06/25	pH (field)	SU	7.0
PMP	MW-152	C	2019/09/26	pH (field)	SU	6.7
PMP	MW-152	C	2019/12/19	pH (field)	SU	6.9
PMP	MW-152	C	2020/03/27	pH (field)	SU	6.9
PMP	MW-152	C	2020/06/23	pH (field)	SU	7.2
PMP	MW-152	C	2020/09/17	pH (field)	SU	6.8
PMP	MW-152	C	2020/12/16	pH (field)	SU	6.9
PMP	MW-152	C	2021/03/09	pH (field)	SU	6.9
PMP	MW-152	C	2021/07/19	pH (field)	SU	6.6
PMP	MW-152	C	2021/09/14	pH (field)	SU	6.7
PMP	MW-152	C	2021/12/14	pH (field)	SU	6.8
PMP	MW-152	C	2022/03/28	pH (field)	SU	6.9
PMP	MW-152	C	2022/06/14	pH (field)	SU	6.9
PMP	MW-152	C	2022/09/29	pH (field)	SU	6.7
PMP	MW-152	C	2022/12/06	pH (field)	SU	6.7
PMP	MW-152	C	2023/03/15	pH (field)	SU	6.9
PMP	MW-152	C	2023/05/18	pH (field)	SU	6.9
PMP	MW-152	C	2023/08/04	pH (field)	SU	6.9
PMP	MW-152	C	2023/10/31	pH (field)	SU	6.8
PMP	MW-152	C	2021/03/09	Oxidation Reduction Potential	mV	53.0
PMP	MW-152	C	2021/07/19	Oxidation Reduction Potential	mV	141
PMP	MW-152	C	2021/09/14	Oxidation Reduction Potential	mV	19.0
PMP	MW-152	C	2021/12/14	Oxidation Reduction Potential	mV	75.0
PMP	MW-152	C	2022/03/28	Oxidation Reduction Potential	mV	58.0
PMP	MW-152	C	2022/06/14	Oxidation Reduction Potential	mV	116
PMP	MW-152	C	2022/09/29	Oxidation Reduction Potential	mV	155
PMP	MW-152	C	2022/12/06	Oxidation Reduction Potential	mV	76.0
PMP	MW-152	C	2023/03/15	Oxidation Reduction Potential	mV	118
PMP	MW-152	C	2023/05/18	Oxidation Reduction Potential	mV	126
PMP	MW-152	C	2023/08/04	Oxidation Reduction Potential	mV	108
PMP	MW-152	C	2023/10/31	Oxidation Reduction Potential	mV	60.0
PMP	MW-152	C	2021/03/09	Eh	V	0.25
PMP	MW-152	C	2021/07/19	Eh	V	0.34
PMP	MW-152	C	2021/09/14	Eh	V	0.21
PMP	MW-152	C	2021/12/14	Eh	V	0.27
PMP	MW-152	C	2022/03/28	Eh	V	0.26
PMP	MW-152	C	2022/06/14	Eh	V	0.31
PMP	MW-152	C	2022/09/29	Eh	V	0.35
PMP	MW-152	C	2022/12/06	Eh	V	0.27
PMP	MW-152	C	2023/03/15	Eh	V	0.32
PMP	MW-152	C	2023/05/18	Eh	V	0.32
PMP	MW-152	C	2023/08/04	Eh	V	0.30
PMP	MW-152	C	2023/10/31	Eh	V	0.26
PMP	MW-152	C	2023/03/15	Alkalinity, bicarbonate	mg/L CaCO3	408
PMP	MW-152	C	2023/05/18	Alkalinity, bicarbonate	mg/L CaCO3	375
PMP	MW-152	C	2023/08/04	Alkalinity, bicarbonate	mg/L CaCO3	414
PMP	MW-152	C	2023/10/31	Alkalinity, bicarbonate	mg/L CaCO3	417
PMP	MW-152	C	2023/03/15	Barium, total	mg/L	0.0112

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Baldwin, IL

PMP	MW-152	C	2023/05/18	Barium, total	mg/L	0.0167
PMP	MW-152	C	2023/08/04	Barium, total	mg/L	0.0330
PMP	MW-152	C	2023/10/31	Barium, total	mg/L	0.0454
PMP	MW-152	C	2013/09/16	Boron, total	mg/L	9.09
PMP	MW-152	C	2023/03/15	Boron, total	mg/L	0.477
PMP	MW-152	C	2023/05/18	Boron, total	mg/L	0.515
PMP	MW-152	C	2023/08/04	Boron, total	mg/L	9.09
PMP	MW-152	C	2023/10/31	Boron, total	mg/L	19.8
PMP	MW-152	C	2023/03/15	Calcium, total	mg/L	125
PMP	MW-152	C	2023/05/18	Calcium, total	mg/L	116
PMP	MW-152	C	2023/08/04	Calcium, total	mg/L	209
PMP	MW-152	C	2023/10/31	Calcium, total	mg/L	268
PMP	MW-152	C	2013/09/16	Chloride, total	mg/L	49.0
PMP	MW-152	C	2023/03/15	Chloride, total	mg/L	10.0
PMP	MW-152	C	2023/05/18	Chloride, total	mg/L	8.00
PMP	MW-152	C	2023/08/04	Chloride, total	mg/L	37.0
PMP	MW-152	C	2023/10/31	Chloride, total	mg/L	54.0
PMP	MW-152	C	2013/11/20	Iron, dissolved	mg/L	0.0700
PMP	MW-152	C	2014/02/19	Iron, dissolved	mg/L	0.0500
PMP	MW-152	C	2014/06/12	Iron, dissolved	mg/L	0.456
PMP	MW-152	C	2015/03/25	Iron, dissolved	mg/L	0.0440
PMP	MW-152	C	2015/06/24	Iron, dissolved	mg/L	0.118
PMP	MW-152	C	2015/09/25	Iron, dissolved	mg/L	0.0333
PMP	MW-152	C	2015/11/10	Iron, dissolved	mg/L	0.0759
PMP	MW-152	C	2016/03/22	Iron, dissolved	mg/L	<0.007
PMP	MW-152	C	2016/06/23	Iron, dissolved	mg/L	0.0346
PMP	MW-152	C	2016/09/29	Iron, dissolved	mg/L	<0.007
PMP	MW-152	C	2016/12/21	Iron, dissolved	mg/L	<0.007
PMP	MW-152	C	2017/03/16	Iron, dissolved	mg/L	<0.007
PMP	MW-152	C	2017/06/21	Iron, dissolved	mg/L	<0.007
PMP	MW-152	C	2017/09/21	Iron, dissolved	mg/L	0.190
PMP	MW-152	C	2017/11/28	Iron, dissolved	mg/L	0.280
PMP	MW-152	C	2018/03/20	Iron, dissolved	mg/L	<0.007
PMP	MW-152	C	2018/06/27	Iron, dissolved	mg/L	<0.02
PMP	MW-152	C	2018/09/26	Iron, dissolved	mg/L	<0.02
PMP	MW-152	C	2018/12/18	Iron, dissolved	mg/L	<0.02
PMP	MW-152	C	2019/03/20	Iron, dissolved	mg/L	<0.02
PMP	MW-152	C	2019/06/25	Iron, dissolved	mg/L	<0.02
PMP	MW-152	C	2019/09/26	Iron, dissolved	mg/L	0.0456
PMP	MW-152	C	2019/12/19	Iron, dissolved	mg/L	<0.02
PMP	MW-152	C	2020/03/27	Iron, dissolved	mg/L	<0.02
PMP	MW-152	C	2020/06/23	Iron, dissolved	mg/L	<0.02
PMP	MW-152	C	2020/09/17	Iron, dissolved	mg/L	<0.02
PMP	MW-152	C	2020/12/16	Iron, dissolved	mg/L	<0.02
PMP	MW-152	C	2021/03/09	Iron, dissolved	mg/L	<0.02
PMP	MW-152	C	2021/07/19	Iron, dissolved	mg/L	<0.02
PMP	MW-152	C	2021/09/14	Iron, dissolved	mg/L	<0.02
PMP	MW-152	C	2021/12/14	Iron, dissolved	mg/L	<0.02
PMP	MW-152	C	2022/03/28	Iron, dissolved	mg/L	<0.015
PMP	MW-152	C	2022/06/14	Iron, dissolved	mg/L	<0.02
PMP	MW-152	C	2022/09/29	Iron, dissolved	mg/L	<0.0115
PMP	MW-152	C	2022/12/06	Iron, dissolved	mg/L	0.253
PMP	MW-152	C	2023/03/15	Iron, dissolved	mg/L	<0.0115
PMP	MW-152	C	2023/05/18	Iron, dissolved	mg/L	<0.02
PMP	MW-152	C	2023/08/04	Iron, dissolved	mg/L	<0.012
PMP	MW-152	C	2023/10/31	Iron, dissolved	mg/L	<0.0115
PMP	MW-152	C	2023/03/15	Magnesium, total	mg/L	59.2

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PMP	MW-152	C	2023/05/18	Magnesium, total	mg/L	53.5
PMP	MW-152	C	2023/08/04	Magnesium, total	mg/L	100
PMP	MW-152	C	2023/10/31	Magnesium, total	mg/L	122
PMP	MW-152	C	2013/11/20	Manganese, dissolved	mg/L	0.00500
PMP	MW-152	C	2014/02/19	Manganese, dissolved	mg/L	<0.0016
PMP	MW-152	C	2014/06/12	Manganese, dissolved	mg/L	0.102
PMP	MW-152	C	2015/03/25	Manganese, dissolved	mg/L	0.0100
PMP	MW-152	C	2015/06/24	Manganese, dissolved	mg/L	0.0910
PMP	MW-152	C	2015/09/25	Manganese, dissolved	mg/L	0.0192
PMP	MW-152	C	2015/11/10	Manganese, dissolved	mg/L	0.0398
PMP	MW-152	C	2016/03/22	Manganese, dissolved	mg/L	0.0180
PMP	MW-152	C	2016/06/23	Manganese, dissolved	mg/L	0.134
PMP	MW-152	C	2016/09/29	Manganese, dissolved	mg/L	0.0311
PMP	MW-152	C	2016/12/21	Manganese, dissolved	mg/L	0.0199
PMP	MW-152	C	2017/03/16	Manganese, dissolved	mg/L	0.00810
PMP	MW-152	C	2017/06/21	Manganese, dissolved	mg/L	0.0100
PMP	MW-152	C	2017/09/21	Manganese, dissolved	mg/L	0.0100
PMP	MW-152	C	2017/11/28	Manganese, dissolved	mg/L	0.0200
PMP	MW-152	C	2018/03/20	Manganese, dissolved	mg/L	0.00670
PMP	MW-152	C	2018/06/27	Manganese, dissolved	mg/L	<0.0025
PMP	MW-152	C	2018/09/26	Manganese, dissolved	mg/L	0.0173
PMP	MW-152	C	2018/12/18	Manganese, dissolved	mg/L	0.0105
PMP	MW-152	C	2019/03/20	Manganese, dissolved	mg/L	<0.0025
PMP	MW-152	C	2019/06/25	Manganese, dissolved	mg/L	<0.0025
PMP	MW-152	C	2019/09/26	Manganese, dissolved	mg/L	0.0374
PMP	MW-152	C	2019/12/19	Manganese, dissolved	mg/L	<0.005
PMP	MW-152	C	2020/03/27	Manganese, dissolved	mg/L	0.00730
PMP	MW-152	C	2020/06/23	Manganese, dissolved	mg/L	<0.0025
PMP	MW-152	C	2020/09/17	Manganese, dissolved	mg/L	0.0163
PMP	MW-152	C	2020/12/16	Manganese, dissolved	mg/L	0.0123
PMP	MW-152	C	2021/03/09	Manganese, dissolved	mg/L	<0.0025
PMP	MW-152	C	2021/07/19	Manganese, dissolved	mg/L	<0.0025
PMP	MW-152	C	2021/09/14	Manganese, dissolved	mg/L	0.0183
PMP	MW-152	C	2021/12/14	Manganese, dissolved	mg/L	0.00850
PMP	MW-152	C	2022/03/28	Manganese, dissolved	mg/L	0.00620
PMP	MW-152	C	2022/06/14	Manganese, dissolved	mg/L	0.00610
PMP	MW-152	C	2022/09/29	Manganese, dissolved	mg/L	0.0153
PMP	MW-152	C	2022/12/06	Manganese, dissolved	mg/L	0.0209
PMP	MW-152	C	2023/03/15	Manganese, dissolved	mg/L	0.00310
PMP	MW-152	C	2023/05/18	Manganese, dissolved	mg/L	0.00730
PMP	MW-152	C	2023/08/04	Manganese, dissolved	mg/L	0.0176
PMP	MW-152	C	2023/10/31	Manganese, dissolved	mg/L	0.0244
PMP	MW-152	C	2023/05/18	Phosphate, dissolved	mg/L	0.0150
PMP	MW-152	C	2023/08/04	Phosphate, dissolved	mg/L	0.0400
PMP	MW-152	C	2023/03/15	Potassium, total	mg/L	0.515
PMP	MW-152	C	2023/05/18	Potassium, total	mg/L	0.717
PMP	MW-152	C	2023/08/04	Potassium, total	mg/L	1.34
PMP	MW-152	C	2023/10/31	Potassium, total	mg/L	1.86
PMP	MW-152	C	2023/05/18	Silicon, dissolved	mg/L	8.72
PMP	MW-152	C	2023/08/04	Silicon, dissolved	mg/L	9.62
PMP	MW-152	C	2023/03/15	Sodium, total	mg/L	107
PMP	MW-152	C	2023/05/18	Sodium, total	mg/L	86.9
PMP	MW-152	C	2023/08/04	Sodium, total	mg/L	149
PMP	MW-152	C	2023/10/31	Sodium, total	mg/L	134
PMP	MW-152	C	2013/09/16	Sulfate, total	mg/L	873
PMP	MW-152	C	2023/03/15	Sulfate, total	mg/L	369
PMP	MW-152	C	2023/05/18	Sulfate, total	mg/L	242

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PMP	MW-152	C	2023/08/04	Sulfate, total	mg/L	732
PMP	MW-152	C	2023/10/31	Sulfate, total	mg/L	988
PMP	MW-152	C	2013/09/16	Temperature (Celsius)	degrees C	16.2
PMP	MW-152	C	2013/11/20	Temperature (Celsius)	degrees C	13.7
PMP	MW-152	C	2014/02/19	Temperature (Celsius)	degrees C	9.50
PMP	MW-152	C	2014/06/12	Temperature (Celsius)	degrees C	12.9
PMP	MW-152	C	2015/03/25	Temperature (Celsius)	degrees C	10.0
PMP	MW-152	C	2015/06/24	Temperature (Celsius)	degrees C	14.0
PMP	MW-152	C	2015/09/25	Temperature (Celsius)	degrees C	16.3
PMP	MW-152	C	2015/11/10	Temperature (Celsius)	degrees C	15.2
PMP	MW-152	C	2016/03/22	Temperature (Celsius)	degrees C	12.2
PMP	MW-152	C	2016/06/23	Temperature (Celsius)	degrees C	15.1
PMP	MW-152	C	2016/09/29	Temperature (Celsius)	degrees C	16.4
PMP	MW-152	C	2016/12/21	Temperature (Celsius)	degrees C	13.9
PMP	MW-152	C	2017/03/16	Temperature (Celsius)	degrees C	11.5
PMP	MW-152	C	2017/06/21	Temperature (Celsius)	degrees C	14.3
PMP	MW-152	C	2017/09/21	Temperature (Celsius)	degrees C	16.8
PMP	MW-152	C	2017/11/28	Temperature (Celsius)	degrees C	16
PMP	MW-152	C	2018/03/20	Temperature (Celsius)	degrees C	12.1
PMP	MW-152	C	2018/06/27	Temperature (Celsius)	degrees C	14.6
PMP	MW-152	C	2018/09/26	Temperature (Celsius)	degrees C	16.4
PMP	MW-152	C	2018/12/18	Temperature (Celsius)	degrees C	13.7
PMP	MW-152	C	2019/03/20	Temperature (Celsius)	degrees C	10.7
PMP	MW-152	C	2019/06/25	Temperature (Celsius)	degrees C	13.7
PMP	MW-152	C	2019/09/26	Temperature (Celsius)	degrees C	15.7
PMP	MW-152	C	2019/12/19	Temperature (Celsius)	degrees C	13.6
PMP	MW-152	C	2020/03/27	Temperature (Celsius)	degrees C	12.0
PMP	MW-152	C	2020/06/23	Temperature (Celsius)	degrees C	13.3
PMP	MW-152	C	2020/09/17	Temperature (Celsius)	degrees C	15.6
PMP	MW-152	C	2020/12/16	Temperature (Celsius)	degrees C	13.6
PMP	MW-152	C	2021/03/09	Temperature (Celsius)	degrees C	11.5
PMP	MW-152	C	2021/07/19	Temperature (Celsius)	degrees C	13.8
PMP	MW-152	C	2021/09/14	Temperature (Celsius)	degrees C	15.8
PMP	MW-152	C	2021/12/14	Temperature (Celsius)	degrees C	14.6
PMP	MW-152	C	2022/03/28	Temperature (Celsius)	degrees C	11.4
PMP	MW-152	C	2022/06/14	Temperature (Celsius)	degrees C	14.2
PMP	MW-152	C	2022/09/29	Temperature (Celsius)	degrees C	16.9
PMP	MW-152	C	2022/12/06	Temperature (Celsius)	degrees C	14.1
PMP	MW-152	C	2023/03/15	Temperature (Celsius)	degrees C	11.8
PMP	MW-152	C	2023/05/18	Temperature (Celsius)	degrees C	12.7
PMP	MW-152	C	2023/08/04	Temperature (Celsius)	degrees C	15.1
PMP	MW-152	C	2023/10/31	Temperature (Celsius)	degrees C	14.3
PMP	MW-152	C	2013/09/16	Total Dissolved Solids	mg/L	1,620
PMP	MW-152	C	2013/11/20	Total Dissolved Solids	mg/L	1,720
PMP	MW-152	C	2014/02/19	Total Dissolved Solids	mg/L	1,770
PMP	MW-152	C	2014/06/12	Total Dissolved Solids	mg/L	1,530
PMP	MW-152	C	2015/03/25	Total Dissolved Solids	mg/L	2,150
PMP	MW-152	C	2015/06/24	Total Dissolved Solids	mg/L	2,150
PMP	MW-152	C	2015/09/25	Total Dissolved Solids	mg/L	1,920
PMP	MW-152	C	2015/11/10	Total Dissolved Solids	mg/L	1,920
PMP	MW-152	C	2016/03/22	Total Dissolved Solids	mg/L	2,150
PMP	MW-152	C	2016/06/23	Total Dissolved Solids	mg/L	2,260
PMP	MW-152	C	2016/09/29	Total Dissolved Solids	mg/L	2,240
PMP	MW-152	C	2016/12/21	Total Dissolved Solids	mg/L	1,870
PMP	MW-152	C	2017/03/16	Total Dissolved Solids	mg/L	1,480
PMP	MW-152	C	2017/06/21	Total Dissolved Solids	mg/L	1,610
PMP	MW-152	C	2017/09/21	Total Dissolved Solids	mg/L	1,940

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PMP	MW-152	C	2017/11/28	Total Dissolved Solids	mg/L	2,010
PMP	MW-152	C	2018/03/20	Total Dissolved Solids	mg/L	1,770
PMP	MW-152	C	2018/06/27	Total Dissolved Solids	mg/L	1,760
PMP	MW-152	C	2018/09/26	Total Dissolved Solids	mg/L	2,170
PMP	MW-152	C	2018/12/18	Total Dissolved Solids	mg/L	1,550
PMP	MW-152	C	2019/03/20	Total Dissolved Solids	mg/L	1,340
PMP	MW-152	C	2019/06/25	Total Dissolved Solids	mg/L	894
PMP	MW-152	C	2019/09/26	Total Dissolved Solids	mg/L	1,790
PMP	MW-152	C	2019/12/19	Total Dissolved Solids	mg/L	1,880
PMP	MW-152	C	2020/03/27	Total Dissolved Solids	mg/L	1,250
PMP	MW-152	C	2020/06/23	Total Dissolved Solids	mg/L	900
PMP	MW-152	C	2020/09/17	Total Dissolved Solids	mg/L	1,850
PMP	MW-152	C	2020/12/16	Total Dissolved Solids	mg/L	1,340
PMP	MW-152	C	2021/03/09	Total Dissolved Solids	mg/L	948
PMP	MW-152	C	2021/07/19	Total Dissolved Solids	mg/L	868
PMP	MW-152	C	2021/09/14	Total Dissolved Solids	mg/L	1,300
PMP	MW-152	C	2021/12/14	Total Dissolved Solids	mg/L	1,100
PMP	MW-152	C	2022/03/28	Total Dissolved Solids	mg/L	786
PMP	MW-152	C	2022/06/14	Total Dissolved Solids	mg/L	880
PMP	MW-152	C	2022/09/29	Total Dissolved Solids	mg/L	1,780
PMP	MW-152	C	2022/12/06	Total Dissolved Solids	mg/L	368
PMP	MW-152	C	2023/03/15	Total Dissolved Solids	mg/L	904
PMP	MW-152	C	2023/05/18	Total Dissolved Solids	mg/L	706
PMP	MW-152	C	2023/08/04	Total Dissolved Solids	mg/L	1,510
PMP	MW-152	C	2023/10/31	Total Dissolved Solids	mg/L	1,790
PMP	MW-153	C	2013/09/17	pH (field)	SU	7.3
PMP	MW-153	C	2013/11/21	pH (field)	SU	6.6
PMP	MW-153	C	2014/02/19	pH (field)	SU	7.2
PMP	MW-153	C	2014/06/11	pH (field)	SU	7.1
PMP	MW-153	C	2015/03/25	pH (field)	SU	7.3
PMP	MW-153	C	2015/06/24	pH (field)	SU	7.2
PMP	MW-153	C	2015/09/25	pH (field)	SU	6.8
PMP	MW-153	C	2015/11/10	pH (field)	SU	7.1
PMP	MW-153	C	2016/03/22	pH (field)	SU	7.0
PMP	MW-153	C	2016/06/21	pH (field)	SU	7.4
PMP	MW-153	C	2016/09/29	pH (field)	SU	7.3
PMP	MW-153	C	2016/12/21	pH (field)	SU	7.2
PMP	MW-153	C	2017/03/17	pH (field)	SU	7.3
PMP	MW-153	C	2017/06/22	pH (field)	SU	7.0
PMP	MW-153	C	2017/09/21	pH (field)	SU	7.1
PMP	MW-153	C	2017/11/28	pH (field)	SU	7.3
PMP	MW-153	C	2018/03/20	pH (field)	SU	7.2
PMP	MW-153	C	2018/06/28	pH (field)	SU	7.1
PMP	MW-153	C	2018/09/26	pH (field)	SU	7.0
PMP	MW-153	C	2018/12/19	pH (field)	SU	7.2
PMP	MW-153	C	2019/03/21	pH (field)	SU	6.1
PMP	MW-153	C	2019/06/26	pH (field)	SU	6.9
PMP	MW-153	C	2019/09/26	pH (field)	SU	7.1
PMP	MW-153	C	2019/12/19	pH (field)	SU	7.1
PMP	MW-153	C	2020/03/27	pH (field)	SU	7.1
PMP	MW-153	C	2020/06/23	pH (field)	SU	7.3
PMP	MW-153	C	2020/09/17	pH (field)	SU	7.2
PMP	MW-153	C	2020/12/17	pH (field)	SU	7.1
PMP	MW-153	C	2021/03/10	pH (field)	SU	7.1
PMP	MW-153	C	2021/06/22	pH (field)	SU	6.6
PMP	MW-153	C	2021/09/16	pH (field)	SU	7.0
PMP	MW-153	C	2021/12/15	pH (field)	SU	7.0

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PMP	MW-153	C	2022/03/29	pH (field)	SU	6.9
PMP	MW-153	C	2022/06/15	pH (field)	SU	7.1
PMP	MW-153	C	2022/09/29	pH (field)	SU	7.3
PMP	MW-153	C	2022/12/06	pH (field)	SU	7.2
PMP	MW-153	C	2023/03/15	pH (field)	SU	7.2
PMP	MW-153	C	2023/05/22	pH (field)	SU	7.2
PMP	MW-153	C	2023/07/10	pH (field)	SU	6.8
PMP	MW-153	C	2023/08/04	pH (field)	SU	7.2
PMP	MW-153	C	2023/11/03	pH (field)	SU	6.8
PMP	MW-153	C	2021/03/10	Oxidation Reduction Potential	mV	38.0
PMP	MW-153	C	2021/06/22	Oxidation Reduction Potential	mV	4.00
PMP	MW-153	C	2021/09/16	Oxidation Reduction Potential	mV	56.0
PMP	MW-153	C	2021/12/15	Oxidation Reduction Potential	mV	98.0
PMP	MW-153	C	2022/03/29	Oxidation Reduction Potential	mV	55.0
PMP	MW-153	C	2022/06/15	Oxidation Reduction Potential	mV	119
PMP	MW-153	C	2022/09/29	Oxidation Reduction Potential	mV	120
PMP	MW-153	C	2022/12/06	Oxidation Reduction Potential	mV	39.0
PMP	MW-153	C	2023/03/15	Oxidation Reduction Potential	mV	59.5
PMP	MW-153	C	2023/05/22	Oxidation Reduction Potential	mV	117
PMP	MW-153	C	2023/07/10	Oxidation Reduction Potential	mV	150
PMP	MW-153	C	2023/08/04	Oxidation Reduction Potential	mV	89.0
PMP	MW-153	C	2023/11/03	Oxidation Reduction Potential	mV	77.0
PMP	MW-153	C	2021/03/10	Eh	V	0.23
PMP	MW-153	C	2021/06/22	Eh	V	0.20
PMP	MW-153	C	2021/09/16	Eh	V	0.25
PMP	MW-153	C	2021/12/15	Eh	V	0.29
PMP	MW-153	C	2022/03/29	Eh	V	0.25
PMP	MW-153	C	2022/06/15	Eh	V	0.31
PMP	MW-153	C	2022/09/29	Eh	V	0.32
PMP	MW-153	C	2022/12/06	Eh	V	0.23
PMP	MW-153	C	2023/03/15	Eh	V	0.26
PMP	MW-153	C	2023/05/22	Eh	V	0.31
PMP	MW-153	C	2023/07/10	Eh	V	0.35
PMP	MW-153	C	2023/08/04	Eh	V	0.28
PMP	MW-153	C	2023/11/03	Eh	V	0.27
PMP	MW-153	C	2023/03/15	Alkalinity, bicarbonate	mg/L CaCO3	197
PMP	MW-153	C	2023/05/22	Alkalinity, bicarbonate	mg/L CaCO3	195
PMP	MW-153	C	2023/08/04	Alkalinity, bicarbonate	mg/L CaCO3	198
PMP	MW-153	C	2023/11/03	Alkalinity, bicarbonate	mg/L CaCO3	196
PMP	MW-153	C	2023/03/15	Barium, total	mg/L	0.0366
PMP	MW-153	C	2023/05/22	Barium, total	mg/L	0.0867
PMP	MW-153	C	2023/07/10	Barium, total	mg/L	0.0365
PMP	MW-153	C	2023/08/04	Barium, total	mg/L	0.0357
PMP	MW-153	C	2023/11/03	Barium, total	mg/L	0.0335
PMP	MW-153	C	2013/09/17	Boron, total	mg/L	0.0200
PMP	MW-153	C	2023/03/15	Boron, total	mg/L	<0.02
PMP	MW-153	C	2023/05/22	Boron, total	mg/L	<0.013
PMP	MW-153	C	2023/07/10	Boron, total	mg/L	<0.009
PMP	MW-153	C	2023/08/04	Boron, total	mg/L	0.0357
PMP	MW-153	C	2023/11/03	Boron, total	mg/L	<0.0092
PMP	MW-153	C	2023/03/15	Calcium, total	mg/L	50.9
PMP	MW-153	C	2023/05/22	Calcium, total	mg/L	50.6
PMP	MW-153	C	2023/07/10	Calcium, total	mg/L	48.8
PMP	MW-153	C	2023/08/04	Calcium, total	mg/L	52.8
PMP	MW-153	C	2023/11/03	Calcium, total	mg/L	52.3
PMP	MW-153	C	2013/09/17	Chloride, total	mg/L	23.0
PMP	MW-153	C	2023/03/15	Chloride, total	mg/L	17.0

Attachment I. Site Groundwater Data
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Baldwin Fly Ash Pond System
Baldwin Power Plant
Baldwin, IL

PMP	MW-153	C	2023/05/22	Chloride, total	mg/L	16.0
PMP	MW-153	C	2023/07/10	Chloride, total	mg/L	15.0
PMP	MW-153	C	2023/08/04	Chloride, total	mg/L	16.0
PMP	MW-153	C	2023/11/03	Chloride, total	mg/L	17.0
PMP	MW-153	C	2013/11/21	Iron, dissolved	mg/L	<0.007
PMP	MW-153	C	2014/02/19	Iron, dissolved	mg/L	<0.007
PMP	MW-153	C	2014/06/11	Iron, dissolved	mg/L	<0.007
PMP	MW-153	C	2015/03/25	Iron, dissolved	mg/L	<0.007
PMP	MW-153	C	2015/06/24	Iron, dissolved	mg/L	<0.007
PMP	MW-153	C	2015/09/25	Iron, dissolved	mg/L	<0.007
PMP	MW-153	C	2015/11/10	Iron, dissolved	mg/L	<0.007
PMP	MW-153	C	2016/03/22	Iron, dissolved	mg/L	<0.007
PMP	MW-153	C	2016/06/21	Iron, dissolved	mg/L	<0.007
PMP	MW-153	C	2016/09/29	Iron, dissolved	mg/L	<0.007
PMP	MW-153	C	2016/12/21	Iron, dissolved	mg/L	<0.007
PMP	MW-153	C	2017/03/17	Iron, dissolved	mg/L	0.0200
PMP	MW-153	C	2017/06/22	Iron, dissolved	mg/L	<0.007
PMP	MW-153	C	2017/09/21	Iron, dissolved	mg/L	<0.007
PMP	MW-153	C	2017/11/28	Iron, dissolved	mg/L	<0.007
PMP	MW-153	C	2018/03/20	Iron, dissolved	mg/L	<0.007
PMP	MW-153	C	2018/06/28	Iron, dissolved	mg/L	<0.02
PMP	MW-153	C	2018/09/26	Iron, dissolved	mg/L	<0.02
PMP	MW-153	C	2018/12/19	Iron, dissolved	mg/L	<0.02
PMP	MW-153	C	2019/03/21	Iron, dissolved	mg/L	<0.02
PMP	MW-153	C	2019/06/26	Iron, dissolved	mg/L	<0.02
PMP	MW-153	C	2019/09/26	Iron, dissolved	mg/L	<0.02
PMP	MW-153	C	2019/12/19	Iron, dissolved	mg/L	<0.02
PMP	MW-153	C	2020/03/27	Iron, dissolved	mg/L	<0.02
PMP	MW-153	C	2020/06/23	Iron, dissolved	mg/L	<0.02
PMP	MW-153	C	2020/09/17	Iron, dissolved	mg/L	<0.02
PMP	MW-153	C	2020/12/17	Iron, dissolved	mg/L	<0.02
PMP	MW-153	C	2021/03/10	Iron, dissolved	mg/L	<0.02
PMP	MW-153	C	2021/06/22	Iron, dissolved	mg/L	<0.02
PMP	MW-153	C	2021/09/16	Iron, dissolved	mg/L	<0.02
PMP	MW-153	C	2021/12/15	Iron, dissolved	mg/L	0.0739
PMP	MW-153	C	2022/03/29	Iron, dissolved	mg/L	0.0489
PMP	MW-153	C	2022/06/15	Iron, dissolved	mg/L	<0.02
PMP	MW-153	C	2022/09/29	Iron, dissolved	mg/L	0.0274
PMP	MW-153	C	2022/12/06	Iron, dissolved	mg/L	<0.0115
PMP	MW-153	C	2023/03/15	Iron, dissolved	mg/L	<0.0115
PMP	MW-153	C	2023/05/22	Iron, dissolved	mg/L	<0.02
PMP	MW-153	C	2023/08/04	Iron, dissolved	mg/L	<0.0115
PMP	MW-153	C	2023/11/03	Iron, dissolved	mg/L	<0.0115
PMP	MW-153	C	2023/03/15	Magnesium, total	mg/L	21.4
PMP	MW-153	C	2023/05/22	Magnesium, total	mg/L	22.4
PMP	MW-153	C	2023/08/04	Magnesium, total	mg/L	22.3
PMP	MW-153	C	2023/11/03	Magnesium, total	mg/L	20.8
PMP	MW-153	C	2013/11/21	Manganese, dissolved	mg/L	0.0300
PMP	MW-153	C	2014/02/19	Manganese, dissolved	mg/L	<0.0016
PMP	MW-153	C	2014/06/11	Manganese, dissolved	mg/L	0.00900
PMP	MW-153	C	2015/03/25	Manganese, dissolved	mg/L	0.0160
PMP	MW-153	C	2015/06/24	Manganese, dissolved	mg/L	0.00900
PMP	MW-153	C	2015/09/25	Manganese, dissolved	mg/L	0.00840
PMP	MW-153	C	2015/11/10	Manganese, dissolved	mg/L	0.00870
PMP	MW-153	C	2016/03/22	Manganese, dissolved	mg/L	0.00690
PMP	MW-153	C	2016/06/21	Manganese, dissolved	mg/L	0.00800
PMP	MW-153	C	2016/09/29	Manganese, dissolved	mg/L	0.0193

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Baldwin, IL

PMP	MW-153	C	2016/12/21	Manganese, dissolved	mg/L	0.0257
PMP	MW-153	C	2017/03/17	Manganese, dissolved	mg/L	0.0100
PMP	MW-153	C	2017/06/22	Manganese, dissolved	mg/L	0.0100
PMP	MW-153	C	2017/09/21	Manganese, dissolved	mg/L	0.00730
PMP	MW-153	C	2017/11/28	Manganese, dissolved	mg/L	0.00890
PMP	MW-153	C	2018/03/20	Manganese, dissolved	mg/L	0.0147
PMP	MW-153	C	2018/06/28	Manganese, dissolved	mg/L	0.0116
PMP	MW-153	C	2018/09/26	Manganese, dissolved	mg/L	0.0114
PMP	MW-153	C	2018/12/19	Manganese, dissolved	mg/L	0.0120
PMP	MW-153	C	2019/03/21	Manganese, dissolved	mg/L	0.00890
PMP	MW-153	C	2019/06/26	Manganese, dissolved	mg/L	0.00830
PMP	MW-153	C	2019/09/26	Manganese, dissolved	mg/L	0.00800
PMP	MW-153	C	2019/12/19	Manganese, dissolved	mg/L	<0.0025
PMP	MW-153	C	2020/03/27	Manganese, dissolved	mg/L	0.00820
PMP	MW-153	C	2020/06/23	Manganese, dissolved	mg/L	<0.0025
PMP	MW-153	C	2020/09/17	Manganese, dissolved	mg/L	<0.0025
PMP	MW-153	C	2020/12/17	Manganese, dissolved	mg/L	0.00920
PMP	MW-153	C	2021/03/10	Manganese, dissolved	mg/L	<0.0025
PMP	MW-153	C	2021/06/22	Manganese, dissolved	mg/L	<0.0025
PMP	MW-153	C	2021/09/16	Manganese, dissolved	mg/L	0.00700
PMP	MW-153	C	2021/12/15	Manganese, dissolved	mg/L	0.0193
PMP	MW-153	C	2022/03/29	Manganese, dissolved	mg/L	0.0106
PMP	MW-153	C	2022/06/15	Manganese, dissolved	mg/L	0.00500
PMP	MW-153	C	2022/09/29	Manganese, dissolved	mg/L	0.00550
PMP	MW-153	C	2022/12/06	Manganese, dissolved	mg/L	0.00620
PMP	MW-153	C	2023/03/15	Manganese, dissolved	mg/L	0.00400
PMP	MW-153	C	2023/05/22	Manganese, dissolved	mg/L	<0.0025
PMP	MW-153	C	2023/08/04	Manganese, dissolved	mg/L	0.00410
PMP	MW-153	C	2023/11/03	Manganese, dissolved	mg/L	0.00320
PMP	MW-153	C	2023/05/22	Phosphate, dissolved	mg/L	<0.005
PMP	MW-153	C	2023/08/04	Phosphate, dissolved	mg/L	0.0370
PMP	MW-153	C	2023/03/15	Potassium, total	mg/L	0.200
PMP	MW-153	C	2023/05/22	Potassium, total	mg/L	1.11
PMP	MW-153	C	2023/08/04	Potassium, total	mg/L	0.230
PMP	MW-153	C	2023/11/03	Potassium, total	mg/L	0.0990
PMP	MW-153	C	2023/05/22	Silicon, dissolved	mg/L	10.2
PMP	MW-153	C	2023/08/04	Silicon, dissolved	mg/L	9.47
PMP	MW-153	C	2023/03/15	Sodium, total	mg/L	48.4
PMP	MW-153	C	2023/05/22	Sodium, total	mg/L	55.4
PMP	MW-153	C	2023/08/04	Sodium, total	mg/L	53.3
PMP	MW-153	C	2023/11/03	Sodium, total	mg/L	57.0
PMP	MW-153	C	2013/09/17	Sulfate, total	mg/L	75.0
PMP	MW-153	C	2023/03/15	Sulfate, total	mg/L	68.0
PMP	MW-153	C	2023/05/22	Sulfate, total	mg/L	75.0
PMP	MW-153	C	2023/07/10	Sulfate, total	mg/L	62.0
PMP	MW-153	C	2023/08/04	Sulfate, total	mg/L	62.0
PMP	MW-153	C	2023/11/03	Sulfate, total	mg/L	62.0
PMP	MW-153	C	2013/09/17	Temperature (Celsius)	degrees C	15.5
PMP	MW-153	C	2013/11/21	Temperature (Celsius)	degrees C	14.1
PMP	MW-153	C	2014/02/19	Temperature (Celsius)	degrees C	13.7
PMP	MW-153	C	2014/06/11	Temperature (Celsius)	degrees C	13.2
PMP	MW-153	C	2015/03/25	Temperature (Celsius)	degrees C	12.9
PMP	MW-153	C	2015/06/24	Temperature (Celsius)	degrees C	14.3
PMP	MW-153	C	2015/09/25	Temperature (Celsius)	degrees C	15.2
PMP	MW-153	C	2015/11/10	Temperature (Celsius)	degrees C	15.5
PMP	MW-153	C	2016/03/22	Temperature (Celsius)	degrees C	12.6
PMP	MW-153	C	2016/06/21	Temperature (Celsius)	degrees C	14.5

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PMP	MW-153	C	2016/09/29	Temperature (Celsius)	degrees C	15.4
PMP	MW-153	C	2016/12/21	Temperature (Celsius)	degrees C	15.1
PMP	MW-153	C	2017/03/17	Temperature (Celsius)	degrees C	13.6
PMP	MW-153	C	2017/06/22	Temperature (Celsius)	degrees C	15.0
PMP	MW-153	C	2017/09/21	Temperature (Celsius)	degrees C	16.5
PMP	MW-153	C	2017/11/28	Temperature (Celsius)	degrees C	16.2
PMP	MW-153	C	2018/03/20	Temperature (Celsius)	degrees C	14.1
PMP	MW-153	C	2018/06/28	Temperature (Celsius)	degrees C	14.1
PMP	MW-153	C	2018/09/26	Temperature (Celsius)	degrees C	16.4
PMP	MW-153	C	2018/12/19	Temperature (Celsius)	degrees C	14.8
PMP	MW-153	C	2019/03/21	Temperature (Celsius)	degrees C	12.1
PMP	MW-153	C	2019/06/26	Temperature (Celsius)	degrees C	13.9
PMP	MW-153	C	2019/09/26	Temperature (Celsius)	degrees C	15.3
PMP	MW-153	C	2019/12/19	Temperature (Celsius)	degrees C	13.9
PMP	MW-153	C	2020/03/27	Temperature (Celsius)	degrees C	13.3
PMP	MW-153	C	2020/06/23	Temperature (Celsius)	degrees C	13.9
PMP	MW-153	C	2020/09/17	Temperature (Celsius)	degrees C	15.6
PMP	MW-153	C	2020/12/17	Temperature (Celsius)	degrees C	14.8
PMP	MW-153	C	2021/03/10	Temperature (Celsius)	degrees C	13.4
PMP	MW-153	C	2021/06/22	Temperature (Celsius)	degrees C	13.7
PMP	MW-153	C	2021/09/16	Temperature (Celsius)	degrees C	15.4
PMP	MW-153	C	2021/12/15	Temperature (Celsius)	degrees C	15.4
PMP	MW-153	C	2022/03/29	Temperature (Celsius)	degrees C	13.3
PMP	MW-153	C	2022/06/15	Temperature (Celsius)	degrees C	14.6
PMP	MW-153	C	2022/09/29	Temperature (Celsius)	degrees C	15.6
PMP	MW-153	C	2022/12/06	Temperature (Celsius)	degrees C	14.7
PMP	MW-153	C	2023/03/15	Temperature (Celsius)	degrees C	13.3
PMP	MW-153	C	2023/05/22	Temperature (Celsius)	degrees C	13.5
PMP	MW-153	C	2023/07/10	Temperature (Celsius)	degrees C	15.6
PMP	MW-153	C	2023/08/04	Temperature (Celsius)	degrees C	14.9
PMP	MW-153	C	2023/11/03	Temperature (Celsius)	degrees C	15.5
PMP	MW-153	C	2013/09/17	Total Dissolved Solids	mg/L	448
PMP	MW-153	C	2013/11/21	Total Dissolved Solids	mg/L	384
PMP	MW-153	C	2014/02/19	Total Dissolved Solids	mg/L	402
PMP	MW-153	C	2014/06/11	Total Dissolved Solids	mg/L	426
PMP	MW-153	C	2015/03/25	Total Dissolved Solids	mg/L	354
PMP	MW-153	C	2015/06/24	Total Dissolved Solids	mg/L	442
PMP	MW-153	C	2015/09/25	Total Dissolved Solids	mg/L	354
PMP	MW-153	C	2015/11/10	Total Dissolved Solids	mg/L	360
PMP	MW-153	C	2016/03/22	Total Dissolved Solids	mg/L	364
PMP	MW-153	C	2016/06/21	Total Dissolved Solids	mg/L	398
PMP	MW-153	C	2016/09/29	Total Dissolved Solids	mg/L	408
PMP	MW-153	C	2016/12/21	Total Dissolved Solids	mg/L	390
PMP	MW-153	C	2017/03/17	Total Dissolved Solids	mg/L	342
PMP	MW-153	C	2017/06/22	Total Dissolved Solids	mg/L	404
PMP	MW-153	C	2017/09/21	Total Dissolved Solids	mg/L	336
PMP	MW-153	C	2017/11/28	Total Dissolved Solids	mg/L	428
PMP	MW-153	C	2018/03/20	Total Dissolved Solids	mg/L	394
PMP	MW-153	C	2018/06/28	Total Dissolved Solids	mg/L	414
PMP	MW-153	C	2018/09/26	Total Dissolved Solids	mg/L	406
PMP	MW-153	C	2018/12/19	Total Dissolved Solids	mg/L	408
PMP	MW-153	C	2019/03/21	Total Dissolved Solids	mg/L	392
PMP	MW-153	C	2019/06/26	Total Dissolved Solids	mg/L	404
PMP	MW-153	C	2019/09/26	Total Dissolved Solids	mg/L	370
PMP	MW-153	C	2019/12/19	Total Dissolved Solids	mg/L	402
PMP	MW-153	C	2020/03/27	Total Dissolved Solids	mg/L	364
PMP	MW-153	C	2020/06/23	Total Dissolved Solids	mg/L	362

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Baldwin Power Plant
Baldwin, IL

PMP	MW-153	C	2020/09/17	Total Dissolved Solids	mg/L	334
PMP	MW-153	C	2020/12/17	Total Dissolved Solids	mg/L	368
PMP	MW-153	C	2021/03/10	Total Dissolved Solids	mg/L	390
PMP	MW-153	C	2021/06/22	Total Dissolved Solids	mg/L	362
PMP	MW-153	C	2021/09/16	Total Dissolved Solids	mg/L	370
PMP	MW-153	C	2021/12/15	Total Dissolved Solids	mg/L	396
PMP	MW-153	C	2022/03/29	Total Dissolved Solids	mg/L	378
PMP	MW-153	C	2022/06/15	Total Dissolved Solids	mg/L	338
PMP	MW-153	C	2022/09/29	Total Dissolved Solids	mg/L	374
PMP	MW-153	C	2022/12/06	Total Dissolved Solids	mg/L	1,940
PMP	MW-153	C	2023/03/15	Total Dissolved Solids	mg/L	358
PMP	MW-153	C	2023/05/22	Total Dissolved Solids	mg/L	350
PMP	MW-153	C	2023/07/10	Total Dissolved Solids	mg/L	378
PMP	MW-153	C	2023/08/04	Total Dissolved Solids	mg/L	396
PMP	MW-153	C	2023/11/03	Total Dissolved Solids	mg/L	384
PMP	MW-252	C	2013/09/16	pH (field)	SU	7.0
PMP	MW-252	C	2013/11/20	pH (field)	SU	7.1
PMP	MW-252	C	2014/02/19	pH (field)	SU	8.1
PMP	MW-252	C	2014/06/12	pH (field)	SU	6.4
PMP	MW-252	C	2015/03/25	pH (field)	SU	7.0
PMP	MW-252	C	2015/06/24	pH (field)	SU	6.7
PMP	MW-252	C	2015/09/25	pH (field)	SU	6.8
PMP	MW-252	C	2015/11/10	pH (field)	SU	6.6
PMP	MW-252	C	2016/03/22	pH (field)	SU	7.0
PMP	MW-252	C	2016/06/23	pH (field)	SU	7.4
PMP	MW-252	C	2016/09/29	pH (field)	SU	6.8
PMP	MW-252	C	2016/12/21	pH (field)	SU	6.8
PMP	MW-252	C	2017/03/16	pH (field)	SU	6.9
PMP	MW-252	C	2017/06/21	pH (field)	SU	6.7
PMP	MW-252	C	2017/09/21	pH (field)	SU	7.6
PMP	MW-252	C	2017/11/28	pH (field)	SU	7.0
PMP	MW-252	C	2018/03/20	pH (field)	SU	7.0
PMP	MW-252	C	2018/06/27	pH (field)	SU	6.8
PMP	MW-252	C	2018/09/26	pH (field)	SU	6.8
PMP	MW-252	C	2018/12/18	pH (field)	SU	6.8
PMP	MW-252	C	2019/03/20	pH (field)	SU	6.8
PMP	MW-252	C	2019/06/25	pH (field)	SU	6.7
PMP	MW-252	C	2019/09/26	pH (field)	SU	6.7
PMP	MW-252	C	2019/12/19	pH (field)	SU	6.9
PMP	MW-252	C	2020/03/27	pH (field)	SU	7.0
PMP	MW-252	C	2020/06/23	pH (field)	SU	7.0
PMP	MW-252	C	2020/09/17	pH (field)	SU	7.0
PMP	MW-252	C	2020/12/16	pH (field)	SU	6.8
PMP	MW-252	C	2021/03/09	pH (field)	SU	6.8
PMP	MW-252	C	2021/07/19	pH (field)	SU	7.1
PMP	MW-252	C	2021/09/14	pH (field)	SU	6.7
PMP	MW-252	C	2021/12/14	pH (field)	SU	7.1
PMP	MW-252	C	2022/03/28	pH (field)	SU	6.8
PMP	MW-252	C	2022/06/14	pH (field)	SU	6.8
PMP	MW-252	C	2022/09/29	pH (field)	SU	6.6
PMP	MW-252	C	2022/12/06	pH (field)	SU	6.9
PMP	MW-252	C	2023/03/15	pH (field)	SU	6.9
PMP	MW-252	C	2023/05/18	pH (field)	SU	6.8
PMP	MW-252	C	2023/08/04	pH (field)	SU	6.7
PMP	MW-252	C	2023/10/31	pH (field)	SU	6.8
PMP	MW-252	C	2021/03/09	Oxidation Reduction Potential	mV	22.0
PMP	MW-252	C	2021/07/19	Oxidation Reduction Potential	mV	147

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PMP	MW-252	C	2021/09/14	Oxidation Reduction Potential	mV	93.0
PMP	MW-252	C	2021/12/14	Oxidation Reduction Potential	mV	136
PMP	MW-252	C	2022/03/28	Oxidation Reduction Potential	mV	11.0
PMP	MW-252	C	2022/06/14	Oxidation Reduction Potential	mV	121
PMP	MW-252	C	2022/09/29	Oxidation Reduction Potential	mV	170
PMP	MW-252	C	2022/12/06	Oxidation Reduction Potential	mV	65.0
PMP	MW-252	C	2023/03/15	Oxidation Reduction Potential	mV	11.5
PMP	MW-252	C	2023/05/18	Oxidation Reduction Potential	mV	62.0
PMP	MW-252	C	2023/08/04	Oxidation Reduction Potential	mV	-51.0
PMP	MW-252	C	2023/10/31	Oxidation Reduction Potential	mV	-77.0
PMP	MW-252	C	2021/03/09	Eh	V	0.22
PMP	MW-252	C	2021/07/19	Eh	V	0.34
PMP	MW-252	C	2021/09/14	Eh	V	0.29
PMP	MW-252	C	2021/12/14	Eh	V	0.33
PMP	MW-252	C	2022/03/28	Eh	V	0.21
PMP	MW-252	C	2022/06/14	Eh	V	0.31
PMP	MW-252	C	2022/09/29	Eh	V	0.37
PMP	MW-252	C	2022/12/06	Eh	V	0.26
PMP	MW-252	C	2023/03/15	Eh	V	0.21
PMP	MW-252	C	2023/05/18	Eh	V	0.26
PMP	MW-252	C	2023/08/04	Eh	V	0.14
PMP	MW-252	C	2023/10/31	Eh	V	0.12
PMP	MW-252	C	2023/03/15	Alkalinity, bicarbonate	mg/L CaCO3	486
PMP	MW-252	C	2023/05/18	Alkalinity, bicarbonate	mg/L CaCO3	479
PMP	MW-252	C	2023/08/04	Alkalinity, bicarbonate	mg/L CaCO3	486
PMP	MW-252	C	2023/10/31	Alkalinity, bicarbonate	mg/L CaCO3	503
PMP	MW-252	C	2023/03/15	Barium, total	mg/L	0.0290
PMP	MW-252	C	2023/05/18	Barium, total	mg/L	0.0377
PMP	MW-252	C	2023/08/04	Barium, total	mg/L	0.0359
PMP	MW-252	C	2023/10/31	Barium, total	mg/L	0.0315
PMP	MW-252	C	2013/09/16	Boron, total	mg/L	0.240
PMP	MW-252	C	2023/03/15	Boron, total	mg/L	0.166
PMP	MW-252	C	2023/05/18	Boron, total	mg/L	0.174
PMP	MW-252	C	2023/08/04	Boron, total	mg/L	0.143
PMP	MW-252	C	2023/10/31	Boron, total	mg/L	0.155
PMP	MW-252	C	2023/03/15	Calcium, total	mg/L	191
PMP	MW-252	C	2023/05/18	Calcium, total	mg/L	224
PMP	MW-252	C	2023/08/04	Calcium, total	mg/L	210
PMP	MW-252	C	2023/10/31	Calcium, total	mg/L	209
PMP	MW-252	C	2013/09/16	Chloride, total	mg/L	39.0
PMP	MW-252	C	2023/03/15	Chloride, total	mg/L	37.0
PMP	MW-252	C	2023/05/18	Chloride, total	mg/L	38.0
PMP	MW-252	C	2023/08/04	Chloride, total	mg/L	37.0
PMP	MW-252	C	2023/10/31	Chloride, total	mg/L	37.0
PMP	MW-252	C	2013/11/20	Iron, dissolved	mg/L	0.0700
PMP	MW-252	C	2014/02/19	Iron, dissolved	mg/L	<0.007
PMP	MW-252	C	2014/06/12	Iron, dissolved	mg/L	<0.007
PMP	MW-252	C	2015/03/25	Iron, dissolved	mg/L	<0.007
PMP	MW-252	C	2015/06/24	Iron, dissolved	mg/L	0.100
PMP	MW-252	C	2015/09/25	Iron, dissolved	mg/L	<0.007
PMP	MW-252	C	2015/11/10	Iron, dissolved	mg/L	0.0221
PMP	MW-252	C	2016/03/22	Iron, dissolved	mg/L	0.130
PMP	MW-252	C	2016/06/23	Iron, dissolved	mg/L	0.245
PMP	MW-252	C	2016/09/29	Iron, dissolved	mg/L	0.0243
PMP	MW-252	C	2016/12/21	Iron, dissolved	mg/L	<0.007
PMP	MW-252	C	2017/03/16	Iron, dissolved	mg/L	<0.007
PMP	MW-252	C	2017/06/21	Iron, dissolved	mg/L	<0.007

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PMP	MW-252	C	2017/09/21	Iron, dissolved	mg/L	0.0800
PMP	MW-252	C	2017/11/28	Iron, dissolved	mg/L	0.110
PMP	MW-252	C	2018/03/20	Iron, dissolved	mg/L	0.108
PMP	MW-252	C	2018/06/27	Iron, dissolved	mg/L	<0.02
PMP	MW-252	C	2018/09/26	Iron, dissolved	mg/L	<0.02
PMP	MW-252	C	2018/12/18	Iron, dissolved	mg/L	0.186
PMP	MW-252	C	2019/03/20	Iron, dissolved	mg/L	<0.02
PMP	MW-252	C	2019/06/25	Iron, dissolved	mg/L	<0.02
PMP	MW-252	C	2019/09/26	Iron, dissolved	mg/L	<0.02
PMP	MW-252	C	2019/12/19	Iron, dissolved	mg/L	<0.02
PMP	MW-252	C	2020/03/27	Iron, dissolved	mg/L	<0.02
PMP	MW-252	C	2020/06/23	Iron, dissolved	mg/L	<0.02
PMP	MW-252	C	2020/09/17	Iron, dissolved	mg/L	0.0641
PMP	MW-252	C	2020/12/16	Iron, dissolved	mg/L	<0.02
PMP	MW-252	C	2021/03/09	Iron, dissolved	mg/L	0.127
PMP	MW-252	C	2021/07/19	Iron, dissolved	mg/L	<0.02
PMP	MW-252	C	2021/09/14	Iron, dissolved	mg/L	<0.02
PMP	MW-252	C	2021/12/14	Iron, dissolved	mg/L	<0.02
PMP	MW-252	C	2022/03/28	Iron, dissolved	mg/L	<0.015
PMP	MW-252	C	2022/06/14	Iron, dissolved	mg/L	<0.02
PMP	MW-252	C	2022/09/29	Iron, dissolved	mg/L	0.177
PMP	MW-252	C	2022/12/06	Iron, dissolved	mg/L	0.0794
PMP	MW-252	C	2023/03/15	Iron, dissolved	mg/L	1.37
PMP	MW-252	C	2023/05/18	Iron, dissolved	mg/L	0.0499
PMP	MW-252	C	2023/08/04	Iron, dissolved	mg/L	0.562
PMP	MW-252	C	2023/10/31	Iron, dissolved	mg/L	0.619
PMP	MW-252	C	2023/03/15	Magnesium, total	mg/L	77.4
PMP	MW-252	C	2023/05/18	Magnesium, total	mg/L	87.6
PMP	MW-252	C	2023/08/04	Magnesium, total	mg/L	82.5
PMP	MW-252	C	2023/10/31	Magnesium, total	mg/L	81.5
PMP	MW-252	C	2013/11/20	Manganese, dissolved	mg/L	0.110
PMP	MW-252	C	2014/02/19	Manganese, dissolved	mg/L	0.0100
PMP	MW-252	C	2014/06/12	Manganese, dissolved	mg/L	0.0570
PMP	MW-252	C	2015/03/25	Manganese, dissolved	mg/L	0.0530
PMP	MW-252	C	2015/06/24	Manganese, dissolved	mg/L	0.198
PMP	MW-252	C	2015/09/25	Manganese, dissolved	mg/L	0.582
PMP	MW-252	C	2015/11/10	Manganese, dissolved	mg/L	0.152
PMP	MW-252	C	2016/03/22	Manganese, dissolved	mg/L	0.249
PMP	MW-252	C	2016/06/23	Manganese, dissolved	mg/L	0.248
PMP	MW-252	C	2016/09/29	Manganese, dissolved	mg/L	0.126
PMP	MW-252	C	2016/12/21	Manganese, dissolved	mg/L	0.0827
PMP	MW-252	C	2017/03/16	Manganese, dissolved	mg/L	0.0800
PMP	MW-252	C	2017/06/21	Manganese, dissolved	mg/L	0.140
PMP	MW-252	C	2017/09/21	Manganese, dissolved	mg/L	0.160
PMP	MW-252	C	2017/11/28	Manganese, dissolved	mg/L	0.180
PMP	MW-252	C	2018/03/20	Manganese, dissolved	mg/L	0.179
PMP	MW-252	C	2018/06/27	Manganese, dissolved	mg/L	0.171
PMP	MW-252	C	2018/09/26	Manganese, dissolved	mg/L	0.300
PMP	MW-252	C	2018/12/18	Manganese, dissolved	mg/L	0.128
PMP	MW-252	C	2019/03/20	Manganese, dissolved	mg/L	0.00730
PMP	MW-252	C	2019/06/25	Manganese, dissolved	mg/L	0.0851
PMP	MW-252	C	2019/09/26	Manganese, dissolved	mg/L	0.0696
PMP	MW-252	C	2019/12/19	Manganese, dissolved	mg/L	0.0938
PMP	MW-252	C	2020/03/27	Manganese, dissolved	mg/L	0.0258
PMP	MW-252	C	2020/06/23	Manganese, dissolved	mg/L	<0.0025
PMP	MW-252	C	2020/09/17	Manganese, dissolved	mg/L	0.0975
PMP	MW-252	C	2020/12/16	Manganese, dissolved	mg/L	0.0785

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PMP	MW-252	C	2021/03/09	Manganese, dissolved	mg/L	0.129
PMP	MW-252	C	2021/07/19	Manganese, dissolved	mg/L	0.0459
PMP	MW-252	C	2021/09/14	Manganese, dissolved	mg/L	0.0708
PMP	MW-252	C	2021/12/14	Manganese, dissolved	mg/L	0.135
PMP	MW-252	C	2022/03/28	Manganese, dissolved	mg/L	0.0929
PMP	MW-252	C	2022/06/14	Manganese, dissolved	mg/L	0.00460
PMP	MW-252	C	2022/09/29	Manganese, dissolved	mg/L	0.172
PMP	MW-252	C	2022/12/06	Manganese, dissolved	mg/L	0.121
PMP	MW-252	C	2023/03/15	Manganese, dissolved	mg/L	0.221
PMP	MW-252	C	2023/05/18	Manganese, dissolved	mg/L	0.396
PMP	MW-252	C	2023/08/04	Manganese, dissolved	mg/L	0.293
PMP	MW-252	C	2023/10/31	Manganese, dissolved	mg/L	0.303
PMP	MW-252	C	2023/05/18	Phosphate, dissolved	mg/L	0.212
PMP	MW-252	C	2023/08/04	Phosphate, dissolved	mg/L	0.0740
PMP	MW-252	C	2023/03/15	Potassium, total	mg/L	1.38
PMP	MW-252	C	2023/05/18	Potassium, total	mg/L	1.68
PMP	MW-252	C	2023/08/04	Potassium, total	mg/L	1.89
PMP	MW-252	C	2023/10/31	Potassium, total	mg/L	1.48
PMP	MW-252	C	2023/05/18	Silicon, dissolved	mg/L	7.03
PMP	MW-252	C	2023/08/04	Silicon, dissolved	mg/L	6.74
PMP	MW-252	C	2023/03/15	Sodium, total	mg/L	81.7
PMP	MW-252	C	2023/05/18	Sodium, total	mg/L	104
PMP	MW-252	C	2023/08/04	Sodium, total	mg/L	94.9
PMP	MW-252	C	2023/10/31	Sodium, total	mg/L	89.2
PMP	MW-252	C	2013/09/16	Sulfate, total	mg/L	500
PMP	MW-252	C	2023/03/15	Sulfate, total	mg/L	437
PMP	MW-252	C	2023/05/18	Sulfate, total	mg/L	454
PMP	MW-252	C	2023/08/04	Sulfate, total	mg/L	448
PMP	MW-252	C	2023/10/31	Sulfate, total	mg/L	474
PMP	MW-252	C	2013/09/16	Temperature (Celsius)	degrees C	14.1
PMP	MW-252	C	2013/11/20	Temperature (Celsius)	degrees C	13.8
PMP	MW-252	C	2014/02/19	Temperature (Celsius)	degrees C	10.9
PMP	MW-252	C	2014/06/12	Temperature (Celsius)	degrees C	14.3
PMP	MW-252	C	2015/03/25	Temperature (Celsius)	degrees C	12.8
PMP	MW-252	C	2015/06/24	Temperature (Celsius)	degrees C	13.7
PMP	MW-252	C	2015/09/25	Temperature (Celsius)	degrees C	14.5
PMP	MW-252	C	2015/11/10	Temperature (Celsius)	degrees C	13.7
PMP	MW-252	C	2016/03/22	Temperature (Celsius)	degrees C	15
PMP	MW-252	C	2016/06/23	Temperature (Celsius)	degrees C	14.4
PMP	MW-252	C	2016/09/29	Temperature (Celsius)	degrees C	14.8
PMP	MW-252	C	2016/12/21	Temperature (Celsius)	degrees C	13.5
PMP	MW-252	C	2017/03/16	Temperature (Celsius)	degrees C	12.0
PMP	MW-252	C	2017/06/21	Temperature (Celsius)	degrees C	14.0
PMP	MW-252	C	2017/09/21	Temperature (Celsius)	degrees C	15.4
PMP	MW-252	C	2017/11/28	Temperature (Celsius)	degrees C	14.2
PMP	MW-252	C	2018/03/20	Temperature (Celsius)	degrees C	13.8
PMP	MW-252	C	2018/06/27	Temperature (Celsius)	degrees C	14.9
PMP	MW-252	C	2018/09/26	Temperature (Celsius)	degrees C	14.2
PMP	MW-252	C	2018/12/18	Temperature (Celsius)	degrees C	13.6
PMP	MW-252	C	2019/03/20	Temperature (Celsius)	degrees C	13.3
PMP	MW-252	C	2019/06/25	Temperature (Celsius)	degrees C	14.8
PMP	MW-252	C	2019/09/26	Temperature (Celsius)	degrees C	14.0
PMP	MW-252	C	2019/12/19	Temperature (Celsius)	degrees C	13.5
PMP	MW-252	C	2020/03/27	Temperature (Celsius)	degrees C	14.1
PMP	MW-252	C	2020/06/23	Temperature (Celsius)	degrees C	13.6
PMP	MW-252	C	2020/09/17	Temperature (Celsius)	degrees C	14.1
PMP	MW-252	C	2020/12/16	Temperature (Celsius)	degrees C	13.5

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PMP	MW-252	C	2021/03/09	Temperature (Celsius)	degrees C	13.0
PMP	MW-252	C	2021/07/19	Temperature (Celsius)	degrees C	17.3
PMP	MW-252	C	2021/09/14	Temperature (Celsius)	degrees C	16.8
PMP	MW-252	C	2021/12/14	Temperature (Celsius)	degrees C	12.8
PMP	MW-252	C	2022/03/28	Temperature (Celsius)	degrees C	13.7
PMP	MW-252	C	2022/06/14	Temperature (Celsius)	degrees C	17.2
PMP	MW-252	C	2022/09/29	Temperature (Celsius)	degrees C	15.4
PMP	MW-252	C	2022/12/06	Temperature (Celsius)	degrees C	13.7
PMP	MW-252	C	2023/03/15	Temperature (Celsius)	degrees C	13.3
PMP	MW-252	C	2023/05/18	Temperature (Celsius)	degrees C	14.3
PMP	MW-252	C	2023/08/04	Temperature (Celsius)	degrees C	18.9
PMP	MW-252	C	2023/10/31	Temperature (Celsius)	degrees C	13.5
PMP	MW-252	C	2013/09/16	Total Dissolved Solids	mg/L	1,260
PMP	MW-252	C	2013/11/20	Total Dissolved Solids	mg/L	1,250
PMP	MW-252	C	2014/02/19	Total Dissolved Solids	mg/L	1,310
PMP	MW-252	C	2014/06/12	Total Dissolved Solids	mg/L	1,390
PMP	MW-252	C	2015/03/25	Total Dissolved Solids	mg/L	1,270
PMP	MW-252	C	2015/06/24	Total Dissolved Solids	mg/L	1,320
PMP	MW-252	C	2015/09/25	Total Dissolved Solids	mg/L	1,250
PMP	MW-252	C	2015/11/10	Total Dissolved Solids	mg/L	1,250
PMP	MW-252	C	2016/03/22	Total Dissolved Solids	mg/L	1,300
PMP	MW-252	C	2016/06/23	Total Dissolved Solids	mg/L	1,270
PMP	MW-252	C	2016/09/29	Total Dissolved Solids	mg/L	1,280
PMP	MW-252	C	2016/12/21	Total Dissolved Solids	mg/L	1,310
PMP	MW-252	C	2017/03/16	Total Dissolved Solids	mg/L	1,270
PMP	MW-252	C	2017/06/21	Total Dissolved Solids	mg/L	1,320
PMP	MW-252	C	2017/09/21	Total Dissolved Solids	mg/L	1,230
PMP	MW-252	C	2017/11/28	Total Dissolved Solids	mg/L	1,290
PMP	MW-252	C	2018/03/20	Total Dissolved Solids	mg/L	1,260
PMP	MW-252	C	2018/06/27	Total Dissolved Solids	mg/L	1,290
PMP	MW-252	C	2018/09/26	Total Dissolved Solids	mg/L	1,280
PMP	MW-252	C	2018/12/18	Total Dissolved Solids	mg/L	1,270
PMP	MW-252	C	2019/03/20	Total Dissolved Solids	mg/L	1,300
PMP	MW-252	C	2019/06/25	Total Dissolved Solids	mg/L	1,330
PMP	MW-252	C	2019/09/26	Total Dissolved Solids	mg/L	1,250
PMP	MW-252	C	2019/12/19	Total Dissolved Solids	mg/L	1,230
PMP	MW-252	C	2020/03/27	Total Dissolved Solids	mg/L	1,240
PMP	MW-252	C	2020/06/23	Total Dissolved Solids	mg/L	1,200
PMP	MW-252	C	2020/09/17	Total Dissolved Solids	mg/L	1,200
PMP	MW-252	C	2020/12/16	Total Dissolved Solids	mg/L	1,200
PMP	MW-252	C	2021/03/09	Total Dissolved Solids	mg/L	1,190
PMP	MW-252	C	2021/07/19	Total Dissolved Solids	mg/L	1,140
PMP	MW-252	C	2021/09/14	Total Dissolved Solids	mg/L	1,160
PMP	MW-252	C	2021/12/14	Total Dissolved Solids	mg/L	1,130
PMP	MW-252	C	2022/03/28	Total Dissolved Solids	mg/L	1,180
PMP	MW-252	C	2022/06/14	Total Dissolved Solids	mg/L	1,200
PMP	MW-252	C	2022/09/29	Total Dissolved Solids	mg/L	1,080
PMP	MW-252	C	2022/12/06	Total Dissolved Solids	mg/L	1,230
PMP	MW-252	C	2023/03/15	Total Dissolved Solids	mg/L	1,130
PMP	MW-252	C	2023/05/18	Total Dissolved Solids	mg/L	1,200
PMP	MW-252	C	2023/08/04	Total Dissolved Solids	mg/L	1,260
PMP	MW-252	C	2023/10/31	Total Dissolved Solids	mg/L	1,220
PMP	MW-253	C	2013/09/17	pH (field)	SU	10.6
PMP	MW-253	C	2013/11/21	pH (field)	SU	8.6
PMP	MW-253	C	2014/02/19	pH (field)	SU	7.9
PMP	MW-253	C	2014/06/11	pH (field)	SU	11.4
PMP	MW-253	C	2015/03/25	pH (field)	SU	12.4

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PMP	MW-253	C	2015/06/24	pH (field)	SU	12.4
PMP	MW-253	C	2015/09/25	pH (field)	SU	11.1
PMP	MW-253	C	2015/11/10	pH (field)	SU	10.1
PMP	MW-253	C	2016/03/22	pH (field)	SU	11.8
PMP	MW-253	C	2016/06/21	pH (field)	SU	11.9
PMP	MW-253	C	2016/09/29	pH (field)	SU	11.7
PMP	MW-253	C	2016/12/21	pH (field)	SU	11.0
PMP	MW-253	C	2017/03/17	pH (field)	SU	10.6
PMP	MW-253	C	2017/06/22	pH (field)	SU	11.7
PMP	MW-253	C	2017/09/21	pH (field)	SU	9.8
PMP	MW-253	C	2017/11/28	pH (field)	SU	10.3
PMP	MW-253	C	2018/03/20	pH (field)	SU	11.9
PMP	MW-253	C	2018/06/28	pH (field)	SU	11.8
PMP	MW-253	C	2018/09/26	pH (field)	SU	11.8
PMP	MW-253	C	2018/12/19	pH (field)	SU	11.8
PMP	MW-253	C	2019/03/21	pH (field)	SU	12.2
PMP	MW-253	C	2019/06/26	pH (field)	SU	12.0
PMP	MW-253	C	2019/09/26	pH (field)	SU	11.3
PMP	MW-253	C	2019/12/19	pH (field)	SU	11.0
PMP	MW-253	C	2020/03/27	pH (field)	SU	12.1
PMP	MW-253	C	2020/06/23	pH (field)	SU	12.4
PMP	MW-253	C	2020/09/17	pH (field)	SU	11.6
PMP	MW-253	C	2020/12/17	pH (field)	SU	12.0
PMP	MW-253	C	2021/03/10	pH (field)	SU	11.8
PMP	MW-253	C	2021/06/22	pH (field)	SU	11.7
PMP	MW-253	C	2021/09/16	pH (field)	SU	11.3
PMP	MW-253	C	2021/12/15	pH (field)	SU	11.2
PMP	MW-253	C	2022/03/29	pH (field)	SU	11.6
PMP	MW-253	C	2022/06/15	pH (field)	SU	11.6
PMP	MW-253	C	2022/09/29	pH (field)	SU	11.4
PMP	MW-253	C	2022/12/06	pH (field)	SU	10.7
PMP	MW-253	C	2023/03/15	pH (field)	SU	11.8
PMP	MW-253	C	2023/08/04	pH (field)	SU	11.3
PMP	MW-253	C	2023/11/03	pH (field)	SU	10.8
PMP	MW-253	C	2021/03/10	Oxidation Reduction Potential	mV	-179
PMP	MW-253	C	2021/06/22	Oxidation Reduction Potential	mV	<-300
PMP	MW-253	C	2021/09/16	Oxidation Reduction Potential	mV	-72.0
PMP	MW-253	C	2021/12/15	Oxidation Reduction Potential	mV	-8.00
PMP	MW-253	C	2022/03/29	Oxidation Reduction Potential	mV	-180
PMP	MW-253	C	2022/06/15	Oxidation Reduction Potential	mV	-35.0
PMP	MW-253	C	2022/09/29	Oxidation Reduction Potential	mV	-2.00
PMP	MW-253	C	2022/12/06	Oxidation Reduction Potential	mV	<-300
PMP	MW-253	C	2023/03/15	Oxidation Reduction Potential	mV	-114
PMP	MW-253	C	2023/08/04	Oxidation Reduction Potential	mV	68.0
PMP	MW-253	C	2023/11/03	Oxidation Reduction Potential	mV	-35.0
PMP	MW-253	C	2021/03/10	Eh	V	0.017
PMP	MW-253	C	2021/06/22	Eh	V	-0.11
PMP	MW-253	C	2021/09/16	Eh	V	0.12
PMP	MW-253	C	2021/12/15	Eh	V	0.19
PMP	MW-253	C	2022/03/29	Eh	V	0.016
PMP	MW-253	C	2022/06/15	Eh	V	0.16
PMP	MW-253	C	2022/09/29	Eh	V	0.19
PMP	MW-253	C	2022/12/06	Eh	V	-0.10
PMP	MW-253	C	2023/03/15	Eh	V	0.082
PMP	MW-253	C	2023/08/04	Eh	V	0.26
PMP	MW-253	C	2023/11/03	Eh	V	0.16
PMP	MW-253	C	2023/03/15	Alkalinity, carbonate	mg/L CaCO3	57.0

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Baldwin, IL

PMP	MW-253	C	2023/08/04	Alkalinity, carbonate	mg/L CaCO3	29.0
PMP	MW-253	C	2023/11/03	Alkalinity, carbonate	mg/L CaCO3	14.0
PMP	MW-253	C	2023/03/15	Barium, total	mg/L	0.112
PMP	MW-253	C	2023/08/04	Barium, total	mg/L	0.0562
PMP	MW-253	C	2023/11/03	Barium, total	mg/L	0.157
PMP	MW-253	C	2013/09/17	Boron, total	mg/L	0.0600
PMP	MW-253	C	2023/03/15	Boron, total	mg/L	<0.02
PMP	MW-253	C	2023/08/04	Boron, total	mg/L	0.0698
PMP	MW-253	C	2023/11/03	Boron, total	mg/L	0.0853
PMP	MW-253	C	2023/03/15	Calcium, total	mg/L	202
PMP	MW-253	C	2023/08/04	Calcium, total	mg/L	75.0
PMP	MW-253	C	2023/11/03	Calcium, total	mg/L	70.8
PMP	MW-253	C	2013/09/17	Chloride, total	mg/L	15.0
PMP	MW-253	C	2023/03/15	Chloride, total	mg/L	21.0
PMP	MW-253	C	2023/08/04	Chloride, total	mg/L	21.0
PMP	MW-253	C	2023/11/03	Chloride, total	mg/L	22.0
PMP	MW-253	C	2013/11/21	Iron, dissolved	mg/L	<0.007
PMP	MW-253	C	2014/02/19	Iron, dissolved	mg/L	<0.007
PMP	MW-253	C	2014/06/11	Iron, dissolved	mg/L	<0.007
PMP	MW-253	C	2015/03/25	Iron, dissolved	mg/L	<0.007
PMP	MW-253	C	2015/06/24	Iron, dissolved	mg/L	<0.007
PMP	MW-253	C	2015/09/25	Iron, dissolved	mg/L	<0.007
PMP	MW-253	C	2015/11/10	Iron, dissolved	mg/L	<0.007
PMP	MW-253	C	2016/03/22	Iron, dissolved	mg/L	<0.007
PMP	MW-253	C	2016/06/21	Iron, dissolved	mg/L	<0.007
PMP	MW-253	C	2016/09/29	Iron, dissolved	mg/L	<0.007
PMP	MW-253	C	2016/12/21	Iron, dissolved	mg/L	<0.007
PMP	MW-253	C	2017/03/17	Iron, dissolved	mg/L	<0.007
PMP	MW-253	C	2017/06/22	Iron, dissolved	mg/L	<0.007
PMP	MW-253	C	2017/09/21	Iron, dissolved	mg/L	<0.007
PMP	MW-253	C	2017/11/28	Iron, dissolved	mg/L	<0.007
PMP	MW-253	C	2018/03/20	Iron, dissolved	mg/L	<0.007
PMP	MW-253	C	2018/06/28	Iron, dissolved	mg/L	<0.02
PMP	MW-253	C	2018/09/26	Iron, dissolved	mg/L	<0.02
PMP	MW-253	C	2018/12/19	Iron, dissolved	mg/L	<0.02
PMP	MW-253	C	2019/03/21	Iron, dissolved	mg/L	<0.02
PMP	MW-253	C	2019/06/26	Iron, dissolved	mg/L	<0.02
PMP	MW-253	C	2019/09/26	Iron, dissolved	mg/L	<0.02
PMP	MW-253	C	2019/12/19	Iron, dissolved	mg/L	<0.02
PMP	MW-253	C	2020/03/27	Iron, dissolved	mg/L	<0.02
PMP	MW-253	C	2020/06/23	Iron, dissolved	mg/L	<0.02
PMP	MW-253	C	2020/09/17	Iron, dissolved	mg/L	<0.02
PMP	MW-253	C	2020/12/17	Iron, dissolved	mg/L	<0.02
PMP	MW-253	C	2021/03/10	Iron, dissolved	mg/L	<0.02
PMP	MW-253	C	2021/06/22	Iron, dissolved	mg/L	<0.02
PMP	MW-253	C	2021/09/16	Iron, dissolved	mg/L	<0.02
PMP	MW-253	C	2021/12/15	Iron, dissolved	mg/L	<0.02
PMP	MW-253	C	2022/03/29	Iron, dissolved	mg/L	<0.015
PMP	MW-253	C	2022/06/15	Iron, dissolved	mg/L	<0.02
PMP	MW-253	C	2022/09/29	Iron, dissolved	mg/L	<0.0115
PMP	MW-253	C	2022/12/06	Iron, dissolved	mg/L	<0.0115
PMP	MW-253	C	2023/03/15	Iron, dissolved	mg/L	<0.0115
PMP	MW-253	C	2023/08/04	Iron, dissolved	mg/L	<0.0115
PMP	MW-253	C	2023/11/03	Iron, dissolved	mg/L	<0.0115
PMP	MW-253	C	2023/03/15	Magnesium, total	mg/L	0.301
PMP	MW-253	C	2023/08/04	Magnesium, total	mg/L	2.29
PMP	MW-253	C	2023/11/03	Magnesium, total	mg/L	2.82

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PMP	MW-253	C	2013/11/21	Manganese, dissolved	mg/L	<0.0016
PMP	MW-253	C	2014/02/19	Manganese, dissolved	mg/L	<0.0016
PMP	MW-253	C	2014/06/11	Manganese, dissolved	mg/L	<0.0016
PMP	MW-253	C	2015/03/25	Manganese, dissolved	mg/L	<0.0005
PMP	MW-253	C	2015/06/24	Manganese, dissolved	mg/L	<0.0005
PMP	MW-253	C	2015/09/25	Manganese, dissolved	mg/L	<0.0005
PMP	MW-253	C	2015/11/10	Manganese, dissolved	mg/L	<0.0005
PMP	MW-253	C	2016/03/22	Manganese, dissolved	mg/L	<0.0005
PMP	MW-253	C	2016/06/21	Manganese, dissolved	mg/L	<0.0005
PMP	MW-253	C	2016/09/29	Manganese, dissolved	mg/L	<0.0005
PMP	MW-253	C	2016/12/21	Manganese, dissolved	mg/L	<0.0005
PMP	MW-253	C	2017/03/17	Manganese, dissolved	mg/L	<0.0005
PMP	MW-253	C	2017/06/22	Manganese, dissolved	mg/L	<0.0005
PMP	MW-253	C	2017/09/21	Manganese, dissolved	mg/L	<0.0005
PMP	MW-253	C	2017/11/28	Manganese, dissolved	mg/L	<0.0005
PMP	MW-253	C	2018/03/20	Manganese, dissolved	mg/L	<0.0005
PMP	MW-253	C	2018/06/28	Manganese, dissolved	mg/L	<0.0025
PMP	MW-253	C	2018/09/26	Manganese, dissolved	mg/L	<0.0025
PMP	MW-253	C	2018/12/19	Manganese, dissolved	mg/L	<0.0025
PMP	MW-253	C	2019/03/21	Manganese, dissolved	mg/L	<0.0025
PMP	MW-253	C	2019/06/26	Manganese, dissolved	mg/L	<0.0025
PMP	MW-253	C	2019/09/26	Manganese, dissolved	mg/L	<0.0025
PMP	MW-253	C	2019/12/19	Manganese, dissolved	mg/L	<0.0025
PMP	MW-253	C	2020/03/27	Manganese, dissolved	mg/L	<0.0025
PMP	MW-253	C	2020/06/23	Manganese, dissolved	mg/L	<0.0025
PMP	MW-253	C	2020/09/17	Manganese, dissolved	mg/L	<0.0025
PMP	MW-253	C	2020/12/17	Manganese, dissolved	mg/L	<0.0025
PMP	MW-253	C	2021/03/10	Manganese, dissolved	mg/L	<0.0025
PMP	MW-253	C	2021/06/22	Manganese, dissolved	mg/L	<0.0025
PMP	MW-253	C	2021/09/16	Manganese, dissolved	mg/L	<0.0025
PMP	MW-253	C	2021/12/15	Manganese, dissolved	mg/L	<0.0025
PMP	MW-253	C	2022/03/29	Manganese, dissolved	mg/L	<0.0008
PMP	MW-253	C	2022/06/15	Manganese, dissolved	mg/L	<0.0025
PMP	MW-253	C	2022/09/29	Manganese, dissolved	mg/L	<0.0008
PMP	MW-253	C	2022/12/06	Manganese, dissolved	mg/L	0.000900
PMP	MW-253	C	2023/03/15	Manganese, dissolved	mg/L	<0.0008
PMP	MW-253	C	2023/08/04	Manganese, dissolved	mg/L	<0.0008
PMP	MW-253	C	2023/11/03	Manganese, dissolved	mg/L	<0.0008
PMP	MW-253	C	2023/08/04	Phosphate, dissolved	mg/L	0.0250
PMP	MW-253	C	2023/03/15	Potassium, total	mg/L	1.89
PMP	MW-253	C	2023/08/04	Potassium, total	mg/L	1.46
PMP	MW-253	C	2023/11/03	Potassium, total	mg/L	1.31
PMP	MW-253	C	2023/08/04	Silicon, dissolved	mg/L	1.21
PMP	MW-253	C	2023/03/15	Sodium, total	mg/L	38.3
PMP	MW-253	C	2023/08/04	Sodium, total	mg/L	40.7
PMP	MW-253	C	2023/11/03	Sodium, total	mg/L	39.2
PMP	MW-253	C	2013/09/17	Sulfate, total	mg/L	349
PMP	MW-253	C	2023/03/15	Sulfate, total	mg/L	140
PMP	MW-253	C	2023/08/04	Sulfate, total	mg/L	154
PMP	MW-253	C	2023/11/03	Sulfate, total	mg/L	174
PMP	MW-253	C	2013/09/17	Temperature (Celsius)	degrees C	15.6
PMP	MW-253	C	2013/11/21	Temperature (Celsius)	degrees C	13.9
PMP	MW-253	C	2014/02/19	Temperature (Celsius)	degrees C	14.4
PMP	MW-253	C	2014/06/11	Temperature (Celsius)	degrees C	14.1
PMP	MW-253	C	2015/03/25	Temperature (Celsius)	degrees C	14.1
PMP	MW-253	C	2015/06/24	Temperature (Celsius)	degrees C	14.8
PMP	MW-253	C	2015/09/25	Temperature (Celsius)	degrees C	14.6

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PMP	MW-253	C	2015/11/10	Temperature (Celsius)	degrees C	14.8
PMP	MW-253	C	2016/03/22	Temperature (Celsius)	degrees C	13.3
PMP	MW-253	C	2016/06/21	Temperature (Celsius)	degrees C	14.8
PMP	MW-253	C	2016/09/29	Temperature (Celsius)	degrees C	14.9
PMP	MW-253	C	2016/12/21	Temperature (Celsius)	degrees C	14.0
PMP	MW-253	C	2017/03/17	Temperature (Celsius)	degrees C	14.3
PMP	MW-253	C	2017/06/22	Temperature (Celsius)	degrees C	15.5
PMP	MW-253	C	2017/09/21	Temperature (Celsius)	degrees C	15.5
PMP	MW-253	C	2017/11/28	Temperature (Celsius)	degrees C	15.4
PMP	MW-253	C	2018/03/20	Temperature (Celsius)	degrees C	14.9
PMP	MW-253	C	2018/06/28	Temperature (Celsius)	degrees C	15.1
PMP	MW-253	C	2018/09/26	Temperature (Celsius)	degrees C	15.5
PMP	MW-253	C	2018/12/19	Temperature (Celsius)	degrees C	14.3
PMP	MW-253	C	2019/03/21	Temperature (Celsius)	degrees C	12.4
PMP	MW-253	C	2019/06/26	Temperature (Celsius)	degrees C	15.9
PMP	MW-253	C	2019/09/26	Temperature (Celsius)	degrees C	14.8
PMP	MW-253	C	2019/12/19	Temperature (Celsius)	degrees C	13.4
PMP	MW-253	C	2020/03/27	Temperature (Celsius)	degrees C	14.3
PMP	MW-253	C	2020/06/23	Temperature (Celsius)	degrees C	14.4
PMP	MW-253	C	2020/09/17	Temperature (Celsius)	degrees C	14.9
PMP	MW-253	C	2020/12/17	Temperature (Celsius)	degrees C	14.1
PMP	MW-253	C	2021/03/10	Temperature (Celsius)	degrees C	13.8
PMP	MW-253	C	2021/06/22	Temperature (Celsius)	degrees C	17.6
PMP	MW-253	C	2021/09/16	Temperature (Celsius)	degrees C	15.7
PMP	MW-253	C	2021/12/15	Temperature (Celsius)	degrees C	14.9
PMP	MW-253	C	2022/03/29	Temperature (Celsius)	degrees C	14.3
PMP	MW-253	C	2022/06/15	Temperature (Celsius)	degrees C	16.8
PMP	MW-253	C	2022/09/29	Temperature (Celsius)	degrees C	14.5
PMP	MW-253	C	2022/12/06	Temperature (Celsius)	degrees C	13.7
PMP	MW-253	C	2023/03/15	Temperature (Celsius)	degrees C	14.1
PMP	MW-253	C	2023/08/04	Temperature (Celsius)	degrees C	15.0
PMP	MW-253	C	2023/11/03	Temperature (Celsius)	degrees C	15.9
PMP	MW-253	C	2013/09/17	Total Dissolved Solids	mg/L	546
PMP	MW-253	C	2013/11/21	Total Dissolved Solids	mg/L	602
PMP	MW-253	C	2014/02/19	Total Dissolved Solids	mg/L	564
PMP	MW-253	C	2014/06/11	Total Dissolved Solids	mg/L	668
PMP	MW-253	C	2015/03/25	Total Dissolved Solids	mg/L	820
PMP	MW-253	C	2015/06/24	Total Dissolved Solids	mg/L	928
PMP	MW-253	C	2015/09/25	Total Dissolved Solids	mg/L	346
PMP	MW-253	C	2015/11/10	Total Dissolved Solids	mg/L	300
PMP	MW-253	C	2016/03/22	Total Dissolved Solids	mg/L	546
PMP	MW-253	C	2016/06/21	Total Dissolved Solids	mg/L	568
PMP	MW-253	C	2016/09/29	Total Dissolved Solids	mg/L	446
PMP	MW-253	C	2016/12/21	Total Dissolved Solids	mg/L	414
PMP	MW-253	C	2017/03/17	Total Dissolved Solids	mg/L	352
PMP	MW-253	C	2017/06/22	Total Dissolved Solids	mg/L	555
PMP	MW-253	C	2017/09/21	Total Dissolved Solids	mg/L	436
PMP	MW-253	C	2017/11/28	Total Dissolved Solids	mg/L	496
PMP	MW-253	C	2018/03/20	Total Dissolved Solids	mg/L	668
PMP	MW-253	C	2018/06/28	Total Dissolved Solids	mg/L	570
PMP	MW-253	C	2018/09/26	Total Dissolved Solids	mg/L	560
PMP	MW-253	C	2018/12/19	Total Dissolved Solids	mg/L	645
PMP	MW-253	C	2019/03/21	Total Dissolved Solids	mg/L	910
PMP	MW-253	C	2019/06/26	Total Dissolved Solids	mg/L	685
PMP	MW-253	C	2019/09/26	Total Dissolved Solids	mg/L	320
PMP	MW-253	C	2019/12/19	Total Dissolved Solids	mg/L	370
PMP	MW-253	C	2020/03/27	Total Dissolved Solids	mg/L	894

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PMP	MW-253	C	2020/06/23	Total Dissolved Solids	mg/L	518
PMP	MW-253	C	2020/09/17	Total Dissolved Solids	mg/L	376
PMP	MW-253	C	2020/12/17	Total Dissolved Solids	mg/L	530
PMP	MW-253	C	2021/03/10	Total Dissolved Solids	mg/L	758
PMP	MW-253	C	2021/06/22	Total Dissolved Solids	mg/L	500
PMP	MW-253	C	2021/09/16	Total Dissolved Solids	mg/L	360
PMP	MW-253	C	2021/12/15	Total Dissolved Solids	mg/L	378
PMP	MW-253	C	2022/03/29	Total Dissolved Solids	mg/L	720
PMP	MW-253	C	2022/06/15	Total Dissolved Solids	mg/L	530
PMP	MW-253	C	2022/09/29	Total Dissolved Solids	mg/L	332
PMP	MW-253	C	2022/12/06	Total Dissolved Solids	mg/L	320
PMP	MW-253	C	2023/03/15	Total Dissolved Solids	mg/L	540
PMP	MW-253	C	2023/08/04	Total Dissolved Solids	mg/L	328
PMP	MW-253	C	2023/11/03	Total Dissolved Solids	mg/L	316
UA	MW-304	B	2015/12/29	pH (field)	SU	8.0
UA	MW-304	B	2016/03/21	pH (field)	SU	8.2
UA	MW-304	B	2016/06/21	pH (field)	SU	8.1
UA	MW-304	B	2016/09/19	pH (field)	SU	7.9
UA	MW-304	B	2016/12/27	pH (field)	SU	7.9
UA	MW-304	B	2017/03/16	pH (field)	SU	7.9
UA	MW-304	B	2017/06/21	pH (field)	SU	7.9
UA	MW-304	B	2017/07/28	pH (field)	SU	7.8
UA	MW-304	B	2017/09/21	pH (field)	SU	7.9
UA	MW-304	B	2017/11/28	pH (field)	SU	8.0
UA	MW-304	B	2018/03/19	pH (field)	SU	7.9
UA	MW-304	B	2018/06/27	pH (field)	SU	7.4
UA	MW-304	B	2018/09/26	pH (field)	SU	7.9
UA	MW-304	B	2018/12/19	pH (field)	SU	7.9
UA	MW-304	B	2019/03/20	pH (field)	SU	7.7
UA	MW-304	B	2019/06/25	pH (field)	SU	7.9
UA	MW-304	B	2019/09/25	pH (field)	SU	7.9
UA	MW-304	B	2019/12/19	pH (field)	SU	7.9
UA	MW-304	B	2020/03/26	pH (field)	SU	7.9
UA	MW-304	B	2020/06/23	pH (field)	SU	8.0
UA	MW-304	B	2020/09/17	pH (field)	SU	8.0
UA	MW-304	B	2020/12/16	pH (field)	SU	7.9
UA	MW-304	B	2021/03/09	pH (field)	SU	7.9
UA	MW-304	B	2021/06/21	pH (field)	SU	7.8
UA	MW-304	B	2021/09/14	pH (field)	SU	7.7
UA	MW-304	B	2021/12/14	pH (field)	SU	7.8
UA	MW-304	B	2022/03/28	pH (field)	SU	7.8
UA	MW-304	B	2022/06/14	pH (field)	SU	7.8
UA	MW-304	B	2022/09/29	pH (field)	SU	7.7
UA	MW-304	B	2022/10/26	pH (field)	SU	7.9
UA	MW-304	B	2022/11/17	pH (field)	SU	7.9
UA	MW-304	B	2022/12/05	pH (field)	SU	7.8
UA	MW-304	B	2022/12/14	pH (field)	SU	7.8
UA	MW-304	B	2023/01/11	pH (field)	SU	7.8
UA	MW-304	B	2023/02/20	pH (field)	SU	7.8
UA	MW-304	B	2023/03/15	pH (field)	SU	7.8
UA	MW-304	B	2023/04/04	pH (field)	SU	7.8
UA	MW-304	B	2023/05/22	pH (field)	SU	7.5
UA	MW-304	B	2023/08/03	pH (field)	SU	7.9
UA	MW-304	B	2023/11/01	pH (field)	SU	7.8
UA	MW-304	B	2015/12/29	Oxidation Reduction Potential	mV	214
UA	MW-304	B	2016/03/21	Oxidation Reduction Potential	mV	47.0
UA	MW-304	B	2016/06/21	Oxidation Reduction Potential	mV	-15.0

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UA	MW-304	B	2016/09/19	Oxidation Reduction Potential	mV	-64.0
UA	MW-304	B	2016/12/27	Oxidation Reduction Potential	mV	-51.0
UA	MW-304	B	2017/03/16	Oxidation Reduction Potential	mV	-39.0
UA	MW-304	B	2017/06/21	Oxidation Reduction Potential	mV	-65.0
UA	MW-304	B	2017/07/28	Oxidation Reduction Potential	mV	-67.0
UA	MW-304	B	2017/11/28	Oxidation Reduction Potential	mV	47.0
UA	MW-304	B	2018/06/27	Oxidation Reduction Potential	mV	57.0
UA	MW-304	B	2018/09/26	Oxidation Reduction Potential	mV	-165
UA	MW-304	B	2019/03/20	Oxidation Reduction Potential	mV	<-300
UA	MW-304	B	2019/09/25	Oxidation Reduction Potential	mV	-15.0
UA	MW-304	B	2020/03/26	Oxidation Reduction Potential	mV	-14.0
UA	MW-304	B	2020/09/17	Oxidation Reduction Potential	mV	-48.0
UA	MW-304	B	2021/03/09	Oxidation Reduction Potential	mV	-6.00
UA	MW-304	B	2021/06/21	Oxidation Reduction Potential	mV	-78.0
UA	MW-304	B	2021/09/14	Oxidation Reduction Potential	mV	-24.0
UA	MW-304	B	2021/12/14	Oxidation Reduction Potential	mV	56.0
UA	MW-304	B	2022/03/28	Oxidation Reduction Potential	mV	-21.0
UA	MW-304	B	2022/06/14	Oxidation Reduction Potential	mV	105
UA	MW-304	B	2022/09/29	Oxidation Reduction Potential	mV	86.0
UA	MW-304	B	2022/10/26	Oxidation Reduction Potential	mV	30.9
UA	MW-304	B	2022/11/17	Oxidation Reduction Potential	mV	160
UA	MW-304	B	2022/12/05	Oxidation Reduction Potential	mV	48.0
UA	MW-304	B	2022/12/14	Oxidation Reduction Potential	mV	191
UA	MW-304	B	2023/01/11	Oxidation Reduction Potential	mV	52.0
UA	MW-304	B	2023/02/20	Oxidation Reduction Potential	mV	53.2
UA	MW-304	B	2023/03/15	Oxidation Reduction Potential	mV	31.9
UA	MW-304	B	2023/04/04	Oxidation Reduction Potential	mV	-95.0
UA	MW-304	B	2023/05/22	Oxidation Reduction Potential	mV	116
UA	MW-304	B	2023/08/03	Oxidation Reduction Potential	mV	78.0
UA	MW-304	B	2023/11/01	Oxidation Reduction Potential	mV	-56.0
UA	MW-304	B	2015/12/29	Eh	V	0.41
UA	MW-304	B	2016/03/21	Eh	V	0.24
UA	MW-304	B	2016/06/21	Eh	V	0.18
UA	MW-304	B	2016/09/19	Eh	V	0.12
UA	MW-304	B	2016/12/27	Eh	V	0.15
UA	MW-304	B	2017/03/16	Eh	V	0.16
UA	MW-304	B	2017/06/21	Eh	V	0.12
UA	MW-304	B	2017/07/28	Eh	V	0.13
UA	MW-304	B	2017/11/28	Eh	V	0.24
UA	MW-304	B	2018/06/27	Eh	V	0.25
UA	MW-304	B	2018/09/26	Eh	V	0.027
UA	MW-304	B	2019/03/20	Eh	V	-0.10
UA	MW-304	B	2019/09/25	Eh	V	0.18
UA	MW-304	B	2020/03/26	Eh	V	0.18
UA	MW-304	B	2020/09/17	Eh	V	0.15
UA	MW-304	B	2021/03/09	Eh	V	0.19
UA	MW-304	B	2021/06/21	Eh	V	0.12
UA	MW-304	B	2021/09/14	Eh	V	0.17
UA	MW-304	B	2021/12/14	Eh	V	0.25
UA	MW-304	B	2022/03/28	Eh	V	0.18
UA	MW-304	B	2022/06/14	Eh	V	0.30
UA	MW-304	B	2022/09/29	Eh	V	0.28
UA	MW-304	B	2022/10/26	Eh	V	0.23
UA	MW-304	B	2022/11/17	Eh	V	0.36
UA	MW-304	B	2022/12/05	Eh	V	0.24
UA	MW-304	B	2022/12/14	Eh	V	0.39
UA	MW-304	B	2023/01/11	Eh	V	0.25

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Baldwin Power Plant
Baldwin, IL

UA	MW-304	B	2023/02/20	Eh	V	0.25
UA	MW-304	B	2023/03/15	Eh	V	0.23
UA	MW-304	B	2023/04/04	Eh	V	0.100
UA	MW-304	B	2023/05/22	Eh	V	0.31
UA	MW-304	B	2023/08/03	Eh	V	0.27
UA	MW-304	B	2023/11/01	Eh	V	0.14
UA	MW-304	B	2017/07/28	Alkalinity, bicarbonate	mg/L CaCO3	800
UA	MW-304	B	2020/03/26	Alkalinity, bicarbonate	mg/L CaCO3	802
UA	MW-304	B	2020/09/17	Alkalinity, bicarbonate	mg/L CaCO3	836
UA	MW-304	B	2021/03/09	Alkalinity, bicarbonate	mg/L CaCO3	784
UA	MW-304	B	2021/09/14	Alkalinity, bicarbonate	mg/L CaCO3	784
UA	MW-304	B	2022/03/28	Alkalinity, bicarbonate	mg/L CaCO3	843
UA	MW-304	B	2022/09/29	Alkalinity, bicarbonate	mg/L CaCO3	826
UA	MW-304	B	2022/10/26	Alkalinity, bicarbonate	mg/L CaCO3	801
UA	MW-304	B	2022/11/17	Alkalinity, bicarbonate	mg/L CaCO3	818
UA	MW-304	B	2022/12/14	Alkalinity, bicarbonate	mg/L CaCO3	833
UA	MW-304	B	2023/01/11	Alkalinity, bicarbonate	mg/L CaCO3	844
UA	MW-304	B	2023/02/20	Alkalinity, bicarbonate	mg/L CaCO3	854
UA	MW-304	B	2023/03/15	Alkalinity, bicarbonate	mg/L CaCO3	814
UA	MW-304	B	2023/04/04	Alkalinity, bicarbonate	mg/L CaCO3	853
UA	MW-304	B	2023/05/22	Alkalinity, bicarbonate	mg/L CaCO3	836
UA	MW-304	B	2023/08/03	Alkalinity, bicarbonate	mg/L CaCO3	838
UA	MW-304	B	2023/11/01	Alkalinity, bicarbonate	mg/L CaCO3	823
UA	MW-304	B	2022/09/29	Alkalinity, carbonate	mg/L CaCO3	10.0
UA	MW-304	B	2022/10/26	Alkalinity, carbonate	mg/L CaCO3	24.0
UA	MW-304	B	2023/11/01	Alkalinity, carbonate	mg/L CaCO3	32.0
UA	MW-304	B	2015/12/29	Barium, total	mg/L	0.0191
UA	MW-304	B	2016/03/21	Barium, total	mg/L	0.0195
UA	MW-304	B	2016/06/21	Barium, total	mg/L	0.0199
UA	MW-304	B	2016/09/19	Barium, total	mg/L	0.0238
UA	MW-304	B	2016/12/27	Barium, total	mg/L	0.0199
UA	MW-304	B	2017/03/16	Barium, total	mg/L	0.0171
UA	MW-304	B	2017/06/21	Barium, total	mg/L	0.0206
UA	MW-304	B	2017/07/28	Barium, total	mg/L	0.0193
UA	MW-304	B	2018/06/27	Barium, total	mg/L	0.0210
UA	MW-304	B	2018/09/26	Barium, total	mg/L	0.0229
UA	MW-304	B	2019/03/20	Barium, total	mg/L	0.0214
UA	MW-304	B	2019/09/25	Barium, total	mg/L	0.0211
UA	MW-304	B	2020/03/26	Barium, total	mg/L	0.0212
UA	MW-304	B	2020/09/17	Barium, total	mg/L	0.0192
UA	MW-304	B	2021/03/09	Barium, total	mg/L	0.0200
UA	MW-304	B	2021/09/14	Barium, total	mg/L	0.0189
UA	MW-304	B	2022/03/28	Barium, total	mg/L	0.0194
UA	MW-304	B	2022/09/29	Barium, total	mg/L	0.0183
UA	MW-304	B	2022/10/26	Barium, total	mg/L	0.0186
UA	MW-304	B	2022/11/17	Barium, total	mg/L	0.0209
UA	MW-304	B	2022/12/14	Barium, total	mg/L	0.0191
UA	MW-304	B	2023/01/11	Barium, total	mg/L	0.0173
UA	MW-304	B	2023/02/20	Barium, total	mg/L	0.0216
UA	MW-304	B	2023/03/15	Barium, total	mg/L	0.0206
UA	MW-304	B	2023/04/04	Barium, total	mg/L	0.0324
UA	MW-304	B	2023/05/22	Barium, total	mg/L	0.0199
UA	MW-304	B	2023/08/03	Barium, total	mg/L	0.0201
UA	MW-304	B	2023/11/01	Barium, total	mg/L	0.0199
UA	MW-304	B	2015/12/29	Boron, total	mg/L	1.28
UA	MW-304	B	2016/03/21	Boron, total	mg/L	1.27
UA	MW-304	B	2016/06/21	Boron, total	mg/L	1.33

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UA	MW-304	B	2016/09/19	Boron, total	mg/L	1.95
UA	MW-304	B	2016/12/27	Boron, total	mg/L	1.51
UA	MW-304	B	2017/03/16	Boron, total	mg/L	1.49
UA	MW-304	B	2017/06/21	Boron, total	mg/L	1.55
UA	MW-304	B	2017/07/28	Boron, total	mg/L	1.42
UA	MW-304	B	2017/11/28	Boron, total	mg/L	1.45
UA	MW-304	B	2018/06/27	Boron, total	mg/L	1.75
UA	MW-304	B	2018/09/26	Boron, total	mg/L	1.74
UA	MW-304	B	2019/03/20	Boron, total	mg/L	1.82
UA	MW-304	B	2019/09/25	Boron, total	mg/L	1.84
UA	MW-304	B	2020/03/26	Boron, total	mg/L	1.66
UA	MW-304	B	2020/09/17	Boron, total	mg/L	1.89
UA	MW-304	B	2021/03/09	Boron, total	mg/L	1.57
UA	MW-304	B	2021/09/14	Boron, total	mg/L	1.61
UA	MW-304	B	2022/03/28	Boron, total	mg/L	1.71
UA	MW-304	B	2022/09/29	Boron, total	mg/L	1.75
UA	MW-304	B	2022/10/26	Boron, total	mg/L	1.76
UA	MW-304	B	2022/11/17	Boron, total	mg/L	1.91
UA	MW-304	B	2022/12/14	Boron, total	mg/L	2.16
UA	MW-304	B	2023/01/11	Boron, total	mg/L	1.68
UA	MW-304	B	2023/02/20	Boron, total	mg/L	1.75
UA	MW-304	B	2023/03/15	Boron, total	mg/L	1.89
UA	MW-304	B	2023/04/04	Boron, total	mg/L	1.69
UA	MW-304	B	2023/05/22	Boron, total	mg/L	1.68
UA	MW-304	B	2023/08/03	Boron, total	mg/L	1.61
UA	MW-304	B	2023/11/01	Boron, total	mg/L	1.67
UA	MW-304	B	2015/12/29	Calcium, total	mg/L	9.64
UA	MW-304	B	2016/03/21	Calcium, total	mg/L	9.86
UA	MW-304	B	2016/06/21	Calcium, total	mg/L	14.3
UA	MW-304	B	2016/09/19	Calcium, total	mg/L	16.5
UA	MW-304	B	2016/12/27	Calcium, total	mg/L	15.4
UA	MW-304	B	2017/03/16	Calcium, total	mg/L	6.91
UA	MW-304	B	2017/06/21	Calcium, total	mg/L	17.8
UA	MW-304	B	2017/07/28	Calcium, total	mg/L	13.2
UA	MW-304	B	2017/11/28	Calcium, total	mg/L	11.4
UA	MW-304	B	2018/06/27	Calcium, total	mg/L	12.9
UA	MW-304	B	2018/09/26	Calcium, total	mg/L	13.1
UA	MW-304	B	2019/03/20	Calcium, total	mg/L	13.7
UA	MW-304	B	2019/09/25	Calcium, total	mg/L	18.4
UA	MW-304	B	2020/03/26	Calcium, total	mg/L	17.2
UA	MW-304	B	2020/09/17	Calcium, total	mg/L	15.3
UA	MW-304	B	2021/03/09	Calcium, total	mg/L	12.7
UA	MW-304	B	2021/09/14	Calcium, total	mg/L	13.3
UA	MW-304	B	2022/03/28	Calcium, total	mg/L	14.5
UA	MW-304	B	2022/09/29	Calcium, total	mg/L	10.2
UA	MW-304	B	2022/10/26	Calcium, total	mg/L	10.8
UA	MW-304	B	2022/11/17	Calcium, total	mg/L	9.48
UA	MW-304	B	2022/12/14	Calcium, total	mg/L	10.0
UA	MW-304	B	2023/01/11	Calcium, total	mg/L	8.50
UA	MW-304	B	2023/02/20	Calcium, total	mg/L	10.7
UA	MW-304	B	2023/03/15	Calcium, total	mg/L	10.6
UA	MW-304	B	2023/04/04	Calcium, total	mg/L	8.91
UA	MW-304	B	2023/05/22	Calcium, total	mg/L	9.63
UA	MW-304	B	2023/08/03	Calcium, total	mg/L	11.4
UA	MW-304	B	2023/11/01	Calcium, total	mg/L	12.0
UA	MW-304	B	2015/12/29	Chloride, total	mg/L	124
UA	MW-304	B	2016/03/21	Chloride, total	mg/L	131

UA	MW-304	B	2016/06/21	Chloride, total	mg/L	140
UA	MW-304	B	2016/09/19	Chloride, total	mg/L	138
UA	MW-304	B	2016/12/27	Chloride, total	mg/L	141
UA	MW-304	B	2017/03/16	Chloride, total	mg/L	144
UA	MW-304	B	2017/06/21	Chloride, total	mg/L	152
UA	MW-304	B	2017/07/28	Chloride, total	mg/L	155
UA	MW-304	B	2017/11/28	Chloride, total	mg/L	138
UA	MW-304	B	2018/06/27	Chloride, total	mg/L	151
UA	MW-304	B	2018/09/26	Chloride, total	mg/L	151
UA	MW-304	B	2019/03/20	Chloride, total	mg/L	148
UA	MW-304	B	2019/09/25	Chloride, total	mg/L	152
UA	MW-304	B	2020/03/26	Chloride, total	mg/L	153
UA	MW-304	B	2020/09/17	Chloride, total	mg/L	161
UA	MW-304	B	2021/03/09	Chloride, total	mg/L	159
UA	MW-304	B	2021/09/14	Chloride, total	mg/L	168
UA	MW-304	B	2022/03/28	Chloride, total	mg/L	161
UA	MW-304	B	2022/09/29	Chloride, total	mg/L	174
UA	MW-304	B	2022/10/26	Chloride, total	mg/L	175
UA	MW-304	B	2022/11/17	Chloride, total	mg/L	175
UA	MW-304	B	2022/12/14	Chloride, total	mg/L	181
UA	MW-304	B	2023/01/11	Chloride, total	mg/L	185
UA	MW-304	B	2023/02/20	Chloride, total	mg/L	186
UA	MW-304	B	2023/03/15	Chloride, total	mg/L	173
UA	MW-304	B	2023/04/04	Chloride, total	mg/L	168
UA	MW-304	B	2023/05/22	Chloride, total	mg/L	162
UA	MW-304	B	2023/08/03	Chloride, total	mg/L	160
UA	MW-304	B	2023/11/01	Chloride, total	mg/L	166
UA	MW-304	B	2017/03/16	Iron, dissolved	mg/L	<0.007
UA	MW-304	B	2017/06/21	Iron, dissolved	mg/L	<0.007
UA	MW-304	B	2017/09/21	Iron, dissolved	mg/L	<0.007
UA	MW-304	B	2017/11/28	Iron, dissolved	mg/L	<0.007
UA	MW-304	B	2018/03/19	Iron, dissolved	mg/L	<0.007
UA	MW-304	B	2018/06/27	Iron, dissolved	mg/L	<0.02
UA	MW-304	B	2018/09/26	Iron, dissolved	mg/L	<0.02
UA	MW-304	B	2018/12/19	Iron, dissolved	mg/L	<0.02
UA	MW-304	B	2019/03/20	Iron, dissolved	mg/L	<0.02
UA	MW-304	B	2019/06/25	Iron, dissolved	mg/L	<0.02
UA	MW-304	B	2019/09/25	Iron, dissolved	mg/L	<0.02
UA	MW-304	B	2019/12/19	Iron, dissolved	mg/L	<0.02
UA	MW-304	B	2020/03/26	Iron, dissolved	mg/L	<0.02
UA	MW-304	B	2020/06/23	Iron, dissolved	mg/L	<0.02
UA	MW-304	B	2020/09/17	Iron, dissolved	mg/L	<0.02
UA	MW-304	B	2020/12/16	Iron, dissolved	mg/L	<0.02
UA	MW-304	B	2021/03/09	Iron, dissolved	mg/L	<0.02
UA	MW-304	B	2021/06/21	Iron, dissolved	mg/L	<0.02
UA	MW-304	B	2021/09/14	Iron, dissolved	mg/L	<0.02
UA	MW-304	B	2021/12/14	Iron, dissolved	mg/L	<0.02
UA	MW-304	B	2022/03/28	Iron, dissolved	mg/L	<0.0115
UA	MW-304	B	2022/06/14	Iron, dissolved	mg/L	<0.02
UA	MW-304	B	2022/09/29	Iron, dissolved	mg/L	<0.0115
UA	MW-304	B	2022/12/05	Iron, dissolved	mg/L	<0.0115
UA	MW-304	B	2023/03/15	Iron, dissolved	mg/L	<0.0115
UA	MW-304	B	2023/05/22	Iron, dissolved	mg/L	<0.02
UA	MW-304	B	2023/08/03	Iron, dissolved	mg/L	<0.0115
UA	MW-304	B	2023/11/01	Iron, dissolved	mg/L	<0.0115
UA	MW-304	B	2017/07/28	Magnesium, total	mg/L	5.33
UA	MW-304	B	2020/03/26	Magnesium, total	mg/L	7.14

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UA	MW-304	B	2020/09/17	Magnesium, total	mg/L	6.18
UA	MW-304	B	2021/03/09	Magnesium, total	mg/L	5.62
UA	MW-304	B	2021/09/14	Magnesium, total	mg/L	5.79
UA	MW-304	B	2022/03/28	Magnesium, total	mg/L	6.11
UA	MW-304	B	2022/09/29	Magnesium, total	mg/L	4.42
UA	MW-304	B	2022/10/26	Magnesium, total	mg/L	4.74
UA	MW-304	B	2022/11/17	Magnesium, total	mg/L	4.29
UA	MW-304	B	2022/12/14	Magnesium, total	mg/L	4.23
UA	MW-304	B	2023/01/11	Magnesium, total	mg/L	3.84
UA	MW-304	B	2023/02/20	Magnesium, total	mg/L	4.39
UA	MW-304	B	2023/03/15	Magnesium, total	mg/L	4.47
UA	MW-304	B	2023/04/04	Magnesium, total	mg/L	3.90
UA	MW-304	B	2023/05/22	Magnesium, total	mg/L	4.36
UA	MW-304	B	2023/08/03	Magnesium, total	mg/L	4.76
UA	MW-304	B	2023/11/01	Magnesium, total	mg/L	5.02
UA	MW-304	B	2017/03/16	Manganese, dissolved	mg/L	<0.0005
UA	MW-304	B	2017/06/21	Manganese, dissolved	mg/L	<0.0005
UA	MW-304	B	2017/09/21	Manganese, dissolved	mg/L	<0.0005
UA	MW-304	B	2017/11/28	Manganese, dissolved	mg/L	<0.0005
UA	MW-304	B	2018/03/19	Manganese, dissolved	mg/L	<0.0005
UA	MW-304	B	2018/06/27	Manganese, dissolved	mg/L	<0.0025
UA	MW-304	B	2018/09/26	Manganese, dissolved	mg/L	<0.0025
UA	MW-304	B	2018/12/19	Manganese, dissolved	mg/L	<0.0025
UA	MW-304	B	2019/03/20	Manganese, dissolved	mg/L	<0.0025
UA	MW-304	B	2019/06/25	Manganese, dissolved	mg/L	<0.0025
UA	MW-304	B	2019/09/25	Manganese, dissolved	mg/L	<0.0025
UA	MW-304	B	2019/12/19	Manganese, dissolved	mg/L	<0.0025
UA	MW-304	B	2020/03/26	Manganese, dissolved	mg/L	<0.0025
UA	MW-304	B	2020/06/23	Manganese, dissolved	mg/L	<0.0025
UA	MW-304	B	2020/09/17	Manganese, dissolved	mg/L	<0.0025
UA	MW-304	B	2020/12/16	Manganese, dissolved	mg/L	<0.0025
UA	MW-304	B	2021/03/09	Manganese, dissolved	mg/L	<0.0025
UA	MW-304	B	2021/06/21	Manganese, dissolved	mg/L	<0.0025
UA	MW-304	B	2021/09/14	Manganese, dissolved	mg/L	<0.0025
UA	MW-304	B	2021/12/14	Manganese, dissolved	mg/L	<0.0025
UA	MW-304	B	2022/03/28	Manganese, dissolved	mg/L	0.00290
UA	MW-304	B	2022/06/14	Manganese, dissolved	mg/L	<0.0025
UA	MW-304	B	2022/09/29	Manganese, dissolved	mg/L	0.00130
UA	MW-304	B	2022/12/05	Manganese, dissolved	mg/L	0.00230
UA	MW-304	B	2023/03/15	Manganese, dissolved	mg/L	0.00140
UA	MW-304	B	2023/05/22	Manganese, dissolved	mg/L	<0.0025
UA	MW-304	B	2023/08/03	Manganese, dissolved	mg/L	0.00140
UA	MW-304	B	2023/11/01	Manganese, dissolved	mg/L	0.00200
UA	MW-304	B	2023/05/22	Phosphate, dissolved	mg/L	0.0520
UA	MW-304	B	2023/08/03	Phosphate, dissolved	mg/L	0.0310
UA	MW-304	B	2017/07/28	Potassium, total	mg/L	2.18
UA	MW-304	B	2020/03/26	Potassium, total	mg/L	2.36
UA	MW-304	B	2020/09/17	Potassium, total	mg/L	2.48
UA	MW-304	B	2021/03/09	Potassium, total	mg/L	2.12
UA	MW-304	B	2021/09/14	Potassium, total	mg/L	2.36
UA	MW-304	B	2022/03/28	Potassium, total	mg/L	2.34
UA	MW-304	B	2022/09/29	Potassium, total	mg/L	2.20
UA	MW-304	B	2022/10/26	Potassium, total	mg/L	2.15
UA	MW-304	B	2022/11/17	Potassium, total	mg/L	1.98
UA	MW-304	B	2022/12/14	Potassium, total	mg/L	2.05
UA	MW-304	B	2023/01/11	Potassium, total	mg/L	2.08
UA	MW-304	B	2023/02/20	Potassium, total	mg/L	2.33

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UA	MW-304	B	2023/03/15	Potassium, total	mg/L	2.10
UA	MW-304	B	2023/04/04	Potassium, total	mg/L	2.40
UA	MW-304	B	2023/05/22	Potassium, total	mg/L	2.41
UA	MW-304	B	2023/08/03	Potassium, total	mg/L	2.31
UA	MW-304	B	2023/11/01	Potassium, total	mg/L	2.26
UA	MW-304	B	2023/05/22	Silicon, dissolved	mg/L	3.85
UA	MW-304	B	2023/08/03	Silicon, dissolved	mg/L	3.55
UA	MW-304	B	2017/07/28	Sodium, total	mg/L	516
UA	MW-304	B	2020/03/26	Sodium, total	mg/L	556
UA	MW-304	B	2020/09/17	Sodium, total	mg/L	631
UA	MW-304	B	2021/03/09	Sodium, total	mg/L	570
UA	MW-304	B	2021/09/14	Sodium, total	mg/L	565
UA	MW-304	B	2022/03/28	Sodium, total	mg/L	555
UA	MW-304	B	2022/09/29	Sodium, total	mg/L	570
UA	MW-304	B	2022/10/26	Sodium, total	mg/L	587
UA	MW-304	B	2022/11/17	Sodium, total	mg/L	564
UA	MW-304	B	2022/12/14	Sodium, total	mg/L	604
UA	MW-304	B	2023/01/11	Sodium, total	mg/L	626
UA	MW-304	B	2023/02/20	Sodium, total	mg/L	617
UA	MW-304	B	2023/03/15	Sodium, total	mg/L	569
UA	MW-304	B	2023/04/04	Sodium, total	mg/L	642
UA	MW-304	B	2023/05/22	Sodium, total	mg/L	582
UA	MW-304	B	2023/08/03	Sodium, total	mg/L	617
UA	MW-304	B	2023/11/01	Sodium, total	mg/L	629
UA	MW-304	B	2015/12/29	Sulfate, total	mg/L	157
UA	MW-304	B	2016/03/21	Sulfate, total	mg/L	163
UA	MW-304	B	2016/06/21	Sulfate, total	mg/L	200
UA	MW-304	B	2016/09/19	Sulfate, total	mg/L	176
UA	MW-304	B	2016/12/27	Sulfate, total	mg/L	177
UA	MW-304	B	2017/03/16	Sulfate, total	mg/L	166
UA	MW-304	B	2017/06/21	Sulfate, total	mg/L	177
UA	MW-304	B	2017/07/28	Sulfate, total	mg/L	187
UA	MW-304	B	2017/11/28	Sulfate, total	mg/L	178
UA	MW-304	B	2018/06/27	Sulfate, total	mg/L	208
UA	MW-304	B	2018/09/26	Sulfate, total	mg/L	201
UA	MW-304	B	2019/03/20	Sulfate, total	mg/L	177
UA	MW-304	B	2019/09/25	Sulfate, total	mg/L	169
UA	MW-304	B	2020/03/26	Sulfate, total	mg/L	177
UA	MW-304	B	2020/09/17	Sulfate, total	mg/L	196
UA	MW-304	B	2021/03/09	Sulfate, total	mg/L	194
UA	MW-304	B	2021/09/14	Sulfate, total	mg/L	231
UA	MW-304	B	2022/03/28	Sulfate, total	mg/L	198
UA	MW-304	B	2022/09/29	Sulfate, total	mg/L	199
UA	MW-304	B	2022/10/26	Sulfate, total	mg/L	193
UA	MW-304	B	2022/11/17	Sulfate, total	mg/L	218
UA	MW-304	B	2022/12/14	Sulfate, total	mg/L	216
UA	MW-304	B	2023/01/11	Sulfate, total	mg/L	209
UA	MW-304	B	2023/02/20	Sulfate, total	mg/L	228
UA	MW-304	B	2023/03/15	Sulfate, total	mg/L	208
UA	MW-304	B	2023/04/04	Sulfate, total	mg/L	210
UA	MW-304	B	2023/05/22	Sulfate, total	mg/L	208
UA	MW-304	B	2023/08/03	Sulfate, total	mg/L	188
UA	MW-304	B	2023/11/01	Sulfate, total	mg/L	191
UA	MW-304	B	2015/12/29	Temperature (Celsius)	degrees C	14.8
UA	MW-304	B	2016/03/21	Temperature (Celsius)	degrees C	15.6
UA	MW-304	B	2016/06/21	Temperature (Celsius)	degrees C	17.9
UA	MW-304	B	2016/09/19	Temperature (Celsius)	degrees C	25.2

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UA	MW-304	B	2016/12/27	Temperature (Celsius)	degrees C	13.4
UA	MW-304	B	2017/03/16	Temperature (Celsius)	degrees C	12.5
UA	MW-304	B	2017/06/21	Temperature (Celsius)	degrees C	23.9
UA	MW-304	B	2017/07/28	Temperature (Celsius)	degrees C	19.7
UA	MW-304	B	2017/09/21	Temperature (Celsius)	degrees C	16.8
UA	MW-304	B	2017/11/28	Temperature (Celsius)	degrees C	15.9
UA	MW-304	B	2018/03/19	Temperature (Celsius)	degrees C	14.6
UA	MW-304	B	2018/06/27	Temperature (Celsius)	degrees C	20.5
UA	MW-304	B	2018/09/26	Temperature (Celsius)	degrees C	20.3
UA	MW-304	B	2018/12/19	Temperature (Celsius)	degrees C	14.4
UA	MW-304	B	2019/03/20	Temperature (Celsius)	degrees C	13.4
UA	MW-304	B	2019/06/25	Temperature (Celsius)	degrees C	16.5
UA	MW-304	B	2019/09/25	Temperature (Celsius)	degrees C	17.6
UA	MW-304	B	2019/12/19	Temperature (Celsius)	degrees C	13.6
UA	MW-304	B	2020/03/26	Temperature (Celsius)	degrees C	14.0
UA	MW-304	B	2020/06/23	Temperature (Celsius)	degrees C	15.5
UA	MW-304	B	2020/09/17	Temperature (Celsius)	degrees C	16.5
UA	MW-304	B	2020/12/16	Temperature (Celsius)	degrees C	13.9
UA	MW-304	B	2021/03/09	Temperature (Celsius)	degrees C	15.2
UA	MW-304	B	2021/06/21	Temperature (Celsius)	degrees C	16.2
UA	MW-304	B	2021/09/14	Temperature (Celsius)	degrees C	17.2
UA	MW-304	B	2021/12/14	Temperature (Celsius)	degrees C	15.0
UA	MW-304	B	2022/03/28	Temperature (Celsius)	degrees C	13.4
UA	MW-304	B	2022/06/14	Temperature (Celsius)	degrees C	18.3
UA	MW-304	B	2022/09/29	Temperature (Celsius)	degrees C	16.5
UA	MW-304	B	2022/10/26	Temperature (Celsius)	degrees C	16.8
UA	MW-304	B	2022/11/17	Temperature (Celsius)	degrees C	15.4
UA	MW-304	B	2022/12/05	Temperature (Celsius)	degrees C	14.5
UA	MW-304	B	2022/12/14	Temperature (Celsius)	degrees C	15.4
UA	MW-304	B	2023/01/11	Temperature (Celsius)	degrees C	15.5
UA	MW-304	B	2023/02/20	Temperature (Celsius)	degrees C	14.4
UA	MW-304	B	2023/03/15	Temperature (Celsius)	degrees C	13.2
UA	MW-304	B	2023/04/04	Temperature (Celsius)	degrees C	15.8
UA	MW-304	B	2023/05/22	Temperature (Celsius)	degrees C	15.2
UA	MW-304	B	2023/08/03	Temperature (Celsius)	degrees C	16.2
UA	MW-304	B	2023/11/01	Temperature (Celsius)	degrees C	15.3
UA	MW-304	B	2015/12/29	Total Dissolved Solids	mg/L	1,090
UA	MW-304	B	2016/03/21	Total Dissolved Solids	mg/L	1,200
UA	MW-304	B	2016/06/21	Total Dissolved Solids	mg/L	1,220
UA	MW-304	B	2016/09/19	Total Dissolved Solids	mg/L	1,220
UA	MW-304	B	2016/12/27	Total Dissolved Solids	mg/L	1,230
UA	MW-304	B	2017/03/16	Total Dissolved Solids	mg/L	1,280
UA	MW-304	B	2017/06/21	Total Dissolved Solids	mg/L	1,360
UA	MW-304	B	2017/07/28	Total Dissolved Solids	mg/L	1,330
UA	MW-304	B	2017/09/21	Total Dissolved Solids	mg/L	1,350
UA	MW-304	B	2017/11/28	Total Dissolved Solids	mg/L	1,330
UA	MW-304	B	2018/03/19	Total Dissolved Solids	mg/L	1,360
UA	MW-304	B	2018/06/27	Total Dissolved Solids	mg/L	1,360
UA	MW-304	B	2018/09/26	Total Dissolved Solids	mg/L	1,420
UA	MW-304	B	2018/12/19	Total Dissolved Solids	mg/L	1,440
UA	MW-304	B	2019/03/20	Total Dissolved Solids	mg/L	1,390
UA	MW-304	B	2019/06/25	Total Dissolved Solids	mg/L	1,420
UA	MW-304	B	2019/09/25	Total Dissolved Solids	mg/L	1,350
UA	MW-304	B	2019/12/19	Total Dissolved Solids	mg/L	1,450
UA	MW-304	B	2020/03/26	Total Dissolved Solids	mg/L	1,320
UA	MW-304	B	2020/06/23	Total Dissolved Solids	mg/L	1,410
UA	MW-304	B	2020/09/17	Total Dissolved Solids	mg/L	1,320

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UA	MW-304	B	2020/12/16	Total Dissolved Solids	mg/L	1,440
UA	MW-304	B	2021/03/09	Total Dissolved Solids	mg/L	1,350
UA	MW-304	B	2021/06/21	Total Dissolved Solids	mg/L	1,440
UA	MW-304	B	2021/09/14	Total Dissolved Solids	mg/L	1,290
UA	MW-304	B	2021/12/14	Total Dissolved Solids	mg/L	1,400
UA	MW-304	B	2022/03/28	Total Dissolved Solids	mg/L	1,410
UA	MW-304	B	2022/06/14	Total Dissolved Solids	mg/L	1,430
UA	MW-304	B	2022/09/29	Total Dissolved Solids	mg/L	1,470
UA	MW-304	B	2022/10/26	Total Dissolved Solids	mg/L	1,450
UA	MW-304	B	2022/11/17	Total Dissolved Solids	mg/L	1,490
UA	MW-304	B	2022/12/05	Total Dissolved Solids	mg/L	1,480
UA	MW-304	B	2022/12/14	Total Dissolved Solids	mg/L	1,300
UA	MW-304	B	2023/01/11	Total Dissolved Solids	mg/L	1,450
UA	MW-304	B	2023/02/20	Total Dissolved Solids	mg/L	1,470
UA	MW-304	B	2023/03/15	Total Dissolved Solids	mg/L	1,230
UA	MW-304	B	2023/04/04	Total Dissolved Solids	mg/L	1,460
UA	MW-304	B	2023/05/22	Total Dissolved Solids	mg/L	1,420
UA	MW-304	B	2023/08/03	Total Dissolved Solids	mg/L	1,380
UA	MW-304	B	2023/11/01	Total Dissolved Solids	mg/L	1,470
UA	MW-358	B	2022/10/27	pH (field)	SU	7.9
UA	MW-358	B	2022/11/17	pH (field)	SU	7.8
UA	MW-358	B	2022/12/13	pH (field)	SU	8.4
UA	MW-358	B	2023/01/11	pH (field)	SU	7.6
UA	MW-358	B	2023/02/20	pH (field)	SU	8.4
UA	MW-358	B	2023/03/13	pH (field)	SU	7.7
UA	MW-358	B	2023/04/04	pH (field)	SU	7.7
UA	MW-358	B	2023/05/19	pH (field)	SU	7.6
UA	MW-358	B	2023/08/07	pH (field)	SU	8.0
UA	MW-358	B	2023/11/01	pH (field)	SU	7.9
UA	MW-358	B	2022/10/27	Oxidation Reduction Potential	mV	-167
UA	MW-358	B	2022/11/17	Oxidation Reduction Potential	mV	200
UA	MW-358	B	2022/12/13	Oxidation Reduction Potential	mV	-266
UA	MW-358	B	2023/01/11	Oxidation Reduction Potential	mV	180
UA	MW-358	B	2023/02/20	Oxidation Reduction Potential	mV	-132
UA	MW-358	B	2023/03/13	Oxidation Reduction Potential	mV	-188
UA	MW-358	B	2023/04/04	Oxidation Reduction Potential	mV	-207
UA	MW-358	B	2023/05/19	Oxidation Reduction Potential	mV	-91.0
UA	MW-358	B	2023/08/07	Oxidation Reduction Potential	mV	-42.0
UA	MW-358	B	2023/11/01	Oxidation Reduction Potential	mV	-162
UA	MW-358	B	2022/10/27	Eh	V	0.029
UA	MW-358	B	2022/11/17	Eh	V	0.40
UA	MW-358	B	2022/12/13	Eh	V	-0.068
UA	MW-358	B	2023/01/11	Eh	V	0.38
UA	MW-358	B	2023/02/20	Eh	V	0.064
UA	MW-358	B	2023/03/13	Eh	V	0.0094
UA	MW-358	B	2023/04/04	Eh	V	-0.013
UA	MW-358	B	2023/05/19	Eh	V	0.10
UA	MW-358	B	2023/08/07	Eh	V	0.15
UA	MW-358	B	2023/11/01	Eh	V	0.034
UA	MW-358	B	2022/10/27	Alkalinity, bicarbonate	mg/L CaCO3	601
UA	MW-358	B	2022/11/17	Alkalinity, bicarbonate	mg/L CaCO3	758
UA	MW-358	B	2022/12/13	Alkalinity, bicarbonate	mg/L CaCO3	859
UA	MW-358	B	2023/01/11	Alkalinity, bicarbonate	mg/L CaCO3	841
UA	MW-358	B	2023/02/20	Alkalinity, bicarbonate	mg/L CaCO3	847
UA	MW-358	B	2023/03/13	Alkalinity, bicarbonate	mg/L CaCO3	856
UA	MW-358	B	2023/04/04	Alkalinity, bicarbonate	mg/L CaCO3	851
UA	MW-358	B	2023/05/19	Alkalinity, bicarbonate	mg/L CaCO3	817

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UA	MW-358	B	2023/08/07	Alkalinity, bicarbonate	mg/L CaCO3	833
UA	MW-358	B	2023/11/01	Alkalinity, bicarbonate	mg/L CaCO3	829
UA	MW-358	B	2022/10/27	Alkalinity, carbonate	mg/L CaCO3	32.0
UA	MW-358	B	2023/05/19	Alkalinity, carbonate	mg/L CaCO3	18.0
UA	MW-358	B	2023/08/07	Alkalinity, carbonate	mg/L CaCO3	10.0
UA	MW-358	B	2023/11/01	Alkalinity, carbonate	mg/L CaCO3	11.0
UA	MW-358	B	2022/10/27	Barium, total	mg/L	0.0933
UA	MW-358	B	2022/11/17	Barium, total	mg/L	0.172
UA	MW-358	B	2022/12/13	Barium, total	mg/L	0.168
UA	MW-358	B	2023/01/11	Barium, total	mg/L	0.165
UA	MW-358	B	2023/02/20	Barium, total	mg/L	0.201
UA	MW-358	B	2023/03/13	Barium, total	mg/L	0.166
UA	MW-358	B	2023/04/04	Barium, total	mg/L	0.261
UA	MW-358	B	2023/05/19	Barium, total	mg/L	0.192
UA	MW-358	B	2023/08/07	Barium, total	mg/L	0.235
UA	MW-358	B	2023/11/01	Barium, total	mg/L	0.162
UA	MW-358	B	2022/10/27	Boron, total	mg/L	1.10
UA	MW-358	B	2022/11/17	Boron, total	mg/L	1.25
UA	MW-358	B	2022/12/13	Boron, total	mg/L	1.67
UA	MW-358	B	2023/01/11	Boron, total	mg/L	1.38
UA	MW-358	B	2023/02/20	Boron, total	mg/L	1.42
UA	MW-358	B	2023/03/13	Boron, total	mg/L	1.51
UA	MW-358	B	2023/04/04	Boron, total	mg/L	1.45
UA	MW-358	B	2023/05/19	Boron, total	mg/L	1.60
UA	MW-358	B	2023/08/07	Boron, total	mg/L	1.60
UA	MW-358	B	2023/11/01	Boron, total	mg/L	1.38
UA	MW-358	B	2022/10/27	Calcium, total	mg/L	12.8
UA	MW-358	B	2022/11/17	Calcium, total	mg/L	15.8
UA	MW-358	B	2022/12/13	Calcium, total	mg/L	18.6
UA	MW-358	B	2023/01/11	Calcium, total	mg/L	14.0
UA	MW-358	B	2023/02/20	Calcium, total	mg/L	13.2
UA	MW-358	B	2023/03/13	Calcium, total	mg/L	10.9
UA	MW-358	B	2023/04/04	Calcium, total	mg/L	11.4
UA	MW-358	B	2023/05/19	Calcium, total	mg/L	12.5
UA	MW-358	B	2023/08/07	Calcium, total	mg/L	9.87
UA	MW-358	B	2023/11/01	Calcium, total	mg/L	11.3
UA	MW-358	B	2022/10/27	Chloride, total	mg/L	688
UA	MW-358	B	2022/11/17	Chloride, total	mg/L	992
UA	MW-358	B	2022/12/13	Chloride, total	mg/L	1,120
UA	MW-358	B	2023/01/11	Chloride, total	mg/L	1,200
UA	MW-358	B	2023/02/20	Chloride, total	mg/L	1,330
UA	MW-358	B	2023/03/13	Chloride, total	mg/L	1,340
UA	MW-358	B	2023/04/04	Chloride, total	mg/L	1,370
UA	MW-358	B	2023/05/19	Chloride, total	mg/L	1,300
UA	MW-358	B	2023/08/07	Chloride, total	mg/L	1,290
UA	MW-358	B	2023/11/01	Chloride, total	mg/L	1,310
UA	MW-358	B	2023/05/19	Iron, dissolved	mg/L	0.242
UA	MW-358	B	2023/08/07	Iron, dissolved	mg/L	0.221
UA	MW-358	B	2022/10/27	Magnesium, total	mg/L	5.66
UA	MW-358	B	2022/11/17	Magnesium, total	mg/L	7.53
UA	MW-358	B	2022/12/13	Magnesium, total	mg/L	8.62
UA	MW-358	B	2023/01/11	Magnesium, total	mg/L	6.96
UA	MW-358	B	2023/02/20	Magnesium, total	mg/L	6.40
UA	MW-358	B	2023/03/13	Magnesium, total	mg/L	5.64
UA	MW-358	B	2023/04/04	Magnesium, total	mg/L	5.89
UA	MW-358	B	2023/05/19	Magnesium, total	mg/L	6.07
UA	MW-358	B	2023/08/07	Magnesium, total	mg/L	5.06

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UA	MW-358	B	2023/11/01	Magnesium, total	mg/L	5.80
UA	MW-358	B	2023/05/19	Manganese, dissolved	mg/L	0.182
UA	MW-358	B	2023/08/07	Manganese, dissolved	mg/L	0.160
UA	MW-358	B	2023/05/19	Phosphate, dissolved	mg/L	0.390
UA	MW-358	B	2023/08/07	Phosphate, dissolved	mg/L	0.252
UA	MW-358	B	2022/10/27	Potassium, total	mg/L	8.56
UA	MW-358	B	2022/11/17	Potassium, total	mg/L	7.33
UA	MW-358	B	2022/12/13	Potassium, total	mg/L	6.51
UA	MW-358	B	2023/01/11	Potassium, total	mg/L	5.58
UA	MW-358	B	2023/02/20	Potassium, total	mg/L	5.25
UA	MW-358	B	2023/03/13	Potassium, total	mg/L	4.05
UA	MW-358	B	2023/04/04	Potassium, total	mg/L	5.19
UA	MW-358	B	2023/05/19	Potassium, total	mg/L	4.48
UA	MW-358	B	2023/08/07	Potassium, total	mg/L	4.20
UA	MW-358	B	2023/11/01	Potassium, total	mg/L	3.90
UA	MW-358	B	2023/05/19	Silicon, dissolved	mg/L	3.54
UA	MW-358	B	2023/08/07	Silicon, dissolved	mg/L	3.56
UA	MW-358	B	2022/10/27	Sodium, total	mg/L	802
UA	MW-358	B	2022/11/17	Sodium, total	mg/L	991
UA	MW-358	B	2022/12/13	Sodium, total	mg/L	1,100
UA	MW-358	B	2023/01/11	Sodium, total	mg/L	1,250
UA	MW-358	B	2023/02/20	Sodium, total	mg/L	1,390
UA	MW-358	B	2023/03/13	Sodium, total	mg/L	1,190
UA	MW-358	B	2023/04/04	Sodium, total	mg/L	1,330
UA	MW-358	B	2023/05/19	Sodium, total	mg/L	1,260
UA	MW-358	B	2023/08/07	Sodium, total	mg/L	1,260
UA	MW-358	B	2023/11/01	Sodium, total	mg/L	1,320
UA	MW-358	B	2022/10/27	Sulfate, total	mg/L	108
UA	MW-358	B	2022/11/17	Sulfate, total	mg/L	101
UA	MW-358	B	2022/12/13	Sulfate, total	mg/L	71.0
UA	MW-358	B	2023/01/11	Sulfate, total	mg/L	34.0
UA	MW-358	B	2023/02/20	Sulfate, total	mg/L	16.0
UA	MW-358	B	2023/03/13	Sulfate, total	mg/L	8.00
UA	MW-358	B	2023/04/04	Sulfate, total	mg/L	<31
UA	MW-358	B	2023/05/19	Sulfate, total	mg/L	<12
UA	MW-358	B	2023/08/07	Sulfate, total	mg/L	9.00
UA	MW-358	B	2023/11/01	Sulfate, total	mg/L	11.0
UA	MW-358	B	2022/10/27	Temperature (Celsius)	degrees C	14.5
UA	MW-358	B	2022/11/17	Temperature (Celsius)	degrees C	13.3
UA	MW-358	B	2022/12/13	Temperature (Celsius)	degrees C	11.6
UA	MW-358	B	2023/01/11	Temperature (Celsius)	degrees C	14.9
UA	MW-358	B	2023/02/20	Temperature (Celsius)	degrees C	14.0
UA	MW-358	B	2023/03/13	Temperature (Celsius)	degrees C	12.2
UA	MW-358	B	2023/04/04	Temperature (Celsius)	degrees C	16.7
UA	MW-358	B	2023/05/19	Temperature (Celsius)	degrees C	18.2
UA	MW-358	B	2023/08/07	Temperature (Celsius)	degrees C	16.1
UA	MW-358	B	2023/11/01	Temperature (Celsius)	degrees C	14.6
UA	MW-358	B	2022/10/27	Total Dissolved Solids	mg/L	1,990
UA	MW-358	B	2022/11/17	Total Dissolved Solids	mg/L	2,620
UA	MW-358	B	2022/12/13	Total Dissolved Solids	mg/L	3,260
UA	MW-358	B	2023/01/11	Total Dissolved Solids	mg/L	2,690
UA	MW-358	B	2023/02/20	Total Dissolved Solids	mg/L	3,080
UA	MW-358	B	2023/03/13	Total Dissolved Solids	mg/L	2,880
UA	MW-358	B	2023/04/04	Total Dissolved Solids	mg/L	2,990
UA	MW-358	B	2023/05/19	Total Dissolved Solids	mg/L	3,040
UA	MW-358	B	2023/08/07	Total Dissolved Solids	mg/L	3,160
UA	MW-358	B	2023/11/01	Total Dissolved Solids	mg/L	3,140

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UA	MW-350	C	2013/09/16	pH (field)	SU	12.3
UA	MW-350	C	2013/11/20	pH (field)	SU	11.8
UA	MW-350	C	2014/02/19	pH (field)	SU	8.1
UA	MW-350	C	2014/06/11	pH (field)	SU	12.4
UA	MW-350	C	2015/03/25	pH (field)	SU	12.8
UA	MW-350	C	2015/06/24	pH (field)	SU	12.5
UA	MW-350	C	2015/09/25	pH (field)	SU	12.6
UA	MW-350	C	2015/11/10	pH (field)	SU	12.2
UA	MW-350	C	2016/03/22	pH (field)	SU	12.6
UA	MW-350	C	2016/06/21	pH (field)	SU	12.2
UA	MW-350	C	2016/09/29	pH (field)	SU	12.1
UA	MW-350	C	2016/12/21	pH (field)	SU	11.9
UA	MW-350	C	2017/03/16	pH (field)	SU	12.2
UA	MW-350	C	2017/06/22	pH (field)	SU	11.7
UA	MW-350	C	2017/09/21	pH (field)	SU	11.4
UA	MW-350	C	2017/11/28	pH (field)	SU	11.7
UA	MW-350	C	2018/03/19	pH (field)	SU	11.4
UA	MW-350	C	2018/06/28	pH (field)	SU	11.2
UA	MW-350	C	2018/09/26	pH (field)	SU	11.6
UA	MW-350	C	2018/12/18	pH (field)	SU	11.7
UA	MW-350	C	2019/03/20	pH (field)	SU	11.9
UA	MW-350	C	2019/06/25	pH (field)	SU	11.9
UA	MW-350	C	2019/09/26	pH (field)	SU	11.0
UA	MW-350	C	2019/12/19	pH (field)	SU	10.9
UA	MW-350	C	2020/03/26	pH (field)	SU	11.7
UA	MW-350	C	2020/06/23	pH (field)	SU	11.4
UA	MW-350	C	2020/09/16	pH (field)	SU	11.0
UA	MW-350	C	2020/09/17	pH (field)	SU	10.7
UA	MW-350	C	2020/12/17	pH (field)	SU	11.1
UA	MW-350	C	2021/03/10	pH (field)	SU	11.0
UA	MW-350	C	2021/07/19	pH (field)	SU	8.4
UA	MW-350	C	2021/09/14	pH (field)	SU	8.0
UA	MW-350	C	2021/12/14	pH (field)	SU	10.1
UA	MW-350	C	2022/03/28	pH (field)	SU	11.6
UA	MW-350	C	2022/06/14	pH (field)	SU	11.4
UA	MW-350	C	2022/09/29	pH (field)	SU	11.6
UA	MW-350	C	2022/12/06	pH (field)	SU	11.3
UA	MW-350	C	2023/03/15	pH (field)	SU	11.5
UA	MW-350	C	2023/05/18	pH (field)	SU	11.4
UA	MW-350	C	2023/08/07	pH (field)	SU	11.5
UA	MW-350	C	2023/11/03	pH (field)	SU	8.4
UA	MW-350	C	2020/03/26	Oxidation Reduction Potential	mV	-299
UA	MW-350	C	2020/09/16	Oxidation Reduction Potential	mV	-270
UA	MW-350	C	2021/03/10	Oxidation Reduction Potential	mV	<-300
UA	MW-350	C	2021/07/19	Oxidation Reduction Potential	mV	-250
UA	MW-350	C	2021/09/14	Oxidation Reduction Potential	mV	-253
UA	MW-350	C	2021/12/14	Oxidation Reduction Potential	mV	-204
UA	MW-350	C	2022/03/28	Oxidation Reduction Potential	mV	-254
UA	MW-350	C	2022/06/14	Oxidation Reduction Potential	mV	-7.00
UA	MW-350	C	2022/09/29	Oxidation Reduction Potential	mV	-21.0
UA	MW-350	C	2022/12/06	Oxidation Reduction Potential	mV	<-300
UA	MW-350	C	2023/03/15	Oxidation Reduction Potential	mV	-147
UA	MW-350	C	2023/05/18	Oxidation Reduction Potential	mV	-123
UA	MW-350	C	2023/08/07	Oxidation Reduction Potential	mV	-7.00
UA	MW-350	C	2023/11/03	Oxidation Reduction Potential	mV	-242
UA	MW-350	C	2020/03/26	Eh	V	-0.10
UA	MW-350	C	2020/09/16	Eh	V	-0.074

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UA	MW-350	C	2021/03/10	Eh	V	-0.10
UA	MW-350	C	2021/07/19	Eh	V	-0.056
UA	MW-350	C	2021/09/14	Eh	V	-0.059
UA	MW-350	C	2021/12/14	Eh	V	-0.0086
UA	MW-350	C	2022/03/28	Eh	V	-0.057
UA	MW-350	C	2022/06/14	Eh	V	0.19
UA	MW-350	C	2022/09/29	Eh	V	0.18
UA	MW-350	C	2022/12/06	Eh	V	-0.10
UA	MW-350	C	2023/03/15	Eh	V	0.050
UA	MW-350	C	2023/05/18	Eh	V	0.073
UA	MW-350	C	2023/08/07	Eh	V	0.19
UA	MW-350	C	2023/11/03	Eh	V	-0.046
UA	MW-350	C	2021/09/14	Alkalinity, bicarbonate	mg/L CaCO3	231
UA	MW-350	C	2020/03/26	Alkalinity, carbonate	mg/L CaCO3	62.0
UA	MW-350	C	2020/09/16	Alkalinity, carbonate	mg/L CaCO3	68.0
UA	MW-350	C	2021/03/10	Alkalinity, carbonate	mg/L CaCO3	78.0
UA	MW-350	C	2022/03/28	Alkalinity, carbonate	mg/L CaCO3	54.0
UA	MW-350	C	2022/09/29	Alkalinity, carbonate	mg/L CaCO3	56.0
UA	MW-350	C	2023/03/15	Alkalinity, carbonate	mg/L CaCO3	26.0
UA	MW-350	C	2023/05/18	Alkalinity, carbonate	mg/L CaCO3	55.0
UA	MW-350	C	2023/08/07	Alkalinity, carbonate	mg/L CaCO3	49.0
UA	MW-350	C	2023/11/03	Alkalinity, carbonate	mg/L CaCO3	92.0
UA	MW-350	C	2020/03/26	Barium, total	mg/L	0.244
UA	MW-350	C	2020/09/16	Barium, total	mg/L	0.165
UA	MW-350	C	2021/03/10	Barium, total	mg/L	0.169
UA	MW-350	C	2021/09/14	Barium, total	mg/L	0.179
UA	MW-350	C	2022/03/28	Barium, total	mg/L	0.329
UA	MW-350	C	2022/09/29	Barium, total	mg/L	0.296
UA	MW-350	C	2023/03/15	Barium, total	mg/L	0.304
UA	MW-350	C	2023/05/18	Barium, total	mg/L	0.327
UA	MW-350	C	2023/08/07	Barium, total	mg/L	0.267
UA	MW-350	C	2023/11/03	Barium, total	mg/L	0.201
UA	MW-350	C	2013/09/16	Boron, total	mg/L	0.0200
UA	MW-350	C	2020/03/26	Boron, total	mg/L	0.635
UA	MW-350	C	2020/09/16	Boron, total	mg/L	0.541
UA	MW-350	C	2021/03/10	Boron, total	mg/L	0.682
UA	MW-350	C	2021/09/14	Boron, total	mg/L	0.622
UA	MW-350	C	2022/03/28	Boron, total	mg/L	0.900
UA	MW-350	C	2022/09/29	Boron, total	mg/L	0.669
UA	MW-350	C	2023/03/15	Boron, total	mg/L	0.613
UA	MW-350	C	2023/05/18	Boron, total	mg/L	0.560
UA	MW-350	C	2023/08/07	Boron, total	mg/L	0.585
UA	MW-350	C	2023/11/03	Boron, total	mg/L	0.538
UA	MW-350	C	2020/03/26	Calcium, total	mg/L	52.9
UA	MW-350	C	2020/09/16	Calcium, total	mg/L	16.6
UA	MW-350	C	2021/03/10	Calcium, total	mg/L	20.9
UA	MW-350	C	2021/09/14	Calcium, total	mg/L	25.1
UA	MW-350	C	2022/03/28	Calcium, total	mg/L	124
UA	MW-350	C	2022/09/29	Calcium, total	mg/L	72.0
UA	MW-350	C	2023/03/15	Calcium, total	mg/L	81.0
UA	MW-350	C	2023/05/18	Calcium, total	mg/L	84.0
UA	MW-350	C	2023/08/07	Calcium, total	mg/L	39.6
UA	MW-350	C	2023/11/03	Calcium, total	mg/L	49.0
UA	MW-350	C	2013/09/16	Chloride, total	mg/L	33.0
UA	MW-350	C	2020/03/26	Chloride, total	mg/L	52.0
UA	MW-350	C	2020/09/16	Chloride, total	mg/L	48.0
UA	MW-350	C	2021/03/10	Chloride, total	mg/L	43.0

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UA	MW-350	C	2021/09/14	Chloride, total	mg/L	29.0
UA	MW-350	C	2022/03/28	Chloride, total	mg/L	58.0
UA	MW-350	C	2022/09/29	Chloride, total	mg/L	65.0
UA	MW-350	C	2023/03/15	Chloride, total	mg/L	58.0
UA	MW-350	C	2023/05/18	Chloride, total	mg/L	50.0
UA	MW-350	C	2023/08/07	Chloride, total	mg/L	54.0
UA	MW-350	C	2023/11/03	Chloride, total	mg/L	47.0
UA	MW-350	C	2013/11/20	Iron, dissolved	mg/L	<0.007
UA	MW-350	C	2014/02/19	Iron, dissolved	mg/L	<0.007
UA	MW-350	C	2014/06/11	Iron, dissolved	mg/L	<0.007
UA	MW-350	C	2015/03/25	Iron, dissolved	mg/L	<0.007
UA	MW-350	C	2015/06/24	Iron, dissolved	mg/L	<0.007
UA	MW-350	C	2015/09/25	Iron, dissolved	mg/L	<0.007
UA	MW-350	C	2015/11/10	Iron, dissolved	mg/L	<0.007
UA	MW-350	C	2016/03/22	Iron, dissolved	mg/L	<0.007
UA	MW-350	C	2016/06/21	Iron, dissolved	mg/L	<0.007
UA	MW-350	C	2016/09/29	Iron, dissolved	mg/L	<0.007
UA	MW-350	C	2016/12/21	Iron, dissolved	mg/L	<0.007
UA	MW-350	C	2017/03/16	Iron, dissolved	mg/L	<0.007
UA	MW-350	C	2017/06/22	Iron, dissolved	mg/L	<0.007
UA	MW-350	C	2017/09/21	Iron, dissolved	mg/L	<0.007
UA	MW-350	C	2017/11/28	Iron, dissolved	mg/L	<0.007
UA	MW-350	C	2018/03/19	Iron, dissolved	mg/L	<0.007
UA	MW-350	C	2018/06/28	Iron, dissolved	mg/L	<0.02
UA	MW-350	C	2018/09/26	Iron, dissolved	mg/L	<0.02
UA	MW-350	C	2018/12/18	Iron, dissolved	mg/L	<0.02
UA	MW-350	C	2019/03/20	Iron, dissolved	mg/L	<0.02
UA	MW-350	C	2019/06/25	Iron, dissolved	mg/L	<0.02
UA	MW-350	C	2019/09/26	Iron, dissolved	mg/L	<0.02
UA	MW-350	C	2019/12/19	Iron, dissolved	mg/L	<0.02
UA	MW-350	C	2020/03/26	Iron, dissolved	mg/L	<0.02
UA	MW-350	C	2020/06/23	Iron, dissolved	mg/L	<0.02
UA	MW-350	C	2020/09/17	Iron, dissolved	mg/L	<0.02
UA	MW-350	C	2020/12/17	Iron, dissolved	mg/L	<0.02
UA	MW-350	C	2021/03/10	Iron, dissolved	mg/L	<0.02
UA	MW-350	C	2021/07/19	Iron, dissolved	mg/L	<0.02
UA	MW-350	C	2021/09/14	Iron, dissolved	mg/L	<0.02
UA	MW-350	C	2021/12/14	Iron, dissolved	mg/L	<0.02
UA	MW-350	C	2022/03/28	Iron, dissolved	mg/L	<0.015
UA	MW-350	C	2022/06/14	Iron, dissolved	mg/L	<0.02
UA	MW-350	C	2022/09/29	Iron, dissolved	mg/L	<0.0115
UA	MW-350	C	2022/12/06	Iron, dissolved	mg/L	<0.0115
UA	MW-350	C	2023/03/15	Iron, dissolved	mg/L	<0.0115
UA	MW-350	C	2023/05/18	Iron, dissolved	mg/L	<0.02
UA	MW-350	C	2023/08/07	Iron, dissolved	mg/L	<0.0115
UA	MW-350	C	2023/11/03	Iron, dissolved	mg/L	<0.0115
UA	MW-350	C	2020/03/26	Magnesium, total	mg/L	0.113
UA	MW-350	C	2020/09/16	Magnesium, total	mg/L	0.262
UA	MW-350	C	2021/03/10	Magnesium, total	mg/L	1.43
UA	MW-350	C	2021/09/14	Magnesium, total	mg/L	4.38
UA	MW-350	C	2022/03/28	Magnesium, total	mg/L	0.0837
UA	MW-350	C	2022/09/29	Magnesium, total	mg/L	0.350
UA	MW-350	C	2023/03/15	Magnesium, total	mg/L	0.172
UA	MW-350	C	2023/05/18	Magnesium, total	mg/L	0.646
UA	MW-350	C	2023/08/07	Magnesium, total	mg/L	0.784
UA	MW-350	C	2023/11/03	Magnesium, total	mg/L	5.33
UA	MW-350	C	2013/11/20	Manganese, dissolved	mg/L	<0.0016

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UA	MW-350	C	2014/02/19	Manganese, dissolved	mg/L	<0.0016
UA	MW-350	C	2014/06/11	Manganese, dissolved	mg/L	<0.0016
UA	MW-350	C	2015/03/25	Manganese, dissolved	mg/L	<0.0005
UA	MW-350	C	2015/06/24	Manganese, dissolved	mg/L	<0.0005
UA	MW-350	C	2015/09/25	Manganese, dissolved	mg/L	<0.0005
UA	MW-350	C	2015/11/10	Manganese, dissolved	mg/L	<0.0005
UA	MW-350	C	2016/03/22	Manganese, dissolved	mg/L	<0.0005
UA	MW-350	C	2016/06/21	Manganese, dissolved	mg/L	<0.0005
UA	MW-350	C	2016/09/29	Manganese, dissolved	mg/L	<0.0005
UA	MW-350	C	2016/12/21	Manganese, dissolved	mg/L	<0.0005
UA	MW-350	C	2017/03/16	Manganese, dissolved	mg/L	<0.0005
UA	MW-350	C	2017/06/22	Manganese, dissolved	mg/L	<0.0005
UA	MW-350	C	2017/09/21	Manganese, dissolved	mg/L	<0.0005
UA	MW-350	C	2017/11/28	Manganese, dissolved	mg/L	<0.0005
UA	MW-350	C	2018/03/19	Manganese, dissolved	mg/L	<0.0005
UA	MW-350	C	2018/06/28	Manganese, dissolved	mg/L	<0.0025
UA	MW-350	C	2018/09/26	Manganese, dissolved	mg/L	<0.0025
UA	MW-350	C	2018/12/18	Manganese, dissolved	mg/L	<0.0025
UA	MW-350	C	2019/03/20	Manganese, dissolved	mg/L	<0.0025
UA	MW-350	C	2019/06/25	Manganese, dissolved	mg/L	<0.0025
UA	MW-350	C	2019/09/26	Manganese, dissolved	mg/L	<0.0025
UA	MW-350	C	2019/12/19	Manganese, dissolved	mg/L	<0.0025
UA	MW-350	C	2020/03/26	Manganese, dissolved	mg/L	<0.0025
UA	MW-350	C	2020/06/23	Manganese, dissolved	mg/L	<0.0025
UA	MW-350	C	2020/09/17	Manganese, dissolved	mg/L	<0.0025
UA	MW-350	C	2020/12/17	Manganese, dissolved	mg/L	<0.0025
UA	MW-350	C	2021/03/10	Manganese, dissolved	mg/L	<0.0025
UA	MW-350	C	2021/07/19	Manganese, dissolved	mg/L	<0.0025
UA	MW-350	C	2021/09/14	Manganese, dissolved	mg/L	<0.0025
UA	MW-350	C	2021/12/14	Manganese, dissolved	mg/L	<0.0025
UA	MW-350	C	2022/03/28	Manganese, dissolved	mg/L	<0.0008
UA	MW-350	C	2022/06/14	Manganese, dissolved	mg/L	<0.0025
UA	MW-350	C	2022/09/29	Manganese, dissolved	mg/L	<0.0008
UA	MW-350	C	2022/12/06	Manganese, dissolved	mg/L	<0.0008
UA	MW-350	C	2023/03/15	Manganese, dissolved	mg/L	<0.0008
UA	MW-350	C	2023/05/18	Manganese, dissolved	mg/L	<0.0025
UA	MW-350	C	2023/08/07	Manganese, dissolved	mg/L	<0.0008
UA	MW-350	C	2023/11/03	Manganese, dissolved	mg/L	<0.0008
UA	MW-350	C	2023/05/18	Phosphate, dissolved	mg/L	<0.005
UA	MW-350	C	2023/08/07	Phosphate, dissolved	mg/L	<0.005
UA	MW-350	C	2020/03/26	Potassium, total	mg/L	4.27
UA	MW-350	C	2020/09/16	Potassium, total	mg/L	5.66
UA	MW-350	C	2021/03/10	Potassium, total	mg/L	4.69
UA	MW-350	C	2021/09/14	Potassium, total	mg/L	5.52
UA	MW-350	C	2022/03/28	Potassium, total	mg/L	5.10
UA	MW-350	C	2022/09/29	Potassium, total	mg/L	5.00
UA	MW-350	C	2023/03/15	Potassium, total	mg/L	4.12
UA	MW-350	C	2023/05/18	Potassium, total	mg/L	5.01
UA	MW-350	C	2023/08/07	Potassium, total	mg/L	4.46
UA	MW-350	C	2023/11/03	Potassium, total	mg/L	4.81
UA	MW-350	C	2023/05/18	Silicon, dissolved	mg/L	5.18
UA	MW-350	C	2023/08/07	Silicon, dissolved	mg/L	2.25
UA	MW-350	C	2020/03/26	Sodium, total	mg/L	73.0
UA	MW-350	C	2020/09/16	Sodium, total	mg/L	76.4
UA	MW-350	C	2021/03/10	Sodium, total	mg/L	77.6
UA	MW-350	C	2021/09/14	Sodium, total	mg/L	74.3
UA	MW-350	C	2022/03/28	Sodium, total	mg/L	67.9

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UA	MW-350	C	2022/09/29	Sodium, total	mg/L	70.2
UA	MW-350	C	2023/03/15	Sodium, total	mg/L	68.6
UA	MW-350	C	2023/05/18	Sodium, total	mg/L	91.2
UA	MW-350	C	2023/08/07	Sodium, total	mg/L	71.7
UA	MW-350	C	2023/11/03	Sodium, total	mg/L	85.1
UA	MW-350	C	2013/09/16	Sulfate, total	mg/L	<5
UA	MW-350	C	2020/03/26	Sulfate, total	mg/L	71.0
UA	MW-350	C	2020/09/16	Sulfate, total	mg/L	74.0
UA	MW-350	C	2021/03/10	Sulfate, total	mg/L	52.0
UA	MW-350	C	2021/09/14	Sulfate, total	mg/L	99.0
UA	MW-350	C	2022/03/28	Sulfate, total	mg/L	74.0
UA	MW-350	C	2022/09/29	Sulfate, total	mg/L	113
UA	MW-350	C	2023/03/15	Sulfate, total	mg/L	88.0
UA	MW-350	C	2023/05/18	Sulfate, total	mg/L	97.0
UA	MW-350	C	2023/08/07	Sulfate, total	mg/L	102
UA	MW-350	C	2023/11/03	Sulfate, total	mg/L	100
UA	MW-350	C	2013/09/16	Temperature (Celsius)	degrees C	14.6
UA	MW-350	C	2013/11/20	Temperature (Celsius)	degrees C	13.5
UA	MW-350	C	2014/02/19	Temperature (Celsius)	degrees C	13.3
UA	MW-350	C	2014/06/11	Temperature (Celsius)	degrees C	14.3
UA	MW-350	C	2015/03/25	Temperature (Celsius)	degrees C	14.4
UA	MW-350	C	2015/06/24	Temperature (Celsius)	degrees C	14.4
UA	MW-350	C	2015/09/25	Temperature (Celsius)	degrees C	13.8
UA	MW-350	C	2015/11/10	Temperature (Celsius)	degrees C	13.5
UA	MW-350	C	2016/03/22	Temperature (Celsius)	degrees C	14.4
UA	MW-350	C	2016/06/21	Temperature (Celsius)	degrees C	14.3
UA	MW-350	C	2016/09/29	Temperature (Celsius)	degrees C	13.8
UA	MW-350	C	2016/12/21	Temperature (Celsius)	degrees C	13.3
UA	MW-350	C	2017/03/16	Temperature (Celsius)	degrees C	13.8
UA	MW-350	C	2017/06/22	Temperature (Celsius)	degrees C	14.5
UA	MW-350	C	2017/09/21	Temperature (Celsius)	degrees C	14.6
UA	MW-350	C	2017/11/28	Temperature (Celsius)	degrees C	14.6
UA	MW-350	C	2018/03/19	Temperature (Celsius)	degrees C	14.7
UA	MW-350	C	2018/06/28	Temperature (Celsius)	degrees C	15.2
UA	MW-350	C	2018/09/26	Temperature (Celsius)	degrees C	14.2
UA	MW-350	C	2018/12/18	Temperature (Celsius)	degrees C	13.7
UA	MW-350	C	2019/03/20	Temperature (Celsius)	degrees C	13.5
UA	MW-350	C	2019/06/25	Temperature (Celsius)	degrees C	14.4
UA	MW-350	C	2019/09/26	Temperature (Celsius)	degrees C	13.9
UA	MW-350	C	2019/12/19	Temperature (Celsius)	degrees C	13.4
UA	MW-350	C	2020/03/26	Temperature (Celsius)	degrees C	14.2
UA	MW-350	C	2020/06/23	Temperature (Celsius)	degrees C	14.6
UA	MW-350	C	2020/09/16	Temperature (Celsius)	degrees C	14.7
UA	MW-350	C	2020/09/17	Temperature (Celsius)	degrees C	15.1
UA	MW-350	C	2020/12/17	Temperature (Celsius)	degrees C	13.1
UA	MW-350	C	2021/03/10	Temperature (Celsius)	degrees C	13.9
UA	MW-350	C	2021/07/19	Temperature (Celsius)	degrees C	16.8
UA	MW-350	C	2021/09/14	Temperature (Celsius)	degrees C	16.8
UA	MW-350	C	2021/12/14	Temperature (Celsius)	degrees C	15.2
UA	MW-350	C	2022/03/28	Temperature (Celsius)	degrees C	13.5
UA	MW-350	C	2022/06/14	Temperature (Celsius)	degrees C	17.3
UA	MW-350	C	2022/09/29	Temperature (Celsius)	degrees C	13.8
UA	MW-350	C	2022/12/06	Temperature (Celsius)	degrees C	13.2
UA	MW-350	C	2023/03/15	Temperature (Celsius)	degrees C	13.7
UA	MW-350	C	2023/05/18	Temperature (Celsius)	degrees C	14.1
UA	MW-350	C	2023/08/07	Temperature (Celsius)	degrees C	13.9
UA	MW-350	C	2023/11/03	Temperature (Celsius)	degrees C	13.7

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UA	MW-350	C	2013/09/16	Total Dissolved Solids	mg/L	1,640
UA	MW-350	C	2013/11/20	Total Dissolved Solids	mg/L	1,370
UA	MW-350	C	2014/02/19	Total Dissolved Solids	mg/L	1,420
UA	MW-350	C	2014/06/11	Total Dissolved Solids	mg/L	1,580
UA	MW-350	C	2015/03/25	Total Dissolved Solids	mg/L	1,430
UA	MW-350	C	2015/06/24	Total Dissolved Solids	mg/L	1,430
UA	MW-350	C	2015/09/25	Total Dissolved Solids	mg/L	1,140
UA	MW-350	C	2015/11/10	Total Dissolved Solids	mg/L	690
UA	MW-350	C	2016/03/22	Total Dissolved Solids	mg/L	712
UA	MW-350	C	2016/06/21	Total Dissolved Solids	mg/L	906
UA	MW-350	C	2016/09/29	Total Dissolved Solids	mg/L	600
UA	MW-350	C	2016/12/21	Total Dissolved Solids	mg/L	536
UA	MW-350	C	2017/03/16	Total Dissolved Solids	mg/L	624
UA	MW-350	C	2017/06/22	Total Dissolved Solids	mg/L	475
UA	MW-350	C	2017/09/21	Total Dissolved Solids	mg/L	246
UA	MW-350	C	2017/11/28	Total Dissolved Solids	mg/L	454
UA	MW-350	C	2018/03/19	Total Dissolved Solids	mg/L	376
UA	MW-350	C	2018/06/28	Total Dissolved Solids	mg/L	346
UA	MW-350	C	2018/09/26	Total Dissolved Solids	mg/L	385
UA	MW-350	C	2018/12/18	Total Dissolved Solids	mg/L	425
UA	MW-350	C	2019/03/20	Total Dissolved Solids	mg/L	578
UA	MW-350	C	2019/06/25	Total Dissolved Solids	mg/L	485
UA	MW-350	C	2019/09/26	Total Dissolved Solids	mg/L	368
UA	MW-350	C	2019/12/19	Total Dissolved Solids	mg/L	324
UA	MW-350	C	2020/03/26	Total Dissolved Solids	mg/L	344
UA	MW-350	C	2020/06/23	Total Dissolved Solids	mg/L	258
UA	MW-350	C	2020/09/16	Total Dissolved Solids	mg/L	230
UA	MW-350	C	2020/09/17	Total Dissolved Solids	mg/L	226
UA	MW-350	C	2020/12/17	Total Dissolved Solids	mg/L	260
UA	MW-350	C	2021/03/10	Total Dissolved Solids	mg/L	272
UA	MW-350	C	2021/07/19	Total Dissolved Solids	mg/L	362
UA	MW-350	C	2021/09/14	Total Dissolved Solids	mg/L	402
UA	MW-350	C	2021/12/14	Total Dissolved Solids	mg/L	248
UA	MW-350	C	2022/03/28	Total Dissolved Solids	mg/L	494
UA	MW-350	C	2022/06/14	Total Dissolved Solids	mg/L	350
UA	MW-350	C	2022/09/29	Total Dissolved Solids	mg/L	382
UA	MW-350	C	2022/12/06	Total Dissolved Solids	mg/L	372
UA	MW-350	C	2023/03/15	Total Dissolved Solids	mg/L	414
UA	MW-350	C	2023/05/18	Total Dissolved Solids	mg/L	420
UA	MW-350	C	2023/08/07	Total Dissolved Solids	mg/L	328
UA	MW-350	C	2023/11/03	Total Dissolved Solids	mg/L	306
UA	MW-352	C	2013/09/16	pH (field)	SU	9.4
UA	MW-352	C	2013/11/20	pH (field)	SU	7.3
UA	MW-352	C	2014/02/19	pH (field)	SU	6.5
UA	MW-352	C	2014/06/12	pH (field)	SU	8.9
UA	MW-352	C	2015/03/25	pH (field)	SU	9.0
UA	MW-352	C	2015/06/24	pH (field)	SU	8.6
UA	MW-352	C	2015/09/25	pH (field)	SU	8.0
UA	MW-352	C	2015/11/10	pH (field)	SU	7.6
UA	MW-352	C	2016/03/22	pH (field)	SU	7.9
UA	MW-352	C	2016/06/23	pH (field)	SU	7.7
UA	MW-352	C	2016/09/29	pH (field)	SU	7.9
UA	MW-352	C	2016/12/21	pH (field)	SU	7.9
UA	MW-352	C	2017/03/16	pH (field)	SU	7.8
UA	MW-352	C	2017/06/21	pH (field)	SU	7.6
UA	MW-352	C	2017/09/21	pH (field)	SU	6.7
UA	MW-352	C	2017/11/28	pH (field)	SU	7.6

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UA	MW-352	C	2018/03/20	pH (field)	SU	7.6
UA	MW-352	C	2018/06/27	pH (field)	SU	7.7
UA	MW-352	C	2018/09/26	pH (field)	SU	7.8
UA	MW-352	C	2018/12/18	pH (field)	SU	7.6
UA	MW-352	C	2019/03/20	pH (field)	SU	7.7
UA	MW-352	C	2019/06/25	pH (field)	SU	7.7
UA	MW-352	C	2019/09/26	pH (field)	SU	7.4
UA	MW-352	C	2019/12/19	pH (field)	SU	7.7
UA	MW-352	C	2020/03/27	pH (field)	SU	7.5
UA	MW-352	C	2020/06/23	pH (field)	SU	7.8
UA	MW-352	C	2020/09/17	pH (field)	SU	7.7
UA	MW-352	C	2020/12/16	pH (field)	SU	7.7
UA	MW-352	C	2021/03/09	pH (field)	SU	7.6
UA	MW-352	C	2021/07/19	pH (field)	SU	7.3
UA	MW-352	C	2021/09/14	pH (field)	SU	7.4
UA	MW-352	C	2021/12/14	pH (field)	SU	7.3
UA	MW-352	C	2022/03/28	pH (field)	SU	7.5
UA	MW-352	C	2022/06/14	pH (field)	SU	7.5
UA	MW-352	C	2022/09/29	pH (field)	SU	8.0
UA	MW-352	C	2022/12/06	pH (field)	SU	7.4
UA	MW-352	C	2023/03/15	pH (field)	SU	7.5
UA	MW-352	C	2023/05/18	pH (field)	SU	7.4
UA	MW-352	C	2023/07/10	pH (field)	SU	7.3
UA	MW-352	C	2023/08/04	pH (field)	SU	7.9
UA	MW-352	C	2023/10/31	pH (field)	SU	7.7
UA	MW-352	C	2021/03/09	Oxidation Reduction Potential	mV	-140
UA	MW-352	C	2021/07/19	Oxidation Reduction Potential	mV	34.0
UA	MW-352	C	2021/09/14	Oxidation Reduction Potential	mV	-123
UA	MW-352	C	2021/12/14	Oxidation Reduction Potential	mV	-28.0
UA	MW-352	C	2022/03/28	Oxidation Reduction Potential	mV	-144
UA	MW-352	C	2022/06/14	Oxidation Reduction Potential	mV	90.0
UA	MW-352	C	2022/09/29	Oxidation Reduction Potential	mV	133
UA	MW-352	C	2022/12/06	Oxidation Reduction Potential	mV	<-300
UA	MW-352	C	2023/03/15	Oxidation Reduction Potential	mV	-162
UA	MW-352	C	2023/05/18	Oxidation Reduction Potential	mV	-119
UA	MW-352	C	2023/07/10	Oxidation Reduction Potential	mV	65.0
UA	MW-352	C	2023/08/04	Oxidation Reduction Potential	mV	85.0
UA	MW-352	C	2023/10/31	Oxidation Reduction Potential	mV	-98.0
UA	MW-352	C	2021/03/09	Eh	V	0.057
UA	MW-352	C	2021/07/19	Eh	V	0.23
UA	MW-352	C	2021/09/14	Eh	V	0.069
UA	MW-352	C	2021/12/14	Eh	V	0.17
UA	MW-352	C	2022/03/28	Eh	V	0.054
UA	MW-352	C	2022/06/14	Eh	V	0.28
UA	MW-352	C	2022/09/29	Eh	V	0.33
UA	MW-352	C	2022/12/06	Eh	V	-0.10
UA	MW-352	C	2023/03/15	Eh	V	0.035
UA	MW-352	C	2023/05/18	Eh	V	0.077
UA	MW-352	C	2023/07/10	Eh	V	0.26
UA	MW-352	C	2023/08/04	Eh	V	0.28
UA	MW-352	C	2023/10/31	Eh	V	0.098
UA	MW-352	C	2023/03/15	Alkalinity, bicarbonate	mg/L CaCO3	143
UA	MW-352	C	2023/05/18	Alkalinity, bicarbonate	mg/L CaCO3	147
UA	MW-352	C	2023/08/04	Alkalinity, bicarbonate	mg/L CaCO3	147
UA	MW-352	C	2023/10/31	Alkalinity, bicarbonate	mg/L CaCO3	149
UA	MW-352	C	2023/03/15	Barium, total	mg/L	0.0867
UA	MW-352	C	2023/05/18	Barium, total	mg/L	0.0891

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UA	MW-352	C	2023/07/10	Barium, total	mg/L	0.0898
UA	MW-352	C	2023/08/04	Barium, total	mg/L	0.0856
UA	MW-352	C	2023/10/31	Barium, total	mg/L	0.122
UA	MW-352	C	2013/09/16	Boron, total	mg/L	1.42
UA	MW-352	C	2023/03/15	Boron, total	mg/L	2.29
UA	MW-352	C	2023/05/18	Boron, total	mg/L	2.04
UA	MW-352	C	2023/07/10	Boron, total	mg/L	2.10
UA	MW-352	C	2023/08/04	Boron, total	mg/L	1.88
UA	MW-352	C	2023/10/31	Boron, total	mg/L	2.77
UA	MW-352	C	2023/03/15	Calcium, total	mg/L	97.8
UA	MW-352	C	2023/05/18	Calcium, total	mg/L	88.3
UA	MW-352	C	2023/07/10	Calcium, total	mg/L	105
UA	MW-352	C	2023/08/04	Calcium, total	mg/L	87.0
UA	MW-352	C	2023/10/31	Calcium, total	mg/L	93.3
UA	MW-352	C	2013/09/16	Chloride, total	mg/L	580
UA	MW-352	C	2023/03/15	Chloride, total	mg/L	576
UA	MW-352	C	2023/05/18	Chloride, total	mg/L	569
UA	MW-352	C	2023/07/10	Chloride, total	mg/L	582
UA	MW-352	C	2023/08/04	Chloride, total	mg/L	529
UA	MW-352	C	2023/10/31	Chloride, total	mg/L	567
UA	MW-352	C	2013/11/20	Iron, dissolved	mg/L	<0.007
UA	MW-352	C	2014/02/19	Iron, dissolved	mg/L	<0.007
UA	MW-352	C	2014/06/12	Iron, dissolved	mg/L	<0.007
UA	MW-352	C	2015/03/25	Iron, dissolved	mg/L	<0.007
UA	MW-352	C	2015/06/24	Iron, dissolved	mg/L	<0.007
UA	MW-352	C	2015/09/25	Iron, dissolved	mg/L	<0.007
UA	MW-352	C	2015/11/10	Iron, dissolved	mg/L	<0.007
UA	MW-352	C	2016/03/22	Iron, dissolved	mg/L	0.0220
UA	MW-352	C	2016/06/23	Iron, dissolved	mg/L	0.0285
UA	MW-352	C	2016/09/29	Iron, dissolved	mg/L	0.0224
UA	MW-352	C	2016/12/21	Iron, dissolved	mg/L	<0.007
UA	MW-352	C	2017/03/16	Iron, dissolved	mg/L	0.0500
UA	MW-352	C	2017/06/21	Iron, dissolved	mg/L	0.120
UA	MW-352	C	2017/09/21	Iron, dissolved	mg/L	0.140
UA	MW-352	C	2017/11/28	Iron, dissolved	mg/L	0.120
UA	MW-352	C	2018/03/20	Iron, dissolved	mg/L	0.109
UA	MW-352	C	2018/06/27	Iron, dissolved	mg/L	0.125
UA	MW-352	C	2018/09/26	Iron, dissolved	mg/L	0.151
UA	MW-352	C	2018/12/18	Iron, dissolved	mg/L	0.159
UA	MW-352	C	2019/03/20	Iron, dissolved	mg/L	0.0824
UA	MW-352	C	2019/06/25	Iron, dissolved	mg/L	0.125
UA	MW-352	C	2019/09/26	Iron, dissolved	mg/L	0.145
UA	MW-352	C	2019/12/19	Iron, dissolved	mg/L	0.190
UA	MW-352	C	2020/03/27	Iron, dissolved	mg/L	0.144
UA	MW-352	C	2020/06/23	Iron, dissolved	mg/L	0.323
UA	MW-352	C	2020/09/17	Iron, dissolved	mg/L	0.472
UA	MW-352	C	2020/12/16	Iron, dissolved	mg/L	0.374
UA	MW-352	C	2021/03/09	Iron, dissolved	mg/L	0.184
UA	MW-352	C	2021/07/19	Iron, dissolved	mg/L	0.262
UA	MW-352	C	2021/09/14	Iron, dissolved	mg/L	0.220
UA	MW-352	C	2021/12/14	Iron, dissolved	mg/L	0.263
UA	MW-352	C	2022/03/28	Iron, dissolved	mg/L	0.222
UA	MW-352	C	2022/06/14	Iron, dissolved	mg/L	0.224
UA	MW-352	C	2022/09/29	Iron, dissolved	mg/L	0.0318
UA	MW-352	C	2022/12/06	Iron, dissolved	mg/L	0.373
UA	MW-352	C	2023/03/15	Iron, dissolved	mg/L	0.194
UA	MW-352	C	2023/05/18	Iron, dissolved	mg/L	0.164

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UA	MW-352	C	2023/08/04	Iron, dissolved	mg/L	0.482
UA	MW-352	C	2023/10/31	Iron, dissolved	mg/L	0.392
UA	MW-352	C	2023/03/15	Magnesium, total	mg/L	47.7
UA	MW-352	C	2023/05/18	Magnesium, total	mg/L	41.7
UA	MW-352	C	2023/08/04	Magnesium, total	mg/L	43.9
UA	MW-352	C	2023/10/31	Magnesium, total	mg/L	46.4
UA	MW-352	C	2013/11/20	Manganese, dissolved	mg/L	<0.0016
UA	MW-352	C	2014/02/19	Manganese, dissolved	mg/L	<0.0016
UA	MW-352	C	2014/06/12	Manganese, dissolved	mg/L	<0.0016
UA	MW-352	C	2015/03/25	Manganese, dissolved	mg/L	<0.0005
UA	MW-352	C	2015/06/24	Manganese, dissolved	mg/L	<0.0005
UA	MW-352	C	2015/09/25	Manganese, dissolved	mg/L	0.00660
UA	MW-352	C	2015/11/10	Manganese, dissolved	mg/L	0.00530
UA	MW-352	C	2016/03/22	Manganese, dissolved	mg/L	0.00560
UA	MW-352	C	2016/06/23	Manganese, dissolved	mg/L	0.00560
UA	MW-352	C	2016/09/29	Manganese, dissolved	mg/L	0.00540
UA	MW-352	C	2016/12/21	Manganese, dissolved	mg/L	0.00390
UA	MW-352	C	2017/03/16	Manganese, dissolved	mg/L	0.00560
UA	MW-352	C	2017/06/21	Manganese, dissolved	mg/L	0.00770
UA	MW-352	C	2017/09/21	Manganese, dissolved	mg/L	0.00580
UA	MW-352	C	2017/11/28	Manganese, dissolved	mg/L	0.00600
UA	MW-352	C	2018/03/20	Manganese, dissolved	mg/L	0.00590
UA	MW-352	C	2018/06/27	Manganese, dissolved	mg/L	<0.0025
UA	MW-352	C	2018/09/26	Manganese, dissolved	mg/L	<0.0025
UA	MW-352	C	2018/12/18	Manganese, dissolved	mg/L	<0.0025
UA	MW-352	C	2019/03/20	Manganese, dissolved	mg/L	<0.0025
UA	MW-352	C	2019/06/25	Manganese, dissolved	mg/L	<0.0025
UA	MW-352	C	2019/09/26	Manganese, dissolved	mg/L	<0.0025
UA	MW-352	C	2019/12/19	Manganese, dissolved	mg/L	<0.0025
UA	MW-352	C	2020/03/27	Manganese, dissolved	mg/L	<0.0025
UA	MW-352	C	2020/06/23	Manganese, dissolved	mg/L	0.0312
UA	MW-352	C	2020/09/17	Manganese, dissolved	mg/L	0.0210
UA	MW-352	C	2020/12/16	Manganese, dissolved	mg/L	0.0107
UA	MW-352	C	2021/03/09	Manganese, dissolved	mg/L	0.0113
UA	MW-352	C	2021/07/19	Manganese, dissolved	mg/L	0.00860
UA	MW-352	C	2021/09/14	Manganese, dissolved	mg/L	0.0161
UA	MW-352	C	2021/12/14	Manganese, dissolved	mg/L	0.0109
UA	MW-352	C	2022/03/28	Manganese, dissolved	mg/L	0.00870
UA	MW-352	C	2022/06/14	Manganese, dissolved	mg/L	0.0103
UA	MW-352	C	2022/09/29	Manganese, dissolved	mg/L	0.00400
UA	MW-352	C	2022/12/06	Manganese, dissolved	mg/L	0.00870
UA	MW-352	C	2023/03/15	Manganese, dissolved	mg/L	0.0111
UA	MW-352	C	2023/05/18	Manganese, dissolved	mg/L	0.0152
UA	MW-352	C	2023/08/04	Manganese, dissolved	mg/L	0.0334
UA	MW-352	C	2023/10/31	Manganese, dissolved	mg/L	0.0423
UA	MW-352	C	2023/05/18	Phosphate, dissolved	mg/L	0.221
UA	MW-352	C	2023/08/04	Phosphate, dissolved	mg/L	0.0740
UA	MW-352	C	2023/03/15	Potassium, total	mg/L	3.61
UA	MW-352	C	2023/05/18	Potassium, total	mg/L	3.77
UA	MW-352	C	2023/08/04	Potassium, total	mg/L	3.83
UA	MW-352	C	2023/10/31	Potassium, total	mg/L	3.78
UA	MW-352	C	2023/05/18	Silicon, dissolved	mg/L	7.14
UA	MW-352	C	2023/08/04	Silicon, dissolved	mg/L	6.33
UA	MW-352	C	2023/03/15	Sodium, total	mg/L	234
UA	MW-352	C	2023/05/18	Sodium, total	mg/L	263
UA	MW-352	C	2023/08/04	Sodium, total	mg/L	262
UA	MW-352	C	2023/10/31	Sodium, total	mg/L	241

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UA	MW-352	C	2013/09/16	Sulfate, total	mg/L	<5
UA	MW-352	C	2023/03/15	Sulfate, total	mg/L	6.00
UA	MW-352	C	2023/05/18	Sulfate, total	mg/L	<6
UA	MW-352	C	2023/07/10	Sulfate, total	mg/L	7.00
UA	MW-352	C	2023/08/04	Sulfate, total	mg/L	7.00
UA	MW-352	C	2023/10/31	Sulfate, total	mg/L	8.00
UA	MW-352	C	2013/09/16	Temperature (Celsius)	degrees C	14.6
UA	MW-352	C	2013/11/20	Temperature (Celsius)	degrees C	13.3
UA	MW-352	C	2014/02/19	Temperature (Celsius)	degrees C	11.5
UA	MW-352	C	2014/06/12	Temperature (Celsius)	degrees C	14.3
UA	MW-352	C	2015/03/25	Temperature (Celsius)	degrees C	13.3
UA	MW-352	C	2015/06/24	Temperature (Celsius)	degrees C	14.6
UA	MW-352	C	2015/09/25	Temperature (Celsius)	degrees C	15.3
UA	MW-352	C	2015/11/10	Temperature (Celsius)	degrees C	13.8
UA	MW-352	C	2016/03/22	Temperature (Celsius)	degrees C	14.4
UA	MW-352	C	2016/06/23	Temperature (Celsius)	degrees C	16.6
UA	MW-352	C	2016/09/29	Temperature (Celsius)	degrees C	14.5
UA	MW-352	C	2016/12/21	Temperature (Celsius)	degrees C	13.2
UA	MW-352	C	2017/03/16	Temperature (Celsius)	degrees C	13.2
UA	MW-352	C	2017/06/21	Temperature (Celsius)	degrees C	15.6
UA	MW-352	C	2017/09/21	Temperature (Celsius)	degrees C	14.3
UA	MW-352	C	2017/11/28	Temperature (Celsius)	degrees C	14.8
UA	MW-352	C	2018/03/20	Temperature (Celsius)	degrees C	12.9
UA	MW-352	C	2018/06/27	Temperature (Celsius)	degrees C	14.9
UA	MW-352	C	2018/09/26	Temperature (Celsius)	degrees C	15.4
UA	MW-352	C	2018/12/18	Temperature (Celsius)	degrees C	13.0
UA	MW-352	C	2019/03/20	Temperature (Celsius)	degrees C	12.5
UA	MW-352	C	2019/06/25	Temperature (Celsius)	degrees C	14.6
UA	MW-352	C	2019/09/26	Temperature (Celsius)	degrees C	15.1
UA	MW-352	C	2019/12/19	Temperature (Celsius)	degrees C	13.1
UA	MW-352	C	2020/03/27	Temperature (Celsius)	degrees C	13.8
UA	MW-352	C	2020/06/23	Temperature (Celsius)	degrees C	14.6
UA	MW-352	C	2020/09/17	Temperature (Celsius)	degrees C	15.4
UA	MW-352	C	2020/12/16	Temperature (Celsius)	degrees C	12.2
UA	MW-352	C	2021/03/09	Temperature (Celsius)	degrees C	13.4
UA	MW-352	C	2021/07/19	Temperature (Celsius)	degrees C	16.8
UA	MW-352	C	2021/09/14	Temperature (Celsius)	degrees C	19.9
UA	MW-352	C	2021/12/14	Temperature (Celsius)	degrees C	13.4
UA	MW-352	C	2022/03/28	Temperature (Celsius)	degrees C	11.9
UA	MW-352	C	2022/06/14	Temperature (Celsius)	degrees C	19.0
UA	MW-352	C	2022/09/29	Temperature (Celsius)	degrees C	16.8
UA	MW-352	C	2022/12/06	Temperature (Celsius)	degrees C	12.8
UA	MW-352	C	2023/03/15	Temperature (Celsius)	degrees C	13.1
UA	MW-352	C	2023/05/18	Temperature (Celsius)	degrees C	14.8
UA	MW-352	C	2023/07/10	Temperature (Celsius)	degrees C	19.5
UA	MW-352	C	2023/08/04	Temperature (Celsius)	degrees C	16.4
UA	MW-352	C	2023/10/31	Temperature (Celsius)	degrees C	14.1
UA	MW-352	C	2013/09/16	Total Dissolved Solids	mg/L	1,130
UA	MW-352	C	2013/11/20	Total Dissolved Solids	mg/L	996
UA	MW-352	C	2014/02/19	Total Dissolved Solids	mg/L	768
UA	MW-352	C	2014/06/12	Total Dissolved Solids	mg/L	1,090
UA	MW-352	C	2015/03/25	Total Dissolved Solids	mg/L	874
UA	MW-352	C	2015/06/24	Total Dissolved Solids	mg/L	1,100
UA	MW-352	C	2015/09/25	Total Dissolved Solids	mg/L	1,210
UA	MW-352	C	2015/11/10	Total Dissolved Solids	mg/L	1,100
UA	MW-352	C	2016/03/22	Total Dissolved Solids	mg/L	1,130
UA	MW-352	C	2016/06/23	Total Dissolved Solids	mg/L	1,200

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UA	MW-352	C	2016/09/29	Total Dissolved Solids	mg/L	744
UA	MW-352	C	2016/12/21	Total Dissolved Solids	mg/L	850
UA	MW-352	C	2017/03/16	Total Dissolved Solids	mg/L	1,120
UA	MW-352	C	2017/06/21	Total Dissolved Solids	mg/L	1,210
UA	MW-352	C	2017/09/21	Total Dissolved Solids	mg/L	1,090
UA	MW-352	C	2017/11/28	Total Dissolved Solids	mg/L	1,220
UA	MW-352	C	2018/03/20	Total Dissolved Solids	mg/L	1,100
UA	MW-352	C	2018/06/27	Total Dissolved Solids	mg/L	1,210
UA	MW-352	C	2018/09/26	Total Dissolved Solids	mg/L	1,360
UA	MW-352	C	2018/12/18	Total Dissolved Solids	mg/L	1,120
UA	MW-352	C	2019/03/20	Total Dissolved Solids	mg/L	1,150
UA	MW-352	C	2019/06/25	Total Dissolved Solids	mg/L	1,240
UA	MW-352	C	2019/09/26	Total Dissolved Solids	mg/L	1,320
UA	MW-352	C	2019/12/19	Total Dissolved Solids	mg/L	1,180
UA	MW-352	C	2020/03/27	Total Dissolved Solids	mg/L	1,130
UA	MW-352	C	2020/06/23	Total Dissolved Solids	mg/L	1,290
UA	MW-352	C	2020/09/17	Total Dissolved Solids	mg/L	1,230
UA	MW-352	C	2020/12/16	Total Dissolved Solids	mg/L	1,160
UA	MW-352	C	2021/03/09	Total Dissolved Solids	mg/L	1,210
UA	MW-352	C	2021/07/19	Total Dissolved Solids	mg/L	1,280
UA	MW-352	C	2021/09/14	Total Dissolved Solids	mg/L	1,140
UA	MW-352	C	2021/12/14	Total Dissolved Solids	mg/L	1,100
UA	MW-352	C	2022/03/28	Total Dissolved Solids	mg/L	1,090
UA	MW-352	C	2022/06/14	Total Dissolved Solids	mg/L	1,220
UA	MW-352	C	2022/09/29	Total Dissolved Solids	mg/L	978
UA	MW-352	C	2022/12/06	Total Dissolved Solids	mg/L	1,160
UA	MW-352	C	2023/03/15	Total Dissolved Solids	mg/L	1,080
UA	MW-352	C	2023/05/18	Total Dissolved Solids	mg/L	1,270
UA	MW-352	C	2023/07/10	Total Dissolved Solids	mg/L	1,330
UA	MW-352	C	2023/08/04	Total Dissolved Solids	mg/L	1,280
UA	MW-352	C	2023/10/31	Total Dissolved Solids	mg/L	1,170
UA	MW-366	C	2016/01/20	pH (field)	SU	6.7
UA	MW-366	C	2016/03/23	pH (field)	SU	7.1
UA	MW-366	C	2016/06/22	pH (field)	SU	7.2
UA	MW-366	C	2016/09/20	pH (field)	SU	7.1
UA	MW-366	C	2016/12/22	pH (field)	SU	7.0
UA	MW-366	C	2017/03/15	pH (field)	SU	7.5
UA	MW-366	C	2017/06/20	pH (field)	SU	7.0
UA	MW-366	C	2017/07/26	pH (field)	SU	7.2
UA	MW-366	C	2017/11/27	pH (field)	SU	7.3
UA	MW-366	C	2018/06/26	pH (field)	SU	6.9
UA	MW-366	C	2018/09/25	pH (field)	SU	7.0
UA	MW-366	C	2019/03/19	pH (field)	SU	7.0
UA	MW-366	C	2019/09/25	pH (field)	SU	6.7
UA	MW-366	C	2020/03/26	pH (field)	SU	6.9
UA	MW-366	C	2020/09/16	pH (field)	SU	7.0
UA	MW-366	C	2021/03/12	pH (field)	SU	7.0
UA	MW-366	C	2021/09/15	pH (field)	SU	6.8
UA	MW-366	C	2022/03/29	pH (field)	SU	6.8
UA	MW-366	C	2022/09/30	pH (field)	SU	6.8
UA	MW-366	C	2023/03/14	pH (field)	SU	6.7
UA	MW-366	C	2023/05/16	pH (field)	SU	6.9
UA	MW-366	C	2023/08/04	pH (field)	SU	6.9
UA	MW-366	C	2023/11/02	pH (field)	SU	6.9
UA	MW-366	C	2016/01/20	Oxidation Reduction Potential	mV	81.0
UA	MW-366	C	2016/03/23	Oxidation Reduction Potential	mV	63.0
UA	MW-366	C	2016/06/22	Oxidation Reduction Potential	mV	-17.0

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UA	MW-366	C	2016/09/20	Oxidation Reduction Potential	mV	-46.0
UA	MW-366	C	2016/12/22	Oxidation Reduction Potential	mV	-2.00
UA	MW-366	C	2017/03/15	Oxidation Reduction Potential	mV	3.00
UA	MW-366	C	2017/06/20	Oxidation Reduction Potential	mV	48.0
UA	MW-366	C	2017/07/26	Oxidation Reduction Potential	mV	111
UA	MW-366	C	2017/11/27	Oxidation Reduction Potential	mV	139
UA	MW-366	C	2018/06/26	Oxidation Reduction Potential	mV	25.0
UA	MW-366	C	2018/09/25	Oxidation Reduction Potential	mV	45.0
UA	MW-366	C	2019/03/19	Oxidation Reduction Potential	mV	-60.0
UA	MW-366	C	2019/09/25	Oxidation Reduction Potential	mV	-106
UA	MW-366	C	2020/03/26	Oxidation Reduction Potential	mV	60.0
UA	MW-366	C	2020/09/16	Oxidation Reduction Potential	mV	-66.0
UA	MW-366	C	2021/03/12	Oxidation Reduction Potential	mV	-18.0
UA	MW-366	C	2021/09/15	Oxidation Reduction Potential	mV	-17.0
UA	MW-366	C	2022/03/29	Oxidation Reduction Potential	mV	-17.0
UA	MW-366	C	2022/09/30	Oxidation Reduction Potential	mV	138
UA	MW-366	C	2023/03/14	Oxidation Reduction Potential	mV	5.90
UA	MW-366	C	2023/05/16	Oxidation Reduction Potential	mV	95.0
UA	MW-366	C	2023/08/04	Oxidation Reduction Potential	mV	92.0
UA	MW-366	C	2023/11/02	Oxidation Reduction Potential	mV	9.00
UA	MW-366	C	2016/01/20	Eh	V	0.28
UA	MW-366	C	2016/03/23	Eh	V	0.26
UA	MW-366	C	2016/06/22	Eh	V	0.17
UA	MW-366	C	2016/09/20	Eh	V	0.15
UA	MW-366	C	2016/12/22	Eh	V	0.19
UA	MW-366	C	2017/03/15	Eh	V	0.20
UA	MW-366	C	2017/06/20	Eh	V	0.24
UA	MW-366	C	2017/07/26	Eh	V	0.30
UA	MW-366	C	2017/11/27	Eh	V	0.33
UA	MW-366	C	2018/06/26	Eh	V	0.22
UA	MW-366	C	2018/09/25	Eh	V	0.24
UA	MW-366	C	2019/03/19	Eh	V	0.14
UA	MW-366	C	2019/09/25	Eh	V	0.088
UA	MW-366	C	2020/03/26	Eh	V	0.26
UA	MW-366	C	2020/09/16	Eh	V	0.13
UA	MW-366	C	2021/03/12	Eh	V	0.18
UA	MW-366	C	2021/09/15	Eh	V	0.18
UA	MW-366	C	2022/03/29	Eh	V	0.18
UA	MW-366	C	2022/09/30	Eh	V	0.33
UA	MW-366	C	2023/03/14	Eh	V	0.20
UA	MW-366	C	2023/05/16	Eh	V	0.29
UA	MW-366	C	2023/08/04	Eh	V	0.29
UA	MW-366	C	2023/11/02	Eh	V	0.20
UA	MW-366	C	2017/07/26	Alkalinity, bicarbonate	mg/L CaCO3	412
UA	MW-366	C	2020/03/26	Alkalinity, bicarbonate	mg/L CaCO3	314
UA	MW-366	C	2020/09/16	Alkalinity, bicarbonate	mg/L CaCO3	324
UA	MW-366	C	2021/03/12	Alkalinity, bicarbonate	mg/L CaCO3	280
UA	MW-366	C	2021/09/15	Alkalinity, bicarbonate	mg/L CaCO3	313
UA	MW-366	C	2022/03/29	Alkalinity, bicarbonate	mg/L CaCO3	340
UA	MW-366	C	2022/09/30	Alkalinity, bicarbonate	mg/L CaCO3	321
UA	MW-366	C	2023/03/14	Alkalinity, bicarbonate	mg/L CaCO3	350
UA	MW-366	C	2023/05/16	Alkalinity, bicarbonate	mg/L CaCO3	308
UA	MW-366	C	2023/08/04	Alkalinity, bicarbonate	mg/L CaCO3	315
UA	MW-366	C	2023/11/02	Alkalinity, bicarbonate	mg/L CaCO3	326
UA	MW-366	C	2016/01/20	Barium, total	mg/L	0.0793
UA	MW-366	C	2016/03/23	Barium, total	mg/L	0.0827
UA	MW-366	C	2016/06/22	Barium, total	mg/L	0.0817

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UA	MW-366	C	2016/09/20	Barium, total	mg/L	0.110
UA	MW-366	C	2016/12/22	Barium, total	mg/L	0.0762
UA	MW-366	C	2017/03/15	Barium, total	mg/L	0.0764
UA	MW-366	C	2017/06/20	Barium, total	mg/L	0.0770
UA	MW-366	C	2017/07/26	Barium, total	mg/L	0.0696
UA	MW-366	C	2018/06/26	Barium, total	mg/L	0.0441
UA	MW-366	C	2018/09/25	Barium, total	mg/L	0.0623
UA	MW-366	C	2019/03/19	Barium, total	mg/L	0.0348
UA	MW-366	C	2019/09/25	Barium, total	mg/L	0.0617
UA	MW-366	C	2020/03/26	Barium, total	mg/L	0.0322
UA	MW-366	C	2020/09/16	Barium, total	mg/L	0.0391
UA	MW-366	C	2021/03/12	Barium, total	mg/L	0.0424
UA	MW-366	C	2021/09/15	Barium, total	mg/L	0.0507
UA	MW-366	C	2022/03/29	Barium, total	mg/L	0.0753
UA	MW-366	C	2022/09/30	Barium, total	mg/L	0.0607
UA	MW-366	C	2023/03/14	Barium, total	mg/L	0.0565
UA	MW-366	C	2023/05/16	Barium, total	mg/L	0.0305
UA	MW-366	C	2023/08/04	Barium, total	mg/L	0.0348
UA	MW-366	C	2023/11/02	Barium, total	mg/L	0.0547
UA	MW-366	C	2016/01/20	Boron, total	mg/L	1.42
UA	MW-366	C	2016/03/23	Boron, total	mg/L	1.51
UA	MW-366	C	2016/06/22	Boron, total	mg/L	1.30
UA	MW-366	C	2016/09/20	Boron, total	mg/L	2.31
UA	MW-366	C	2016/12/22	Boron, total	mg/L	1.69
UA	MW-366	C	2017/03/15	Boron, total	mg/L	1.67
UA	MW-366	C	2017/06/20	Boron, total	mg/L	1.66
UA	MW-366	C	2017/07/26	Boron, total	mg/L	1.66
UA	MW-366	C	2017/11/27	Boron, total	mg/L	1.79
UA	MW-366	C	2018/06/26	Boron, total	mg/L	1.53
UA	MW-366	C	2018/09/25	Boron, total	mg/L	1.38
UA	MW-366	C	2019/03/19	Boron, total	mg/L	1.37
UA	MW-366	C	2019/09/25	Boron, total	mg/L	1.50
UA	MW-366	C	2020/03/26	Boron, total	mg/L	1.68
UA	MW-366	C	2020/09/16	Boron, total	mg/L	1.64
UA	MW-366	C	2021/03/12	Boron, total	mg/L	1.19
UA	MW-366	C	2021/09/15	Boron, total	mg/L	1.67
UA	MW-366	C	2022/03/29	Boron, total	mg/L	1.87
UA	MW-366	C	2022/09/30	Boron, total	mg/L	2.70
UA	MW-366	C	2023/03/14	Boron, total	mg/L	2.56
UA	MW-366	C	2023/05/16	Boron, total	mg/L	1.74
UA	MW-366	C	2023/08/04	Boron, total	mg/L	1.63
UA	MW-366	C	2023/11/02	Boron, total	mg/L	1.81
UA	MW-366	C	2016/01/20	Calcium, total	mg/L	74.5
UA	MW-366	C	2016/03/23	Calcium, total	mg/L	72.9
UA	MW-366	C	2016/06/22	Calcium, total	mg/L	70.4
UA	MW-366	C	2016/09/20	Calcium, total	mg/L	103
UA	MW-366	C	2016/12/22	Calcium, total	mg/L	67.7
UA	MW-366	C	2017/03/15	Calcium, total	mg/L	74.4
UA	MW-366	C	2017/06/20	Calcium, total	mg/L	70.1
UA	MW-366	C	2017/07/26	Calcium, total	mg/L	73.0
UA	MW-366	C	2017/11/27	Calcium, total	mg/L	108
UA	MW-366	C	2018/06/26	Calcium, total	mg/L	141
UA	MW-366	C	2018/09/25	Calcium, total	mg/L	127
UA	MW-366	C	2019/03/19	Calcium, total	mg/L	146
UA	MW-366	C	2019/09/25	Calcium, total	mg/L	166
UA	MW-366	C	2020/03/26	Calcium, total	mg/L	168
UA	MW-366	C	2020/09/16	Calcium, total	mg/L	175

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UA	MW-366	C	2021/03/12	Calcium, total	mg/L	163
UA	MW-366	C	2021/09/15	Calcium, total	mg/L	181
UA	MW-366	C	2022/03/29	Calcium, total	mg/L	186
UA	MW-366	C	2022/09/30	Calcium, total	mg/L	227
UA	MW-366	C	2023/03/14	Calcium, total	mg/L	244
UA	MW-366	C	2023/05/16	Calcium, total	mg/L	187
UA	MW-366	C	2023/08/04	Calcium, total	mg/L	184
UA	MW-366	C	2023/11/02	Calcium, total	mg/L	177
UA	MW-366	C	2016/01/20	Chloride, total	mg/L	9.00
UA	MW-366	C	2016/03/23	Chloride, total	mg/L	8.00
UA	MW-366	C	2016/06/22	Chloride, total	mg/L	12.0
UA	MW-366	C	2016/09/20	Chloride, total	mg/L	17.0
UA	MW-366	C	2016/12/22	Chloride, total	mg/L	14.0
UA	MW-366	C	2017/03/15	Chloride, total	mg/L	14.0
UA	MW-366	C	2017/06/20	Chloride, total	mg/L	16.0
UA	MW-366	C	2017/07/26	Chloride, total	mg/L	18.0
UA	MW-366	C	2017/11/27	Chloride, total	mg/L	31.0
UA	MW-366	C	2018/06/26	Chloride, total	mg/L	50.0
UA	MW-366	C	2018/09/25	Chloride, total	mg/L	47.0
UA	MW-366	C	2019/03/19	Chloride, total	mg/L	43.0
UA	MW-366	C	2019/09/25	Chloride, total	mg/L	47.0
UA	MW-366	C	2020/03/26	Chloride, total	mg/L	47.0
UA	MW-366	C	2020/09/16	Chloride, total	mg/L	53.0
UA	MW-366	C	2021/03/12	Chloride, total	mg/L	39.0
UA	MW-366	C	2021/09/15	Chloride, total	mg/L	47.0
UA	MW-366	C	2022/03/29	Chloride, total	mg/L	46.0
UA	MW-366	C	2022/09/30	Chloride, total	mg/L	56.0
UA	MW-366	C	2023/03/14	Chloride, total	mg/L	55.0
UA	MW-366	C	2023/05/16	Chloride, total	mg/L	48.0
UA	MW-366	C	2023/08/04	Chloride, total	mg/L	47.0
UA	MW-366	C	2023/11/02	Chloride, total	mg/L	42.0
UA	MW-366	C	2023/05/16	Iron, dissolved	mg/L	<0.02
UA	MW-366	C	2023/08/04	Iron, dissolved	mg/L	<0.012
UA	MW-366	C	2017/07/26	Magnesium, total	mg/L	44.6
UA	MW-366	C	2020/03/26	Magnesium, total	mg/L	73.2
UA	MW-366	C	2020/09/16	Magnesium, total	mg/L	87.7
UA	MW-366	C	2021/03/12	Magnesium, total	mg/L	66.8
UA	MW-366	C	2021/09/15	Magnesium, total	mg/L	81.6
UA	MW-366	C	2022/03/29	Magnesium, total	mg/L	105
UA	MW-366	C	2022/09/30	Magnesium, total	mg/L	98.4
UA	MW-366	C	2023/03/14	Magnesium, total	mg/L	110
UA	MW-366	C	2023/05/16	Magnesium, total	mg/L	78.2
UA	MW-366	C	2023/08/04	Magnesium, total	mg/L	82.3
UA	MW-366	C	2023/11/02	Magnesium, total	mg/L	84.3
UA	MW-366	C	2023/05/16	Manganese, dissolved	mg/L	0.0281
UA	MW-366	C	2023/08/04	Manganese, dissolved	mg/L	0.0169
UA	MW-366	C	2023/05/16	Phosphate, dissolved	mg/L	0.0150
UA	MW-366	C	2023/08/04	Phosphate, dissolved	mg/L	0.0340
UA	MW-366	C	2017/07/26	Potassium, total	mg/L	3.85
UA	MW-366	C	2020/03/26	Potassium, total	mg/L	5.15
UA	MW-366	C	2020/09/16	Potassium, total	mg/L	5.45
UA	MW-366	C	2021/03/12	Potassium, total	mg/L	3.91
UA	MW-366	C	2021/09/15	Potassium, total	mg/L	4.39
UA	MW-366	C	2022/03/29	Potassium, total	mg/L	5.35
UA	MW-366	C	2022/09/30	Potassium, total	mg/L	4.65
UA	MW-366	C	2023/03/14	Potassium, total	mg/L	4.44
UA	MW-366	C	2023/05/16	Potassium, total	mg/L	4.05

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UA	MW-366	C	2023/08/04	Potassium, total	mg/L	4.05
UA	MW-366	C	2023/11/02	Potassium, total	mg/L	4.39
UA	MW-366	C	2023/05/16	Silicon, dissolved	mg/L	8.80
UA	MW-366	C	2023/08/04	Silicon, dissolved	mg/L	7.81
UA	MW-366	C	2017/07/26	Sodium, total	mg/L	57.5
UA	MW-366	C	2020/03/26	Sodium, total	mg/L	74.3
UA	MW-366	C	2020/09/16	Sodium, total	mg/L	81.8
UA	MW-366	C	2021/03/12	Sodium, total	mg/L	59.5
UA	MW-366	C	2021/09/15	Sodium, total	mg/L	63.3
UA	MW-366	C	2022/03/29	Sodium, total	mg/L	76.8
UA	MW-366	C	2022/09/30	Sodium, total	mg/L	68.2
UA	MW-366	C	2023/03/14	Sodium, total	mg/L	70.0
UA	MW-366	C	2023/05/16	Sodium, total	mg/L	61.6
UA	MW-366	C	2023/08/04	Sodium, total	mg/L	56.9
UA	MW-366	C	2023/11/02	Sodium, total	mg/L	63.4
UA	MW-366	C	2016/01/20	Sulfate, total	mg/L	38.0
UA	MW-366	C	2016/03/23	Sulfate, total	mg/L	33.0
UA	MW-366	C	2016/06/22	Sulfate, total	mg/L	40.0
UA	MW-366	C	2016/09/20	Sulfate, total	mg/L	49.0
UA	MW-366	C	2016/12/22	Sulfate, total	mg/L	46.0
UA	MW-366	C	2017/03/15	Sulfate, total	mg/L	46.0
UA	MW-366	C	2017/06/20	Sulfate, total	mg/L	64.0
UA	MW-366	C	2017/07/26	Sulfate, total	mg/L	77.0
UA	MW-366	C	2017/11/27	Sulfate, total	mg/L	195
UA	MW-366	C	2018/06/26	Sulfate, total	mg/L	526
UA	MW-366	C	2018/09/25	Sulfate, total	mg/L	432
UA	MW-366	C	2019/03/19	Sulfate, total	mg/L	397
UA	MW-366	C	2019/09/25	Sulfate, total	mg/L	464
UA	MW-366	C	2020/03/26	Sulfate, total	mg/L	488
UA	MW-366	C	2020/09/16	Sulfate, total	mg/L	521
UA	MW-366	C	2021/03/12	Sulfate, total	mg/L	360
UA	MW-366	C	2021/09/15	Sulfate, total	mg/L	597
UA	MW-366	C	2022/03/29	Sulfate, total	mg/L	583
UA	MW-366	C	2022/09/30	Sulfate, total	mg/L	700
UA	MW-366	C	2023/03/14	Sulfate, total	mg/L	699
UA	MW-366	C	2023/05/16	Sulfate, total	mg/L	502
UA	MW-366	C	2023/08/04	Sulfate, total	mg/L	496
UA	MW-366	C	2023/11/02	Sulfate, total	mg/L	487
UA	MW-366	C	2016/01/20	Temperature (Celsius)	degrees C	10.2
UA	MW-366	C	2016/03/23	Temperature (Celsius)	degrees C	14.7
UA	MW-366	C	2016/06/22	Temperature (Celsius)	degrees C	22.9
UA	MW-366	C	2016/09/20	Temperature (Celsius)	degrees C	21.1
UA	MW-366	C	2016/12/22	Temperature (Celsius)	degrees C	14.0
UA	MW-366	C	2017/03/15	Temperature (Celsius)	degrees C	12.6
UA	MW-366	C	2017/06/20	Temperature (Celsius)	degrees C	19.4
UA	MW-366	C	2017/07/26	Temperature (Celsius)	degrees C	23.6
UA	MW-366	C	2017/11/27	Temperature (Celsius)	degrees C	17.6
UA	MW-366	C	2018/06/26	Temperature (Celsius)	degrees C	20.6
UA	MW-366	C	2018/09/25	Temperature (Celsius)	degrees C	16.4
UA	MW-366	C	2019/03/19	Temperature (Celsius)	degrees C	14.8
UA	MW-366	C	2019/09/25	Temperature (Celsius)	degrees C	16.5
UA	MW-366	C	2020/03/26	Temperature (Celsius)	degrees C	14.1
UA	MW-366	C	2020/09/16	Temperature (Celsius)	degrees C	15.4
UA	MW-366	C	2021/03/12	Temperature (Celsius)	degrees C	13.4
UA	MW-366	C	2021/09/15	Temperature (Celsius)	degrees C	16.6
UA	MW-366	C	2022/03/29	Temperature (Celsius)	degrees C	13.0
UA	MW-366	C	2022/09/30	Temperature (Celsius)	degrees C	16.6

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UA	MW-366	C	2023/03/14	Temperature (Celsius)	degrees C	13.5
UA	MW-366	C	2023/05/16	Temperature (Celsius)	degrees C	14.5
UA	MW-366	C	2023/08/04	Temperature (Celsius)	degrees C	15.4
UA	MW-366	C	2023/11/02	Temperature (Celsius)	degrees C	15.7
UA	MW-366	C	2016/01/20	Total Dissolved Solids	mg/L	416
UA	MW-366	C	2016/03/23	Total Dissolved Solids	mg/L	450
UA	MW-366	C	2016/06/22	Total Dissolved Solids	mg/L	434
UA	MW-366	C	2016/09/20	Total Dissolved Solids	mg/L	398
UA	MW-366	C	2016/12/22	Total Dissolved Solids	mg/L	430
UA	MW-366	C	2017/03/15	Total Dissolved Solids	mg/L	478
UA	MW-366	C	2017/06/20	Total Dissolved Solids	mg/L	474
UA	MW-366	C	2017/07/26	Total Dissolved Solids	mg/L	474
UA	MW-366	C	2017/11/27	Total Dissolved Solids	mg/L	740
UA	MW-366	C	2018/06/26	Total Dissolved Solids	mg/L	1,060
UA	MW-366	C	2018/09/25	Total Dissolved Solids	mg/L	1,050
UA	MW-366	C	2019/03/19	Total Dissolved Solids	mg/L	1,030
UA	MW-366	C	2019/09/25	Total Dissolved Solids	mg/L	1,130
UA	MW-366	C	2020/03/26	Total Dissolved Solids	mg/L	1,090
UA	MW-366	C	2020/09/16	Total Dissolved Solids	mg/L	1,100
UA	MW-366	C	2021/03/12	Total Dissolved Solids	mg/L	876
UA	MW-366	C	2021/09/15	Total Dissolved Solids	mg/L	1,140
UA	MW-366	C	2022/03/29	Total Dissolved Solids	mg/L	1,230
UA	MW-366	C	2022/09/30	Total Dissolved Solids	mg/L	1,350
UA	MW-366	C	2023/03/14	Total Dissolved Solids	mg/L	1,490
UA	MW-366	C	2023/05/16	Total Dissolved Solids	mg/L	1,160
UA	MW-366	C	2023/08/04	Total Dissolved Solids	mg/L	1,190
UA	MW-366	C	2023/11/02	Total Dissolved Solids	mg/L	1,370
UA	MW-375	C	2016/01/20	pH (field)	SU	7.7
UA	MW-375	C	2016/03/23	pH (field)	SU	7.8
UA	MW-375	C	2016/06/22	pH (field)	SU	7.9
UA	MW-375	C	2016/09/20	pH (field)	SU	7.8
UA	MW-375	C	2016/12/22	pH (field)	SU	7.8
UA	MW-375	C	2017/03/16	pH (field)	SU	7.8
UA	MW-375	C	2017/06/21	pH (field)	SU	7.7
UA	MW-375	C	2017/07/28	pH (field)	SU	7.8
UA	MW-375	C	2017/11/27	pH (field)	SU	7.9
UA	MW-375	C	2018/06/27	pH (field)	SU	7.6
UA	MW-375	C	2018/09/25	pH (field)	SU	7.8
UA	MW-375	C	2019/03/20	pH (field)	SU	7.8
UA	MW-375	C	2019/09/25	pH (field)	SU	7.8
UA	MW-375	C	2020/03/24	pH (field)	SU	7.8
UA	MW-375	C	2020/09/16	pH (field)	SU	7.8
UA	MW-375	C	2021/03/12	pH (field)	SU	7.8
UA	MW-375	C	2021/09/14	pH (field)	SU	7.8
UA	MW-375	C	2022/03/28	pH (field)	SU	7.8
UA	MW-375	C	2022/09/30	pH (field)	SU	7.8
UA	MW-375	C	2023/03/14	pH (field)	SU	7.7
UA	MW-375	C	2023/05/18	pH (field)	SU	7.7
UA	MW-375	C	2023/08/07	pH (field)	SU	7.0
UA	MW-375	C	2023/11/03	pH (field)	SU	7.7
UA	MW-375	C	2016/01/20	Oxidation Reduction Potential	mV	24.0
UA	MW-375	C	2016/03/23	Oxidation Reduction Potential	mV	32.0
UA	MW-375	C	2016/06/22	Oxidation Reduction Potential	mV	17.0
UA	MW-375	C	2016/09/20	Oxidation Reduction Potential	mV	-15.0
UA	MW-375	C	2016/12/22	Oxidation Reduction Potential	mV	-27.0
UA	MW-375	C	2017/03/16	Oxidation Reduction Potential	mV	71.0
UA	MW-375	C	2017/06/21	Oxidation Reduction Potential	mV	18.0

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UA	MW-375	C	2017/07/28	Oxidation Reduction Potential	mV	47.0
UA	MW-375	C	2017/11/27	Oxidation Reduction Potential	mV	79.0
UA	MW-375	C	2018/06/27	Oxidation Reduction Potential	mV	149
UA	MW-375	C	2018/09/25	Oxidation Reduction Potential	mV	131
UA	MW-375	C	2019/03/20	Oxidation Reduction Potential	mV	-12.0
UA	MW-375	C	2019/09/25	Oxidation Reduction Potential	mV	24.0
UA	MW-375	C	2020/03/24	Oxidation Reduction Potential	mV	13.0
UA	MW-375	C	2020/09/16	Oxidation Reduction Potential	mV	-97.0
UA	MW-375	C	2021/03/12	Oxidation Reduction Potential	mV	-2.00
UA	MW-375	C	2021/09/14	Oxidation Reduction Potential	mV	-106
UA	MW-375	C	2022/03/28	Oxidation Reduction Potential	mV	-63.0
UA	MW-375	C	2022/09/30	Oxidation Reduction Potential	mV	61.0
UA	MW-375	C	2023/03/14	Oxidation Reduction Potential	mV	-68.3
UA	MW-375	C	2023/05/18	Oxidation Reduction Potential	mV	7.00
UA	MW-375	C	2023/08/07	Oxidation Reduction Potential	mV	160
UA	MW-375	C	2023/11/03	Oxidation Reduction Potential	mV	-3.00
UA	MW-375	C	2016/01/20	Eh	V	0.22
UA	MW-375	C	2016/03/23	Eh	V	0.23
UA	MW-375	C	2016/06/22	Eh	V	0.21
UA	MW-375	C	2016/09/20	Eh	V	0.17
UA	MW-375	C	2016/12/22	Eh	V	0.17
UA	MW-375	C	2017/03/16	Eh	V	0.27
UA	MW-375	C	2017/06/21	Eh	V	0.21
UA	MW-375	C	2017/07/28	Eh	V	0.24
UA	MW-375	C	2017/11/27	Eh	V	0.27
UA	MW-375	C	2018/06/27	Eh	V	0.34
UA	MW-375	C	2018/09/25	Eh	V	0.32
UA	MW-375	C	2019/03/20	Eh	V	0.18
UA	MW-375	C	2019/09/25	Eh	V	0.22
UA	MW-375	C	2020/03/24	Eh	V	0.21
UA	MW-375	C	2020/09/16	Eh	V	0.098
UA	MW-375	C	2021/03/12	Eh	V	0.19
UA	MW-375	C	2021/09/14	Eh	V	0.089
UA	MW-375	C	2022/03/28	Eh	V	0.13
UA	MW-375	C	2022/09/30	Eh	V	0.26
UA	MW-375	C	2023/03/14	Eh	V	0.13
UA	MW-375	C	2023/05/18	Eh	V	0.20
UA	MW-375	C	2023/08/07	Eh	V	0.35
UA	MW-375	C	2023/11/03	Eh	V	0.19
UA	MW-375	C	2017/07/28	Alkalinity, bicarbonate	mg/L CaCO3	620
UA	MW-375	C	2020/03/24	Alkalinity, bicarbonate	mg/L CaCO3	572
UA	MW-375	C	2020/09/16	Alkalinity, bicarbonate	mg/L CaCO3	586
UA	MW-375	C	2021/03/12	Alkalinity, bicarbonate	mg/L CaCO3	580
UA	MW-375	C	2021/09/14	Alkalinity, bicarbonate	mg/L CaCO3	585
UA	MW-375	C	2022/03/28	Alkalinity, bicarbonate	mg/L CaCO3	591
UA	MW-375	C	2022/09/30	Alkalinity, bicarbonate	mg/L CaCO3	593
UA	MW-375	C	2023/03/14	Alkalinity, bicarbonate	mg/L CaCO3	594
UA	MW-375	C	2023/05/18	Alkalinity, bicarbonate	mg/L CaCO3	585
UA	MW-375	C	2023/08/07	Alkalinity, bicarbonate	mg/L CaCO3	605
UA	MW-375	C	2023/11/03	Alkalinity, bicarbonate	mg/L CaCO3	598
UA	MW-375	C	2022/09/30	Alkalinity, carbonate	mg/L CaCO3	6.00
UA	MW-375	C	2023/11/03	Alkalinity, carbonate	mg/L CaCO3	12.0
UA	MW-375	C	2016/01/20	Barium, total	mg/L	0.0303
UA	MW-375	C	2016/03/23	Barium, total	mg/L	0.0264
UA	MW-375	C	2016/06/22	Barium, total	mg/L	0.0247
UA	MW-375	C	2016/09/20	Barium, total	mg/L	0.0375
UA	MW-375	C	2016/12/22	Barium, total	mg/L	0.0239

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UA	MW-375	C	2017/03/16	Barium, total	mg/L	0.0237
UA	MW-375	C	2017/06/21	Barium, total	mg/L	0.0250
UA	MW-375	C	2017/07/28	Barium, total	mg/L	0.0243
UA	MW-375	C	2018/06/27	Barium, total	mg/L	0.0297
UA	MW-375	C	2018/09/25	Barium, total	mg/L	0.0263
UA	MW-375	C	2019/03/20	Barium, total	mg/L	0.0271
UA	MW-375	C	2019/09/25	Barium, total	mg/L	0.0263
UA	MW-375	C	2020/03/24	Barium, total	mg/L	0.0259
UA	MW-375	C	2020/09/16	Barium, total	mg/L	0.0238
UA	MW-375	C	2021/03/12	Barium, total	mg/L	0.0245
UA	MW-375	C	2021/09/14	Barium, total	mg/L	0.0230
UA	MW-375	C	2022/03/28	Barium, total	mg/L	0.0226
UA	MW-375	C	2022/09/30	Barium, total	mg/L	0.0312
UA	MW-375	C	2023/03/14	Barium, total	mg/L	0.0244
UA	MW-375	C	2023/05/18	Barium, total	mg/L	0.0290
UA	MW-375	C	2023/08/07	Barium, total	mg/L	0.0338
UA	MW-375	C	2023/11/03	Barium, total	mg/L	0.0211
UA	MW-375	C	2016/01/20	Boron, total	mg/L	0.979
UA	MW-375	C	2016/03/23	Boron, total	mg/L	1.13
UA	MW-375	C	2016/06/22	Boron, total	mg/L	1.27
UA	MW-375	C	2016/09/20	Boron, total	mg/L	2.06
UA	MW-375	C	2016/12/22	Boron, total	mg/L	1.32
UA	MW-375	C	2017/03/16	Boron, total	mg/L	1.24
UA	MW-375	C	2017/06/21	Boron, total	mg/L	1.37
UA	MW-375	C	2017/07/28	Boron, total	mg/L	1.23
UA	MW-375	C	2017/11/27	Boron, total	mg/L	1.26
UA	MW-375	C	2018/06/27	Boron, total	mg/L	1.46
UA	MW-375	C	2018/09/25	Boron, total	mg/L	1.34
UA	MW-375	C	2019/03/20	Boron, total	mg/L	1.38
UA	MW-375	C	2019/09/25	Boron, total	mg/L	1.39
UA	MW-375	C	2020/03/24	Boron, total	mg/L	1.50
UA	MW-375	C	2020/09/16	Boron, total	mg/L	1.44
UA	MW-375	C	2021/03/12	Boron, total	mg/L	1.51
UA	MW-375	C	2021/09/14	Boron, total	mg/L	1.33
UA	MW-375	C	2022/03/28	Boron, total	mg/L	1.54
UA	MW-375	C	2022/09/30	Boron, total	mg/L	1.75
UA	MW-375	C	2023/03/14	Boron, total	mg/L	1.40
UA	MW-375	C	2023/05/18	Boron, total	mg/L	1.45
UA	MW-375	C	2023/08/07	Boron, total	mg/L	1.78
UA	MW-375	C	2023/11/03	Boron, total	mg/L	1.35
UA	MW-375	C	2016/01/20	Calcium, total	mg/L	14.9
UA	MW-375	C	2016/03/23	Calcium, total	mg/L	12.1
UA	MW-375	C	2016/06/22	Calcium, total	mg/L	11.2
UA	MW-375	C	2016/09/20	Calcium, total	mg/L	18.1
UA	MW-375	C	2016/12/22	Calcium, total	mg/L	9.63
UA	MW-375	C	2017/03/16	Calcium, total	mg/L	9.96
UA	MW-375	C	2017/06/21	Calcium, total	mg/L	8.82
UA	MW-375	C	2017/07/28	Calcium, total	mg/L	8.97
UA	MW-375	C	2017/11/27	Calcium, total	mg/L	10.6
UA	MW-375	C	2018/06/27	Calcium, total	mg/L	24.0
UA	MW-375	C	2018/09/25	Calcium, total	mg/L	19.7
UA	MW-375	C	2019/03/20	Calcium, total	mg/L	21.0
UA	MW-375	C	2019/09/25	Calcium, total	mg/L	20.7
UA	MW-375	C	2020/03/24	Calcium, total	mg/L	24.7
UA	MW-375	C	2020/09/16	Calcium, total	mg/L	13.8
UA	MW-375	C	2021/03/12	Calcium, total	mg/L	14.6
UA	MW-375	C	2021/09/14	Calcium, total	mg/L	11.8

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UA	MW-375	C	2022/03/28	Calcium, total	mg/L	11.0
UA	MW-375	C	2022/09/30	Calcium, total	mg/L	12.7
UA	MW-375	C	2023/03/14	Calcium, total	mg/L	11.2
UA	MW-375	C	2023/05/18	Calcium, total	mg/L	13.7
UA	MW-375	C	2023/08/07	Calcium, total	mg/L	9.80
UA	MW-375	C	2023/11/03	Calcium, total	mg/L	10.7
UA	MW-375	C	2016/01/20	Chloride, total	mg/L	77.0
UA	MW-375	C	2016/03/23	Chloride, total	mg/L	77.0
UA	MW-375	C	2016/06/22	Chloride, total	mg/L	90.0
UA	MW-375	C	2016/09/20	Chloride, total	mg/L	96.0
UA	MW-375	C	2016/12/22	Chloride, total	mg/L	98.0
UA	MW-375	C	2017/03/16	Chloride, total	mg/L	93.0
UA	MW-375	C	2017/06/21	Chloride, total	mg/L	91.0
UA	MW-375	C	2017/07/28	Chloride, total	mg/L	96.0
UA	MW-375	C	2017/11/27	Chloride, total	mg/L	90.0
UA	MW-375	C	2018/06/27	Chloride, total	mg/L	103
UA	MW-375	C	2018/09/25	Chloride, total	mg/L	107
UA	MW-375	C	2019/03/20	Chloride, total	mg/L	95.0
UA	MW-375	C	2019/09/25	Chloride, total	mg/L	97.0
UA	MW-375	C	2020/03/24	Chloride, total	mg/L	105
UA	MW-375	C	2020/09/16	Chloride, total	mg/L	111
UA	MW-375	C	2021/03/12	Chloride, total	mg/L	104
UA	MW-375	C	2021/09/14	Chloride, total	mg/L	114
UA	MW-375	C	2022/03/28	Chloride, total	mg/L	106
UA	MW-375	C	2022/09/30	Chloride, total	mg/L	118
UA	MW-375	C	2023/03/14	Chloride, total	mg/L	92.0
UA	MW-375	C	2023/05/18	Chloride, total	mg/L	90.0
UA	MW-375	C	2023/08/07	Chloride, total	mg/L	90.0
UA	MW-375	C	2023/11/03	Chloride, total	mg/L	98.0
UA	MW-375	C	2023/05/18	Iron, dissolved	mg/L	<0.02
UA	MW-375	C	2023/08/07	Iron, dissolved	mg/L	<0.0115
UA	MW-375	C	2017/07/28	Magnesium, total	mg/L	5.14
UA	MW-375	C	2020/03/24	Magnesium, total	mg/L	11.8
UA	MW-375	C	2020/09/16	Magnesium, total	mg/L	7.97
UA	MW-375	C	2021/03/12	Magnesium, total	mg/L	5.98
UA	MW-375	C	2021/09/14	Magnesium, total	mg/L	6.09
UA	MW-375	C	2022/03/28	Magnesium, total	mg/L	6.41
UA	MW-375	C	2022/09/30	Magnesium, total	mg/L	6.49
UA	MW-375	C	2023/03/14	Magnesium, total	mg/L	6.09
UA	MW-375	C	2023/05/18	Magnesium, total	mg/L	6.92
UA	MW-375	C	2023/08/07	Magnesium, total	mg/L	5.52
UA	MW-375	C	2023/11/03	Magnesium, total	mg/L	5.96
UA	MW-375	C	2023/05/18	Manganese, dissolved	mg/L	<0.0025
UA	MW-375	C	2023/08/07	Manganese, dissolved	mg/L	0.00130
UA	MW-375	C	2023/05/18	Phosphate, dissolved	mg/L	0.0310
UA	MW-375	C	2023/08/07	Phosphate, dissolved	mg/L	0.0400
UA	MW-375	C	2017/07/28	Potassium, total	mg/L	2.36
UA	MW-375	C	2020/03/24	Potassium, total	mg/L	3.26
UA	MW-375	C	2020/09/16	Potassium, total	mg/L	3.08
UA	MW-375	C	2021/03/12	Potassium, total	mg/L	2.42
UA	MW-375	C	2021/09/14	Potassium, total	mg/L	2.57
UA	MW-375	C	2022/03/28	Potassium, total	mg/L	2.78
UA	MW-375	C	2022/09/30	Potassium, total	mg/L	2.84
UA	MW-375	C	2023/03/14	Potassium, total	mg/L	2.43
UA	MW-375	C	2023/05/18	Potassium, total	mg/L	2.95
UA	MW-375	C	2023/08/07	Potassium, total	mg/L	2.74
UA	MW-375	C	2023/11/03	Potassium, total	mg/L	2.73

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UA	MW-375	C	2023/05/18	Silicon, dissolved	mg/L	3.56
UA	MW-375	C	2023/08/07	Silicon, dissolved	mg/L	3.46
UA	MW-375	C	2017/07/28	Sodium, total	mg/L	352
UA	MW-375	C	2020/03/24	Sodium, total	mg/L	388
UA	MW-375	C	2020/09/16	Sodium, total	mg/L	440
UA	MW-375	C	2021/03/12	Sodium, total	mg/L	333
UA	MW-375	C	2021/09/14	Sodium, total	mg/L	330
UA	MW-375	C	2022/03/28	Sodium, total	mg/L	388
UA	MW-375	C	2022/09/30	Sodium, total	mg/L	354
UA	MW-375	C	2023/03/14	Sodium, total	mg/L	369
UA	MW-375	C	2023/05/18	Sodium, total	mg/L	419
UA	MW-375	C	2023/08/07	Sodium, total	mg/L	383
UA	MW-375	C	2023/11/03	Sodium, total	mg/L	415
UA	MW-375	C	2016/01/20	Sulfate, total	mg/L	104
UA	MW-375	C	2016/03/23	Sulfate, total	mg/L	128
UA	MW-375	C	2016/06/22	Sulfate, total	mg/L	122
UA	MW-375	C	2016/09/20	Sulfate, total	mg/L	123
UA	MW-375	C	2016/12/22	Sulfate, total	mg/L	103
UA	MW-375	C	2017/03/16	Sulfate, total	mg/L	93.0
UA	MW-375	C	2017/06/21	Sulfate, total	mg/L	83.0
UA	MW-375	C	2017/07/28	Sulfate, total	mg/L	85.0
UA	MW-375	C	2017/11/27	Sulfate, total	mg/L	88.0
UA	MW-375	C	2018/06/27	Sulfate, total	mg/L	243
UA	MW-375	C	2018/09/25	Sulfate, total	mg/L	214
UA	MW-375	C	2019/03/20	Sulfate, total	mg/L	184
UA	MW-375	C	2019/09/25	Sulfate, total	mg/L	163
UA	MW-375	C	2020/03/24	Sulfate, total	mg/L	209
UA	MW-375	C	2020/09/16	Sulfate, total	mg/L	202
UA	MW-375	C	2021/03/12	Sulfate, total	mg/L	168
UA	MW-375	C	2021/09/14	Sulfate, total	mg/L	176
UA	MW-375	C	2022/03/28	Sulfate, total	mg/L	160
UA	MW-375	C	2022/09/30	Sulfate, total	mg/L	160
UA	MW-375	C	2023/03/14	Sulfate, total	mg/L	109
UA	MW-375	C	2023/05/18	Sulfate, total	mg/L	104
UA	MW-375	C	2023/08/07	Sulfate, total	mg/L	104
UA	MW-375	C	2023/11/03	Sulfate, total	mg/L	114
UA	MW-375	C	2016/01/20	Temperature (Celsius)	degrees C	10.4
UA	MW-375	C	2016/03/23	Temperature (Celsius)	degrees C	14.3
UA	MW-375	C	2016/06/22	Temperature (Celsius)	degrees C	24.7
UA	MW-375	C	2016/09/20	Temperature (Celsius)	degrees C	26.9
UA	MW-375	C	2016/12/22	Temperature (Celsius)	degrees C	11.6
UA	MW-375	C	2017/03/16	Temperature (Celsius)	degrees C	12.5
UA	MW-375	C	2017/06/21	Temperature (Celsius)	degrees C	18.1
UA	MW-375	C	2017/07/28	Temperature (Celsius)	degrees C	19.8
UA	MW-375	C	2017/11/27	Temperature (Celsius)	degrees C	14.9
UA	MW-375	C	2018/06/27	Temperature (Celsius)	degrees C	19.0
UA	MW-375	C	2018/09/25	Temperature (Celsius)	degrees C	20.7
UA	MW-375	C	2019/03/20	Temperature (Celsius)	degrees C	13.3
UA	MW-375	C	2019/09/25	Temperature (Celsius)	degrees C	15.6
UA	MW-375	C	2020/03/24	Temperature (Celsius)	degrees C	13.0
UA	MW-375	C	2020/09/16	Temperature (Celsius)	degrees C	15.0
UA	MW-375	C	2021/03/12	Temperature (Celsius)	degrees C	13.2
UA	MW-375	C	2021/09/14	Temperature (Celsius)	degrees C	16.2
UA	MW-375	C	2022/03/28	Temperature (Celsius)	degrees C	13.5
UA	MW-375	C	2022/09/30	Temperature (Celsius)	degrees C	14.8
UA	MW-375	C	2023/03/14	Temperature (Celsius)	degrees C	12.6
UA	MW-375	C	2023/05/18	Temperature (Celsius)	degrees C	15.0

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UA	MW-375	C	2023/08/07	Temperature (Celsius)	degrees C	15.8
UA	MW-375	C	2023/11/03	Temperature (Celsius)	degrees C	14.2
UA	MW-375	C	2016/01/20	Total Dissolved Solids	mg/L	472
UA	MW-375	C	2016/03/23	Total Dissolved Solids	mg/L	904
UA	MW-375	C	2016/06/22	Total Dissolved Solids	mg/L	934
UA	MW-375	C	2016/09/20	Total Dissolved Solids	mg/L	902
UA	MW-375	C	2016/12/22	Total Dissolved Solids	mg/L	876
UA	MW-375	C	2017/03/16	Total Dissolved Solids	mg/L	904
UA	MW-375	C	2017/06/21	Total Dissolved Solids	mg/L	916
UA	MW-375	C	2017/07/28	Total Dissolved Solids	mg/L	882
UA	MW-375	C	2017/11/27	Total Dissolved Solids	mg/L	928
UA	MW-375	C	2018/06/27	Total Dissolved Solids	mg/L	1,110
UA	MW-375	C	2018/09/25	Total Dissolved Solids	mg/L	1,100
UA	MW-375	C	2019/03/20	Total Dissolved Solids	mg/L	1,040
UA	MW-375	C	2019/09/25	Total Dissolved Solids	mg/L	1,010
UA	MW-375	C	2020/03/24	Total Dissolved Solids	mg/L	1,000
UA	MW-375	C	2020/09/16	Total Dissolved Solids	mg/L	1,010
UA	MW-375	C	2021/03/12	Total Dissolved Solids	mg/L	1,010
UA	MW-375	C	2021/09/14	Total Dissolved Solids	mg/L	976
UA	MW-375	C	2022/03/28	Total Dissolved Solids	mg/L	1,020
UA	MW-375	C	2022/09/30	Total Dissolved Solids	mg/L	1,030
UA	MW-375	C	2023/03/14	Total Dissolved Solids	mg/L	940
UA	MW-375	C	2023/05/18	Total Dissolved Solids	mg/L	950
UA	MW-375	C	2023/08/07	Total Dissolved Solids	mg/L	926
UA	MW-375	C	2023/11/03	Total Dissolved Solids	mg/L	968
UA	MW-377	C	2016/01/19	pH (field)	SU	7.5
UA	MW-377	C	2016/03/23	pH (field)	SU	7.2
UA	MW-377	C	2016/06/22	pH (field)	SU	7.2
UA	MW-377	C	2016/09/21	pH (field)	SU	7.2
UA	MW-377	C	2016/12/22	pH (field)	SU	6.9
UA	MW-377	C	2017/03/15	pH (field)	SU	7.7
UA	MW-377	C	2017/06/21	pH (field)	SU	7.1
UA	MW-377	C	2017/07/28	pH (field)	SU	7.2
UA	MW-377	C	2017/11/28	pH (field)	SU	7.0
UA	MW-377	C	2018/06/27	pH (field)	SU	7.0
UA	MW-377	C	2018/09/25	pH (field)	SU	7.2
UA	MW-377	C	2019/03/20	pH (field)	SU	7.2
UA	MW-377	C	2019/09/25	pH (field)	SU	7.0
UA	MW-377	C	2020/03/24	pH (field)	SU	7.2
UA	MW-377	C	2020/09/16	pH (field)	SU	7.2
UA	MW-377	C	2021/03/12	pH (field)	SU	7.1
UA	MW-377	C	2021/09/14	pH (field)	SU	7.1
UA	MW-377	C	2022/03/28	pH (field)	SU	7.2
UA	MW-377	C	2022/09/30	pH (field)	SU	7.1
UA	MW-377	C	2023/03/14	pH (field)	SU	7.1
UA	MW-377	C	2023/05/22	pH (field)	SU	7.0
UA	MW-377	C	2023/08/07	pH (field)	SU	7.6
UA	MW-377	C	2023/11/03	pH (field)	SU	7.2
UA	MW-377	C	2016/01/19	Oxidation Reduction Potential	mV	47.0
UA	MW-377	C	2016/03/23	Oxidation Reduction Potential	mV	-17.0
UA	MW-377	C	2016/06/22	Oxidation Reduction Potential	mV	-54.0
UA	MW-377	C	2016/09/21	Oxidation Reduction Potential	mV	-59.0
UA	MW-377	C	2016/12/22	Oxidation Reduction Potential	mV	-14.0
UA	MW-377	C	2017/03/15	Oxidation Reduction Potential	mV	-22.0
UA	MW-377	C	2017/06/21	Oxidation Reduction Potential	mV	-24.0
UA	MW-377	C	2017/07/28	Oxidation Reduction Potential	mV	-19.0
UA	MW-377	C	2017/11/28	Oxidation Reduction Potential	mV	157

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UA	MW-377	C	2018/06/27	Oxidation Reduction Potential	mV	89.0
UA	MW-377	C	2018/09/25	Oxidation Reduction Potential	mV	-20.0
UA	MW-377	C	2019/03/20	Oxidation Reduction Potential	mV	-37.0
UA	MW-377	C	2019/09/25	Oxidation Reduction Potential	mV	-2.00
UA	MW-377	C	2020/03/24	Oxidation Reduction Potential	mV	35.0
UA	MW-377	C	2020/09/16	Oxidation Reduction Potential	mV	-21.0
UA	MW-377	C	2021/03/12	Oxidation Reduction Potential	mV	44.0
UA	MW-377	C	2021/09/14	Oxidation Reduction Potential	mV	-2.00
UA	MW-377	C	2022/03/28	Oxidation Reduction Potential	mV	-17.0
UA	MW-377	C	2022/09/30	Oxidation Reduction Potential	mV	106
UA	MW-377	C	2023/03/14	Oxidation Reduction Potential	mV	-27.7
UA	MW-377	C	2023/05/22	Oxidation Reduction Potential	mV	108
UA	MW-377	C	2023/08/07	Oxidation Reduction Potential	mV	142
UA	MW-377	C	2023/11/03	Oxidation Reduction Potential	mV	-84.0
UA	MW-377	C	2016/01/19	Eh	V	0.25
UA	MW-377	C	2016/03/23	Eh	V	0.18
UA	MW-377	C	2016/06/22	Eh	V	0.14
UA	MW-377	C	2016/09/21	Eh	V	0.13
UA	MW-377	C	2016/12/22	Eh	V	0.18
UA	MW-377	C	2017/03/15	Eh	V	0.17
UA	MW-377	C	2017/06/21	Eh	V	0.16
UA	MW-377	C	2017/07/28	Eh	V	0.17
UA	MW-377	C	2017/11/28	Eh	V	0.35
UA	MW-377	C	2018/06/27	Eh	V	0.28
UA	MW-377	C	2018/09/25	Eh	V	0.17
UA	MW-377	C	2019/03/20	Eh	V	0.16
UA	MW-377	C	2019/09/25	Eh	V	0.19
UA	MW-377	C	2020/03/24	Eh	V	0.23
UA	MW-377	C	2020/09/16	Eh	V	0.17
UA	MW-377	C	2021/03/12	Eh	V	0.24
UA	MW-377	C	2021/09/14	Eh	V	0.19
UA	MW-377	C	2022/03/28	Eh	V	0.18
UA	MW-377	C	2022/09/30	Eh	V	0.30
UA	MW-377	C	2023/03/14	Eh	V	0.17
UA	MW-377	C	2023/05/22	Eh	V	0.30
UA	MW-377	C	2023/08/07	Eh	V	0.34
UA	MW-377	C	2023/11/03	Eh	V	0.11
UA	MW-377	C	2017/07/28	Alkalinity, bicarbonate	mg/L CaCO3	440
UA	MW-377	C	2020/03/24	Alkalinity, bicarbonate	mg/L CaCO3	442
UA	MW-377	C	2020/09/16	Alkalinity, bicarbonate	mg/L CaCO3	436
UA	MW-377	C	2021/03/12	Alkalinity, bicarbonate	mg/L CaCO3	436
UA	MW-377	C	2021/09/14	Alkalinity, bicarbonate	mg/L CaCO3	437
UA	MW-377	C	2022/03/28	Alkalinity, bicarbonate	mg/L CaCO3	420
UA	MW-377	C	2022/09/30	Alkalinity, bicarbonate	mg/L CaCO3	416
UA	MW-377	C	2023/03/14	Alkalinity, bicarbonate	mg/L CaCO3	422
UA	MW-377	C	2023/05/22	Alkalinity, bicarbonate	mg/L CaCO3	434
UA	MW-377	C	2023/08/07	Alkalinity, bicarbonate	mg/L CaCO3	427
UA	MW-377	C	2023/11/03	Alkalinity, bicarbonate	mg/L CaCO3	432
UA	MW-377	C	2016/01/19	Barium, total	mg/L	0.0580
UA	MW-377	C	2016/03/23	Barium, total	mg/L	0.0637
UA	MW-377	C	2016/06/22	Barium, total	mg/L	0.0663
UA	MW-377	C	2016/09/21	Barium, total	mg/L	0.0755
UA	MW-377	C	2016/12/22	Barium, total	mg/L	0.0625
UA	MW-377	C	2017/03/15	Barium, total	mg/L	0.0646
UA	MW-377	C	2017/06/21	Barium, total	mg/L	0.0602
UA	MW-377	C	2017/07/28	Barium, total	mg/L	0.0631
UA	MW-377	C	2018/06/27	Barium, total	mg/L	0.0643

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UA	MW-377	C	2018/09/25	Barium, total	mg/L	0.0608
UA	MW-377	C	2019/03/20	Barium, total	mg/L	0.0672
UA	MW-377	C	2019/09/25	Barium, total	mg/L	0.0630
UA	MW-377	C	2020/03/24	Barium, total	mg/L	0.0625
UA	MW-377	C	2020/09/16	Barium, total	mg/L	0.0599
UA	MW-377	C	2021/03/12	Barium, total	mg/L	0.0609
UA	MW-377	C	2021/09/14	Barium, total	mg/L	0.0630
UA	MW-377	C	2022/03/28	Barium, total	mg/L	0.0554
UA	MW-377	C	2022/09/30	Barium, total	mg/L	0.0589
UA	MW-377	C	2023/03/14	Barium, total	mg/L	0.0631
UA	MW-377	C	2023/05/22	Barium, total	mg/L	0.0603
UA	MW-377	C	2023/08/07	Barium, total	mg/L	0.0636
UA	MW-377	C	2023/11/03	Barium, total	mg/L	0.0555
UA	MW-377	C	2016/01/19	Boron, total	mg/L	1.54
UA	MW-377	C	2016/03/23	Boron, total	mg/L	1.59
UA	MW-377	C	2016/06/22	Boron, total	mg/L	1.79
UA	MW-377	C	2016/09/21	Boron, total	mg/L	2.01
UA	MW-377	C	2016/12/22	Boron, total	mg/L	1.72
UA	MW-377	C	2017/03/15	Boron, total	mg/L	1.67
UA	MW-377	C	2017/06/21	Boron, total	mg/L	1.74
UA	MW-377	C	2017/07/28	Boron, total	mg/L	1.63
UA	MW-377	C	2017/11/28	Boron, total	mg/L	1.91
UA	MW-377	C	2018/06/27	Boron, total	mg/L	1.74
UA	MW-377	C	2018/09/25	Boron, total	mg/L	1.78
UA	MW-377	C	2019/03/20	Boron, total	mg/L	1.73
UA	MW-377	C	2019/09/25	Boron, total	mg/L	1.77
UA	MW-377	C	2020/03/24	Boron, total	mg/L	1.79
UA	MW-377	C	2020/09/16	Boron, total	mg/L	1.75
UA	MW-377	C	2021/03/12	Boron, total	mg/L	1.58
UA	MW-377	C	2021/09/14	Boron, total	mg/L	1.77
UA	MW-377	C	2022/03/28	Boron, total	mg/L	1.69
UA	MW-377	C	2022/09/30	Boron, total	mg/L	1.71
UA	MW-377	C	2023/03/14	Boron, total	mg/L	1.74
UA	MW-377	C	2023/05/22	Boron, total	mg/L	1.71
UA	MW-377	C	2023/08/07	Boron, total	mg/L	1.65
UA	MW-377	C	2023/11/03	Boron, total	mg/L	1.58
UA	MW-377	C	2016/01/19	Calcium, total	mg/L	54.3
UA	MW-377	C	2016/03/23	Calcium, total	mg/L	55.1
UA	MW-377	C	2016/06/22	Calcium, total	mg/L	61.0
UA	MW-377	C	2016/09/21	Calcium, total	mg/L	69.5
UA	MW-377	C	2016/12/22	Calcium, total	mg/L	55.4
UA	MW-377	C	2017/03/15	Calcium, total	mg/L	60.9
UA	MW-377	C	2017/06/21	Calcium, total	mg/L	53.4
UA	MW-377	C	2017/07/28	Calcium, total	mg/L	57.4
UA	MW-377	C	2017/11/28	Calcium, total	mg/L	63.2
UA	MW-377	C	2018/06/27	Calcium, total	mg/L	54.1
UA	MW-377	C	2018/09/25	Calcium, total	mg/L	55.9
UA	MW-377	C	2019/03/20	Calcium, total	mg/L	68.1
UA	MW-377	C	2019/09/25	Calcium, total	mg/L	57.8
UA	MW-377	C	2020/03/24	Calcium, total	mg/L	54.0
UA	MW-377	C	2020/09/16	Calcium, total	mg/L	56.2
UA	MW-377	C	2021/03/12	Calcium, total	mg/L	54.7
UA	MW-377	C	2021/09/14	Calcium, total	mg/L	55.2
UA	MW-377	C	2022/03/28	Calcium, total	mg/L	56.0
UA	MW-377	C	2022/09/30	Calcium, total	mg/L	57.3
UA	MW-377	C	2023/03/14	Calcium, total	mg/L	55.1
UA	MW-377	C	2023/05/22	Calcium, total	mg/L	53.2

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UA	MW-377	C	2023/08/07	Calcium, total	mg/L	52.8
UA	MW-377	C	2023/11/03	Calcium, total	mg/L	60.2
UA	MW-377	C	2016/01/19	Chloride, total	mg/L	82.0
UA	MW-377	C	2016/03/23	Chloride, total	mg/L	79.0
UA	MW-377	C	2016/06/22	Chloride, total	mg/L	86.0
UA	MW-377	C	2016/09/21	Chloride, total	mg/L	98.0
UA	MW-377	C	2016/12/22	Chloride, total	mg/L	95.0
UA	MW-377	C	2017/03/15	Chloride, total	mg/L	90.0
UA	MW-377	C	2017/06/21	Chloride, total	mg/L	94.0
UA	MW-377	C	2017/07/28	Chloride, total	mg/L	93.0
UA	MW-377	C	2017/11/28	Chloride, total	mg/L	90.0
UA	MW-377	C	2018/06/27	Chloride, total	mg/L	93.0
UA	MW-377	C	2018/09/25	Chloride, total	mg/L	96.0
UA	MW-377	C	2019/03/20	Chloride, total	mg/L	90.0
UA	MW-377	C	2019/09/25	Chloride, total	mg/L	93.0
UA	MW-377	C	2020/03/24	Chloride, total	mg/L	99.0
UA	MW-377	C	2020/09/16	Chloride, total	mg/L	97.0
UA	MW-377	C	2021/03/12	Chloride, total	mg/L	94.0
UA	MW-377	C	2021/09/14	Chloride, total	mg/L	100
UA	MW-377	C	2022/03/28	Chloride, total	mg/L	92.0
UA	MW-377	C	2022/09/30	Chloride, total	mg/L	99.0
UA	MW-377	C	2023/03/14	Chloride, total	mg/L	90.0
UA	MW-377	C	2023/05/22	Chloride, total	mg/L	93.0
UA	MW-377	C	2023/08/07	Chloride, total	mg/L	102
UA	MW-377	C	2023/11/03	Chloride, total	mg/L	103
UA	MW-377	C	2023/05/22	Iron, dissolved	mg/L	0.0240
UA	MW-377	C	2023/08/07	Iron, dissolved	mg/L	<0.012
UA	MW-377	C	2017/07/28	Magnesium, total	mg/L	38.9
UA	MW-377	C	2020/03/24	Magnesium, total	mg/L	39.2
UA	MW-377	C	2020/09/16	Magnesium, total	mg/L	43.6
UA	MW-377	C	2021/03/12	Magnesium, total	mg/L	39.8
UA	MW-377	C	2021/09/14	Magnesium, total	mg/L	37.2
UA	MW-377	C	2022/03/28	Magnesium, total	mg/L	38.9
UA	MW-377	C	2022/09/30	Magnesium, total	mg/L	37.9
UA	MW-377	C	2023/03/14	Magnesium, total	mg/L	36.9
UA	MW-377	C	2023/05/22	Magnesium, total	mg/L	37.8
UA	MW-377	C	2023/08/07	Magnesium, total	mg/L	35.9
UA	MW-377	C	2023/11/03	Magnesium, total	mg/L	38.4
UA	MW-377	C	2023/05/22	Manganese, dissolved	mg/L	0.0110
UA	MW-377	C	2023/08/07	Manganese, dissolved	mg/L	0.00720
UA	MW-377	C	2023/05/22	Phosphate, dissolved	mg/L	<0.005
UA	MW-377	C	2023/08/07	Phosphate, dissolved	mg/L	<0.005
UA	MW-377	C	2017/07/28	Potassium, total	mg/L	3.48
UA	MW-377	C	2020/03/24	Potassium, total	mg/L	3.44
UA	MW-377	C	2020/09/16	Potassium, total	mg/L	3.94
UA	MW-377	C	2021/03/12	Potassium, total	mg/L	3.29
UA	MW-377	C	2021/09/14	Potassium, total	mg/L	3.28
UA	MW-377	C	2022/03/28	Potassium, total	mg/L	3.77
UA	MW-377	C	2022/09/30	Potassium, total	mg/L	3.47
UA	MW-377	C	2023/03/14	Potassium, total	mg/L	3.07
UA	MW-377	C	2023/05/22	Potassium, total	mg/L	3.56
UA	MW-377	C	2023/08/07	Potassium, total	mg/L	3.44
UA	MW-377	C	2023/11/03	Potassium, total	mg/L	3.49
UA	MW-377	C	2023/05/22	Silicon, dissolved	mg/L	4.43
UA	MW-377	C	2023/08/07	Silicon, dissolved	mg/L	4.11
UA	MW-377	C	2017/07/28	Sodium, total	mg/L	129
UA	MW-377	C	2020/03/24	Sodium, total	mg/L	135

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UA	MW-377	C	2020/09/16	Sodium, total	mg/L	155
UA	MW-377	C	2021/03/12	Sodium, total	mg/L	137
UA	MW-377	C	2021/09/14	Sodium, total	mg/L	123
UA	MW-377	C	2022/03/28	Sodium, total	mg/L	144
UA	MW-377	C	2022/09/30	Sodium, total	mg/L	130
UA	MW-377	C	2023/03/14	Sodium, total	mg/L	135
UA	MW-377	C	2023/05/22	Sodium, total	mg/L	133
UA	MW-377	C	2023/08/07	Sodium, total	mg/L	131
UA	MW-377	C	2023/11/03	Sodium, total	mg/L	148
UA	MW-377	C	2016/01/19	Sulfate, total	mg/L	43.0
UA	MW-377	C	2016/03/23	Sulfate, total	mg/L	44.0
UA	MW-377	C	2016/06/22	Sulfate, total	mg/L	41.0
UA	MW-377	C	2016/09/21	Sulfate, total	mg/L	40.0
UA	MW-377	C	2016/12/22	Sulfate, total	mg/L	39.0
UA	MW-377	C	2017/03/15	Sulfate, total	mg/L	42.0
UA	MW-377	C	2017/06/21	Sulfate, total	mg/L	39.0
UA	MW-377	C	2017/07/28	Sulfate, total	mg/L	39.0
UA	MW-377	C	2017/11/28	Sulfate, total	mg/L	41.0
UA	MW-377	C	2018/06/27	Sulfate, total	mg/L	46.0
UA	MW-377	C	2018/09/25	Sulfate, total	mg/L	41.0
UA	MW-377	C	2019/03/20	Sulfate, total	mg/L	38.0
UA	MW-377	C	2019/09/25	Sulfate, total	mg/L	39.0
UA	MW-377	C	2020/03/24	Sulfate, total	mg/L	37.0
UA	MW-377	C	2020/09/16	Sulfate, total	mg/L	39.0
UA	MW-377	C	2021/03/12	Sulfate, total	mg/L	37.0
UA	MW-377	C	2021/09/14	Sulfate, total	mg/L	38.0
UA	MW-377	C	2022/03/28	Sulfate, total	mg/L	39.0
UA	MW-377	C	2022/09/30	Sulfate, total	mg/L	39.0
UA	MW-377	C	2023/03/14	Sulfate, total	mg/L	37.0
UA	MW-377	C	2023/05/22	Sulfate, total	mg/L	40.0
UA	MW-377	C	2023/08/07	Sulfate, total	mg/L	37.0
UA	MW-377	C	2023/11/03	Sulfate, total	mg/L	51.0
UA	MW-377	C	2016/01/19	Temperature (Celsius)	degrees C	10.9
UA	MW-377	C	2016/03/23	Temperature (Celsius)	degrees C	13.8
UA	MW-377	C	2016/06/22	Temperature (Celsius)	degrees C	24.0
UA	MW-377	C	2016/09/21	Temperature (Celsius)	degrees C	21.7
UA	MW-377	C	2016/12/22	Temperature (Celsius)	degrees C	13.6
UA	MW-377	C	2017/03/15	Temperature (Celsius)	degrees C	14.0
UA	MW-377	C	2017/06/21	Temperature (Celsius)	degrees C	25.9
UA	MW-377	C	2017/07/28	Temperature (Celsius)	degrees C	19.1
UA	MW-377	C	2017/11/28	Temperature (Celsius)	degrees C	15.0
UA	MW-377	C	2018/06/27	Temperature (Celsius)	degrees C	22.2
UA	MW-377	C	2018/09/25	Temperature (Celsius)	degrees C	24.7
UA	MW-377	C	2019/03/20	Temperature (Celsius)	degrees C	12.7
UA	MW-377	C	2019/09/25	Temperature (Celsius)	degrees C	18.4
UA	MW-377	C	2020/03/24	Temperature (Celsius)	degrees C	12.8
UA	MW-377	C	2020/09/16	Temperature (Celsius)	degrees C	16.1
UA	MW-377	C	2021/03/12	Temperature (Celsius)	degrees C	12.6
UA	MW-377	C	2021/09/14	Temperature (Celsius)	degrees C	21.3
UA	MW-377	C	2022/03/28	Temperature (Celsius)	degrees C	13.3
UA	MW-377	C	2022/09/30	Temperature (Celsius)	degrees C	17.3
UA	MW-377	C	2023/03/14	Temperature (Celsius)	degrees C	13.8
UA	MW-377	C	2023/05/22	Temperature (Celsius)	degrees C	15.2
UA	MW-377	C	2023/08/07	Temperature (Celsius)	degrees C	15.4
UA	MW-377	C	2023/11/03	Temperature (Celsius)	degrees C	16.6
UA	MW-377	C	2016/01/19	Total Dissolved Solids	mg/L	552
UA	MW-377	C	2016/03/23	Total Dissolved Solids	mg/L	606

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UA	MW-377	C	2016/06/22	Total Dissolved Solids	mg/L	628
UA	MW-377	C	2016/09/21	Total Dissolved Solids	mg/L	592
UA	MW-377	C	2016/12/22	Total Dissolved Solids	mg/L	606
UA	MW-377	C	2017/03/15	Total Dissolved Solids	mg/L	628
UA	MW-377	C	2017/06/21	Total Dissolved Solids	mg/L	614
UA	MW-377	C	2017/07/28	Total Dissolved Solids	mg/L	590
UA	MW-377	C	2017/11/28	Total Dissolved Solids	mg/L	652
UA	MW-377	C	2018/06/27	Total Dissolved Solids	mg/L	614
UA	MW-377	C	2018/09/25	Total Dissolved Solids	mg/L	646
UA	MW-377	C	2019/03/20	Total Dissolved Solids	mg/L	614
UA	MW-377	C	2019/09/25	Total Dissolved Solids	mg/L	626
UA	MW-377	C	2020/03/24	Total Dissolved Solids	mg/L	580
UA	MW-377	C	2020/09/16	Total Dissolved Solids	mg/L	580
UA	MW-377	C	2021/03/12	Total Dissolved Solids	mg/L	606
UA	MW-377	C	2021/09/14	Total Dissolved Solids	mg/L	580
UA	MW-377	C	2022/03/28	Total Dissolved Solids	mg/L	642
UA	MW-377	C	2022/09/30	Total Dissolved Solids	mg/L	622
UA	MW-377	C	2023/03/14	Total Dissolved Solids	mg/L	612
UA	MW-377	C	2023/05/22	Total Dissolved Solids	mg/L	608
UA	MW-377	C	2023/08/07	Total Dissolved Solids	mg/L	646
UA	MW-377	C	2023/11/03	Total Dissolved Solids	mg/L	628
UA	MW-383	C	2016/01/21	pH (field)	SU	7.8
UA	MW-383	C	2016/03/24	pH (field)	SU	7.7
UA	MW-383	C	2016/06/23	pH (field)	SU	7.8
UA	MW-383	C	2016/09/21	pH (field)	SU	7.6
UA	MW-383	C	2016/12/27	pH (field)	SU	7.6
UA	MW-383	C	2017/03/16	pH (field)	SU	7.7
UA	MW-383	C	2017/06/19	pH (field)	SU	7.7
UA	MW-383	C	2017/07/26	pH (field)	SU	7.6
UA	MW-383	C	2017/11/28	pH (field)	SU	7.6
UA	MW-383	C	2018/06/27	pH (field)	SU	7.3
UA	MW-383	C	2018/09/25	pH (field)	SU	7.6
UA	MW-383	C	2019/03/20	pH (field)	SU	7.5
UA	MW-383	C	2019/09/24	pH (field)	SU	7.5
UA	MW-383	C	2020/03/25	pH (field)	SU	7.6
UA	MW-383	C	2020/09/15	pH (field)	SU	7.7
UA	MW-383	C	2021/03/12	pH (field)	SU	7.6
UA	MW-383	C	2021/09/13	pH (field)	SU	7.6
UA	MW-383	C	2022/03/29	pH (field)	SU	7.5
UA	MW-383	C	2022/09/30	pH (field)	SU	7.6
UA	MW-383	C	2023/03/14	pH (field)	SU	7.5
UA	MW-383	C	2023/05/22	pH (field)	SU	7.5
UA	MW-383	C	2023/08/03	pH (field)	SU	7.6
UA	MW-383	C	2023/11/01	pH (field)	SU	7.6
UA	MW-383	C	2016/01/21	Oxidation Reduction Potential	mV	89.0
UA	MW-383	C	2016/03/24	Oxidation Reduction Potential	mV	46.0
UA	MW-383	C	2016/06/23	Oxidation Reduction Potential	mV	-52.0
UA	MW-383	C	2016/09/21	Oxidation Reduction Potential	mV	-46.0
UA	MW-383	C	2016/12/27	Oxidation Reduction Potential	mV	-27.0
UA	MW-383	C	2017/03/16	Oxidation Reduction Potential	mV	-2.00
UA	MW-383	C	2017/06/19	Oxidation Reduction Potential	mV	-35.0
UA	MW-383	C	2017/07/26	Oxidation Reduction Potential	mV	56.0
UA	MW-383	C	2017/11/28	Oxidation Reduction Potential	mV	25.0
UA	MW-383	C	2018/06/27	Oxidation Reduction Potential	mV	12.0
UA	MW-383	C	2018/09/25	Oxidation Reduction Potential	mV	-10.0
UA	MW-383	C	2019/03/20	Oxidation Reduction Potential	mV	-84.0
UA	MW-383	C	2019/09/24	Oxidation Reduction Potential	mV	-51.0

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UA	MW-383	C	2020/03/25	Oxidation Reduction Potential	mV	-10.0
UA	MW-383	C	2020/09/15	Oxidation Reduction Potential	mV	-32.0
UA	MW-383	C	2021/03/12	Oxidation Reduction Potential	mV	-73.0
UA	MW-383	C	2021/09/13	Oxidation Reduction Potential	mV	-5.00
UA	MW-383	C	2022/03/29	Oxidation Reduction Potential	mV	-70.0
UA	MW-383	C	2022/09/30	Oxidation Reduction Potential	mV	100
UA	MW-383	C	2023/03/14	Oxidation Reduction Potential	mV	-44.0
UA	MW-383	C	2023/05/22	Oxidation Reduction Potential	mV	70.0
UA	MW-383	C	2023/08/03	Oxidation Reduction Potential	mV	29.0
UA	MW-383	C	2023/11/01	Oxidation Reduction Potential	mV	-114
UA	MW-383	C	2016/01/21	Eh	V	0.28
UA	MW-383	C	2016/03/24	Eh	V	0.24
UA	MW-383	C	2016/06/23	Eh	V	0.13
UA	MW-383	C	2016/09/21	Eh	V	0.14
UA	MW-383	C	2016/12/27	Eh	V	0.17
UA	MW-383	C	2017/03/16	Eh	V	0.19
UA	MW-383	C	2017/06/19	Eh	V	0.15
UA	MW-383	C	2017/07/26	Eh	V	0.25
UA	MW-383	C	2017/11/28	Eh	V	0.22
UA	MW-383	C	2018/06/27	Eh	V	0.20
UA	MW-383	C	2018/09/25	Eh	V	0.18
UA	MW-383	C	2019/03/20	Eh	V	0.11
UA	MW-383	C	2019/09/24	Eh	V	0.14
UA	MW-383	C	2020/03/25	Eh	V	0.18
UA	MW-383	C	2020/09/15	Eh	V	0.16
UA	MW-383	C	2021/03/12	Eh	V	0.12
UA	MW-383	C	2021/09/13	Eh	V	0.19
UA	MW-383	C	2022/03/29	Eh	V	0.12
UA	MW-383	C	2022/09/30	Eh	V	0.29
UA	MW-383	C	2023/03/14	Eh	V	0.15
UA	MW-383	C	2023/05/22	Eh	V	0.26
UA	MW-383	C	2023/08/03	Eh	V	0.22
UA	MW-383	C	2023/11/01	Eh	V	0.080
UA	MW-383	C	2017/07/26	Alkalinity, bicarbonate	mg/L CaCO3	556
UA	MW-383	C	2020/03/25	Alkalinity, bicarbonate	mg/L CaCO3	592
UA	MW-383	C	2020/09/15	Alkalinity, bicarbonate	mg/L CaCO3	590
UA	MW-383	C	2021/03/12	Alkalinity, bicarbonate	mg/L CaCO3	553
UA	MW-383	C	2021/09/13	Alkalinity, bicarbonate	mg/L CaCO3	581
UA	MW-383	C	2022/03/29	Alkalinity, bicarbonate	mg/L CaCO3	575
UA	MW-383	C	2022/09/30	Alkalinity, bicarbonate	mg/L CaCO3	585
UA	MW-383	C	2023/03/14	Alkalinity, bicarbonate	mg/L CaCO3	569
UA	MW-383	C	2023/05/22	Alkalinity, bicarbonate	mg/L CaCO3	561
UA	MW-383	C	2023/08/03	Alkalinity, bicarbonate	mg/L CaCO3	571
UA	MW-383	C	2023/11/01	Alkalinity, bicarbonate	mg/L CaCO3	569
UA	MW-383	C	2023/11/01	Alkalinity, carbonate	mg/L CaCO3	9.00
UA	MW-383	C	2016/01/21	Barium, total	mg/L	0.0339
UA	MW-383	C	2016/03/24	Barium, total	mg/L	0.0320
UA	MW-383	C	2016/06/23	Barium, total	mg/L	0.0307
UA	MW-383	C	2016/09/21	Barium, total	mg/L	0.0360
UA	MW-383	C	2016/12/27	Barium, total	mg/L	0.0310
UA	MW-383	C	2017/03/16	Barium, total	mg/L	0.0324
UA	MW-383	C	2017/06/19	Barium, total	mg/L	0.0361
UA	MW-383	C	2017/07/26	Barium, total	mg/L	0.0346
UA	MW-383	C	2018/06/27	Barium, total	mg/L	0.0398
UA	MW-383	C	2018/09/25	Barium, total	mg/L	0.0363
UA	MW-383	C	2019/03/20	Barium, total	mg/L	0.0414
UA	MW-383	C	2019/09/24	Barium, total	mg/L	0.0410

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UA	MW-383	C	2020/03/25	Barium, total	mg/L	0.0421
UA	MW-383	C	2020/09/15	Barium, total	mg/L	0.0449
UA	MW-383	C	2021/03/12	Barium, total	mg/L	0.0406
UA	MW-383	C	2021/09/13	Barium, total	mg/L	0.0443
UA	MW-383	C	2022/03/29	Barium, total	mg/L	0.0617
UA	MW-383	C	2022/09/30	Barium, total	mg/L	0.0481
UA	MW-383	C	2023/03/14	Barium, total	mg/L	0.0446
UA	MW-383	C	2023/05/22	Barium, total	mg/L	0.0442
UA	MW-383	C	2023/08/03	Barium, total	mg/L	0.0427
UA	MW-383	C	2023/11/01	Barium, total	mg/L	0.0479
UA	MW-383	C	2016/01/21	Boron, total	mg/L	1.27
UA	MW-383	C	2016/03/24	Boron, total	mg/L	1.33
UA	MW-383	C	2016/06/23	Boron, total	mg/L	1.45
UA	MW-383	C	2016/09/21	Boron, total	mg/L	2.05
UA	MW-383	C	2016/12/27	Boron, total	mg/L	1.49
UA	MW-383	C	2017/03/16	Boron, total	mg/L	1.42
UA	MW-383	C	2017/06/19	Boron, total	mg/L	1.53
UA	MW-383	C	2017/07/26	Boron, total	mg/L	1.26
UA	MW-383	C	2017/11/28	Boron, total	mg/L	1.49
UA	MW-383	C	2018/06/27	Boron, total	mg/L	1.50
UA	MW-383	C	2018/09/25	Boron, total	mg/L	1.40
UA	MW-383	C	2019/03/20	Boron, total	mg/L	1.43
UA	MW-383	C	2019/09/24	Boron, total	mg/L	1.39
UA	MW-383	C	2020/03/25	Boron, total	mg/L	1.33
UA	MW-383	C	2020/09/15	Boron, total	mg/L	1.39
UA	MW-383	C	2021/03/12	Boron, total	mg/L	1.40
UA	MW-383	C	2021/09/13	Boron, total	mg/L	1.34
UA	MW-383	C	2022/03/29	Boron, total	mg/L	1.56
UA	MW-383	C	2022/09/30	Boron, total	mg/L	1.52
UA	MW-383	C	2023/03/14	Boron, total	mg/L	1.35
UA	MW-383	C	2023/05/22	Boron, total	mg/L	1.16
UA	MW-383	C	2023/08/03	Boron, total	mg/L	1.33
UA	MW-383	C	2023/11/01	Boron, total	mg/L	1.40
UA	MW-383	C	2016/01/21	Calcium, total	mg/L	16.2
UA	MW-383	C	2016/03/24	Calcium, total	mg/L	15.7
UA	MW-383	C	2016/06/23	Calcium, total	mg/L	14.9
UA	MW-383	C	2016/09/21	Calcium, total	mg/L	20.2
UA	MW-383	C	2016/12/27	Calcium, total	mg/L	14.9
UA	MW-383	C	2017/03/16	Calcium, total	mg/L	16.2
UA	MW-383	C	2017/06/19	Calcium, total	mg/L	16.1
UA	MW-383	C	2017/07/26	Calcium, total	mg/L	16.1
UA	MW-383	C	2017/11/28	Calcium, total	mg/L	18.4
UA	MW-383	C	2018/06/27	Calcium, total	mg/L	17.0
UA	MW-383	C	2018/09/25	Calcium, total	mg/L	16.8
UA	MW-383	C	2019/03/20	Calcium, total	mg/L	18.4
UA	MW-383	C	2019/09/24	Calcium, total	mg/L	19.2
UA	MW-383	C	2020/03/25	Calcium, total	mg/L	18.2
UA	MW-383	C	2020/09/15	Calcium, total	mg/L	18.3
UA	MW-383	C	2021/03/12	Calcium, total	mg/L	17.2
UA	MW-383	C	2021/09/13	Calcium, total	mg/L	17.1
UA	MW-383	C	2022/03/29	Calcium, total	mg/L	17.9
UA	MW-383	C	2022/09/30	Calcium, total	mg/L	19.4
UA	MW-383	C	2023/03/14	Calcium, total	mg/L	18.2
UA	MW-383	C	2023/05/22	Calcium, total	mg/L	23.8
UA	MW-383	C	2023/08/03	Calcium, total	mg/L	17.3
UA	MW-383	C	2023/11/01	Calcium, total	mg/L	18.8
UA	MW-383	C	2016/01/21	Chloride, total	mg/L	41.0

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UA	MW-383	C	2016/03/24	Chloride, total	mg/L	39.0
UA	MW-383	C	2016/06/23	Chloride, total	mg/L	39.0
UA	MW-383	C	2016/09/21	Chloride, total	mg/L	40.0
UA	MW-383	C	2016/12/27	Chloride, total	mg/L	41.0
UA	MW-383	C	2017/03/16	Chloride, total	mg/L	40.0
UA	MW-383	C	2017/06/19	Chloride, total	mg/L	40.0
UA	MW-383	C	2017/07/26	Chloride, total	mg/L	40.0
UA	MW-383	C	2017/11/28	Chloride, total	mg/L	39.0
UA	MW-383	C	2018/06/27	Chloride, total	mg/L	39.0
UA	MW-383	C	2018/09/25	Chloride, total	mg/L	40.0
UA	MW-383	C	2019/03/20	Chloride, total	mg/L	39.0
UA	MW-383	C	2019/09/24	Chloride, total	mg/L	41.0
UA	MW-383	C	2020/03/25	Chloride, total	mg/L	40.0
UA	MW-383	C	2020/09/15	Chloride, total	mg/L	45.0
UA	MW-383	C	2021/03/12	Chloride, total	mg/L	42.0
UA	MW-383	C	2021/09/13	Chloride, total	mg/L	45.0
UA	MW-383	C	2022/03/29	Chloride, total	mg/L	50.0
UA	MW-383	C	2022/09/30	Chloride, total	mg/L	42.0
UA	MW-383	C	2023/03/14	Chloride, total	mg/L	40.0
UA	MW-383	C	2023/05/22	Chloride, total	mg/L	43.0
UA	MW-383	C	2023/08/03	Chloride, total	mg/L	43.0
UA	MW-383	C	2023/11/01	Chloride, total	mg/L	46.0
UA	MW-383	C	2023/05/22	Iron, dissolved	mg/L	<0.02
UA	MW-383	C	2023/08/03	Iron, dissolved	mg/L	0.359
UA	MW-383	C	2017/07/26	Magnesium, total	mg/L	6.23
UA	MW-383	C	2020/03/25	Magnesium, total	mg/L	7.38
UA	MW-383	C	2020/09/15	Magnesium, total	mg/L	7.96
UA	MW-383	C	2021/03/12	Magnesium, total	mg/L	7.36
UA	MW-383	C	2021/09/13	Magnesium, total	mg/L	6.52
UA	MW-383	C	2022/03/29	Magnesium, total	mg/L	6.68
UA	MW-383	C	2022/09/30	Magnesium, total	mg/L	7.71
UA	MW-383	C	2023/03/14	Magnesium, total	mg/L	7.12
UA	MW-383	C	2023/05/22	Magnesium, total	mg/L	10.5
UA	MW-383	C	2023/08/03	Magnesium, total	mg/L	6.72
UA	MW-383	C	2023/11/01	Magnesium, total	mg/L	7.00
UA	MW-383	C	2023/05/22	Manganese, dissolved	mg/L	0.0269
UA	MW-383	C	2023/08/03	Manganese, dissolved	mg/L	0.0382
UA	MW-383	C	2023/05/22	Phosphate, dissolved	mg/L	<0.005
UA	MW-383	C	2023/08/03	Phosphate, dissolved	mg/L	0.0150
UA	MW-383	C	2017/07/26	Potassium, total	mg/L	1.92
UA	MW-383	C	2020/03/25	Potassium, total	mg/L	2.10
UA	MW-383	C	2020/09/15	Potassium, total	mg/L	2.40
UA	MW-383	C	2021/03/12	Potassium, total	mg/L	2.03
UA	MW-383	C	2021/09/13	Potassium, total	mg/L	1.95
UA	MW-383	C	2022/03/29	Potassium, total	mg/L	2.15
UA	MW-383	C	2022/09/30	Potassium, total	mg/L	2.14
UA	MW-383	C	2023/03/14	Potassium, total	mg/L	1.96
UA	MW-383	C	2023/05/22	Potassium, total	mg/L	2.17
UA	MW-383	C	2023/08/03	Potassium, total	mg/L	2.18
UA	MW-383	C	2023/11/01	Potassium, total	mg/L	2.14
UA	MW-383	C	2023/05/22	Silicon, dissolved	mg/L	5.64
UA	MW-383	C	2023/08/03	Silicon, dissolved	mg/L	5.11
UA	MW-383	C	2017/07/26	Sodium, total	mg/L	320
UA	MW-383	C	2020/03/25	Sodium, total	mg/L	346
UA	MW-383	C	2020/09/15	Sodium, total	mg/L	386
UA	MW-383	C	2021/03/12	Sodium, total	mg/L	349
UA	MW-383	C	2021/09/13	Sodium, total	mg/L	302

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UA	MW-383	C	2022/03/29	Sodium, total	mg/L	350
UA	MW-383	C	2022/09/30	Sodium, total	mg/L	314
UA	MW-383	C	2023/03/14	Sodium, total	mg/L	315
UA	MW-383	C	2023/05/22	Sodium, total	mg/L	290
UA	MW-383	C	2023/08/03	Sodium, total	mg/L	349
UA	MW-383	C	2023/11/01	Sodium, total	mg/L	374
UA	MW-383	C	2016/01/21	Sulfate, total	mg/L	212
UA	MW-383	C	2016/03/24	Sulfate, total	mg/L	205
UA	MW-383	C	2016/06/23	Sulfate, total	mg/L	176
UA	MW-383	C	2016/09/21	Sulfate, total	mg/L	192
UA	MW-383	C	2016/12/27	Sulfate, total	mg/L	174
UA	MW-383	C	2017/03/16	Sulfate, total	mg/L	180
UA	MW-383	C	2017/06/19	Sulfate, total	mg/L	177
UA	MW-383	C	2017/07/26	Sulfate, total	mg/L	182
UA	MW-383	C	2017/11/28	Sulfate, total	mg/L	171
UA	MW-383	C	2018/06/27	Sulfate, total	mg/L	200
UA	MW-383	C	2018/09/25	Sulfate, total	mg/L	184
UA	MW-383	C	2019/03/20	Sulfate, total	mg/L	166
UA	MW-383	C	2019/09/24	Sulfate, total	mg/L	169
UA	MW-383	C	2020/03/25	Sulfate, total	mg/L	175
UA	MW-383	C	2020/09/15	Sulfate, total	mg/L	190
UA	MW-383	C	2021/03/12	Sulfate, total	mg/L	179
UA	MW-383	C	2021/09/13	Sulfate, total	mg/L	168
UA	MW-383	C	2022/03/29	Sulfate, total	mg/L	159
UA	MW-383	C	2022/09/30	Sulfate, total	mg/L	169
UA	MW-383	C	2023/03/14	Sulfate, total	mg/L	150
UA	MW-383	C	2023/05/22	Sulfate, total	mg/L	177
UA	MW-383	C	2023/08/03	Sulfate, total	mg/L	157
UA	MW-383	C	2023/11/01	Sulfate, total	mg/L	165
UA	MW-383	C	2016/01/21	Temperature (Celsius)	degrees C	15.2
UA	MW-383	C	2016/03/24	Temperature (Celsius)	degrees C	16.1
UA	MW-383	C	2016/06/23	Temperature (Celsius)	degrees C	27.4
UA	MW-383	C	2016/09/21	Temperature (Celsius)	degrees C	22.7
UA	MW-383	C	2016/12/27	Temperature (Celsius)	degrees C	14.7
UA	MW-383	C	2017/03/16	Temperature (Celsius)	degrees C	16.9
UA	MW-383	C	2017/06/19	Temperature (Celsius)	degrees C	24.0
UA	MW-383	C	2017/07/26	Temperature (Celsius)	degrees C	21.7
UA	MW-383	C	2017/11/28	Temperature (Celsius)	degrees C	18.6
UA	MW-383	C	2018/06/27	Temperature (Celsius)	degrees C	23.2
UA	MW-383	C	2018/09/25	Temperature (Celsius)	degrees C	20.4
UA	MW-383	C	2019/03/20	Temperature (Celsius)	degrees C	16.6
UA	MW-383	C	2019/09/24	Temperature (Celsius)	degrees C	19.7
UA	MW-383	C	2020/03/25	Temperature (Celsius)	degrees C	17.8
UA	MW-383	C	2020/09/15	Temperature (Celsius)	degrees C	18.7
UA	MW-383	C	2021/03/12	Temperature (Celsius)	degrees C	17.3
UA	MW-383	C	2021/09/13	Temperature (Celsius)	degrees C	22.3
UA	MW-383	C	2022/03/29	Temperature (Celsius)	degrees C	17.9
UA	MW-383	C	2022/09/30	Temperature (Celsius)	degrees C	18.2
UA	MW-383	C	2023/03/14	Temperature (Celsius)	degrees C	17.2
UA	MW-383	C	2023/05/22	Temperature (Celsius)	degrees C	18.4
UA	MW-383	C	2023/08/03	Temperature (Celsius)	degrees C	19.1
UA	MW-383	C	2023/11/01	Temperature (Celsius)	degrees C	17.5
UA	MW-383	C	2016/01/21	Total Dissolved Solids	mg/L	800
UA	MW-383	C	2016/03/24	Total Dissolved Solids	mg/L	828
UA	MW-383	C	2016/06/23	Total Dissolved Solids	mg/L	916
UA	MW-383	C	2016/09/21	Total Dissolved Solids	mg/L	840
UA	MW-383	C	2016/12/27	Total Dissolved Solids	mg/L	910

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UA	MW-383	C	2017/03/16	Total Dissolved Solids	mg/L	890
UA	MW-383	C	2017/06/19	Total Dissolved Solids	mg/L	912
UA	MW-383	C	2017/07/26	Total Dissolved Solids	mg/L	890
UA	MW-383	C	2017/11/28	Total Dissolved Solids	mg/L	962
UA	MW-383	C	2018/06/27	Total Dissolved Solids	mg/L	926
UA	MW-383	C	2018/09/25	Total Dissolved Solids	mg/L	940
UA	MW-383	C	2019/03/20	Total Dissolved Solids	mg/L	920
UA	MW-383	C	2019/09/24	Total Dissolved Solids	mg/L	922
UA	MW-383	C	2020/03/25	Total Dissolved Solids	mg/L	874
UA	MW-383	C	2020/09/15	Total Dissolved Solids	mg/L	884
UA	MW-383	C	2021/03/12	Total Dissolved Solids	mg/L	960
UA	MW-383	C	2021/09/13	Total Dissolved Solids	mg/L	864
UA	MW-383	C	2022/03/29	Total Dissolved Solids	mg/L	896
UA	MW-383	C	2022/09/30	Total Dissolved Solids	mg/L	906
UA	MW-383	C	2023/03/14	Total Dissolved Solids	mg/L	890
UA	MW-383	C	2023/05/22	Total Dissolved Solids	mg/L	872
UA	MW-383	C	2023/08/03	Total Dissolved Solids	mg/L	882
UA	MW-383	C	2023/11/01	Total Dissolved Solids	mg/L	934
UA	MW-384	C	2016/01/21	pH (field)	SU	7.5
UA	MW-384	C	2016/03/24	pH (field)	SU	7.8
UA	MW-384	C	2016/06/23	pH (field)	SU	7.8
UA	MW-384	C	2016/09/21	pH (field)	SU	8.0
UA	MW-384	C	2016/12/27	pH (field)	SU	7.9
UA	MW-384	C	2017/03/16	pH (field)	SU	8.0
UA	MW-384	C	2017/06/19	pH (field)	SU	8.0
UA	MW-384	C	2017/07/25	pH (field)	SU	7.6
UA	MW-384	C	2017/11/28	pH (field)	SU	7.9
UA	MW-384	C	2018/06/27	pH (field)	SU	7.2
UA	MW-384	C	2018/09/25	pH (field)	SU	8.0
UA	MW-384	C	2019/03/20	pH (field)	SU	7.5
UA	MW-384	C	2019/09/24	pH (field)	SU	8.0
UA	MW-384	C	2020/03/25	pH (field)	SU	8.1
UA	MW-384	C	2020/09/15	pH (field)	SU	8.1
UA	MW-384	C	2021/03/11	pH (field)	SU	7.8
UA	MW-384	C	2021/09/13	pH (field)	SU	8.0
UA	MW-384	C	2022/03/29	pH (field)	SU	8.0
UA	MW-384	C	2022/09/30	pH (field)	SU	8.1
UA	MW-384	C	2023/03/14	pH (field)	SU	8.0
UA	MW-384	C	2023/05/22	pH (field)	SU	7.7
UA	MW-384	C	2023/08/03	pH (field)	SU	8.1
UA	MW-384	C	2023/11/01	pH (field)	SU	8.1
UA	MW-384	C	2016/01/21	Oxidation Reduction Potential	mV	68.0
UA	MW-384	C	2016/03/24	Oxidation Reduction Potential	mV	102
UA	MW-384	C	2016/06/23	Oxidation Reduction Potential	mV	-23.0
UA	MW-384	C	2016/09/21	Oxidation Reduction Potential	mV	-78.0
UA	MW-384	C	2016/12/27	Oxidation Reduction Potential	mV	-61.0
UA	MW-384	C	2017/03/16	Oxidation Reduction Potential	mV	-33.0
UA	MW-384	C	2017/06/19	Oxidation Reduction Potential	mV	-191
UA	MW-384	C	2017/07/25	Oxidation Reduction Potential	mV	-91.0
UA	MW-384	C	2017/11/28	Oxidation Reduction Potential	mV	-25.0
UA	MW-384	C	2018/06/27	Oxidation Reduction Potential	mV	-40.0
UA	MW-384	C	2018/09/25	Oxidation Reduction Potential	mV	-250
UA	MW-384	C	2019/03/20	Oxidation Reduction Potential	mV	-123
UA	MW-384	C	2019/09/24	Oxidation Reduction Potential	mV	-157
UA	MW-384	C	2020/03/25	Oxidation Reduction Potential	mV	-104
UA	MW-384	C	2020/09/15	Oxidation Reduction Potential	mV	-95.0
UA	MW-384	C	2021/03/11	Oxidation Reduction Potential	mV	2.00

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UA	MW-384	C	2021/09/13	Oxidation Reduction Potential	mV	-93.0
UA	MW-384	C	2022/03/29	Oxidation Reduction Potential	mV	-136
UA	MW-384	C	2022/09/30	Oxidation Reduction Potential	mV	65.0
UA	MW-384	C	2023/03/14	Oxidation Reduction Potential	mV	-112
UA	MW-384	C	2023/05/22	Oxidation Reduction Potential	mV	69.0
UA	MW-384	C	2023/08/03	Oxidation Reduction Potential	mV	54.0
UA	MW-384	C	2023/11/01	Oxidation Reduction Potential	mV	-99.0
UA	MW-384	C	2016/01/21	Eh	V	0.27
UA	MW-384	C	2016/03/24	Eh	V	0.30
UA	MW-384	C	2016/06/23	Eh	V	0.17
UA	MW-384	C	2016/09/21	Eh	V	0.11
UA	MW-384	C	2016/12/27	Eh	V	0.14
UA	MW-384	C	2017/03/16	Eh	V	0.16
UA	MW-384	C	2017/06/19	Eh	V	-0.0013
UA	MW-384	C	2017/07/25	Eh	V	0.096
UA	MW-384	C	2017/11/28	Eh	V	0.17
UA	MW-384	C	2018/06/27	Eh	V	0.15
UA	MW-384	C	2018/09/25	Eh	V	-0.057
UA	MW-384	C	2019/03/20	Eh	V	0.073
UA	MW-384	C	2019/09/24	Eh	V	0.036
UA	MW-384	C	2020/03/25	Eh	V	0.091
UA	MW-384	C	2020/09/15	Eh	V	0.099
UA	MW-384	C	2021/03/11	Eh	V	0.20
UA	MW-384	C	2021/09/13	Eh	V	0.099
UA	MW-384	C	2022/03/29	Eh	V	0.058
UA	MW-384	C	2022/09/30	Eh	V	0.26
UA	MW-384	C	2023/03/14	Eh	V	0.083
UA	MW-384	C	2023/05/22	Eh	V	0.26
UA	MW-384	C	2023/08/03	Eh	V	0.25
UA	MW-384	C	2023/11/01	Eh	V	0.096
UA	MW-384	C	2017/07/25	Alkalinity, bicarbonate	mg/L CaCO3	632
UA	MW-384	C	2020/03/25	Alkalinity, bicarbonate	mg/L CaCO3	638
UA	MW-384	C	2020/09/15	Alkalinity, bicarbonate	mg/L CaCO3	674
UA	MW-384	C	2021/03/11	Alkalinity, bicarbonate	mg/L CaCO3	608
UA	MW-384	C	2021/09/13	Alkalinity, bicarbonate	mg/L CaCO3	632
UA	MW-384	C	2022/03/29	Alkalinity, bicarbonate	mg/L CaCO3	605
UA	MW-384	C	2022/09/30	Alkalinity, bicarbonate	mg/L CaCO3	617
UA	MW-384	C	2023/03/14	Alkalinity, bicarbonate	mg/L CaCO3	586
UA	MW-384	C	2023/05/22	Alkalinity, bicarbonate	mg/L CaCO3	594
UA	MW-384	C	2023/08/03	Alkalinity, bicarbonate	mg/L CaCO3	634
UA	MW-384	C	2023/11/01	Alkalinity, bicarbonate	mg/L CaCO3	619
UA	MW-384	C	2021/03/11	Alkalinity, carbonate	mg/L CaCO3	26.0
UA	MW-384	C	2022/03/29	Alkalinity, carbonate	mg/L CaCO3	23.0
UA	MW-384	C	2022/09/30	Alkalinity, carbonate	mg/L CaCO3	14.0
UA	MW-384	C	2023/05/22	Alkalinity, carbonate	mg/L CaCO3	11.0
UA	MW-384	C	2023/08/03	Alkalinity, carbonate	mg/L CaCO3	16.0
UA	MW-384	C	2023/11/01	Alkalinity, carbonate	mg/L CaCO3	30.0
UA	MW-384	C	2016/01/21	Barium, total	mg/L	0.0221
UA	MW-384	C	2016/03/24	Barium, total	mg/L	0.0245
UA	MW-384	C	2016/06/23	Barium, total	mg/L	0.0282
UA	MW-384	C	2016/09/21	Barium, total	mg/L	0.0258
UA	MW-384	C	2016/12/27	Barium, total	mg/L	0.0275
UA	MW-384	C	2017/03/16	Barium, total	mg/L	0.0283
UA	MW-384	C	2017/06/19	Barium, total	mg/L	0.0277
UA	MW-384	C	2017/07/25	Barium, total	mg/L	0.0264
UA	MW-384	C	2018/06/27	Barium, total	mg/L	0.0332
UA	MW-384	C	2018/09/25	Barium, total	mg/L	0.0285

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UA	MW-384	C	2019/03/20	Barium, total	mg/L	0.0336
UA	MW-384	C	2019/09/24	Barium, total	mg/L	0.0305
UA	MW-384	C	2020/03/25	Barium, total	mg/L	0.0322
UA	MW-384	C	2020/09/15	Barium, total	mg/L	0.0394
UA	MW-384	C	2021/03/11	Barium, total	mg/L	0.0430
UA	MW-384	C	2021/09/13	Barium, total	mg/L	0.0521
UA	MW-384	C	2022/03/29	Barium, total	mg/L	0.0285
UA	MW-384	C	2022/09/30	Barium, total	mg/L	0.0666
UA	MW-384	C	2023/03/14	Barium, total	mg/L	0.0530
UA	MW-384	C	2023/05/22	Barium, total	mg/L	0.0513
UA	MW-384	C	2023/08/03	Barium, total	mg/L	0.0287
UA	MW-384	C	2023/11/01	Barium, total	mg/L	0.0324
UA	MW-384	C	2016/01/21	Boron, total	mg/L	1.45
UA	MW-384	C	2016/03/24	Boron, total	mg/L	1.29
UA	MW-384	C	2016/06/23	Boron, total	mg/L	1.48
UA	MW-384	C	2016/09/21	Boron, total	mg/L	1.52
UA	MW-384	C	2016/12/27	Boron, total	mg/L	1.41
UA	MW-384	C	2017/03/16	Boron, total	mg/L	1.33
UA	MW-384	C	2017/06/19	Boron, total	mg/L	1.50
UA	MW-384	C	2017/07/25	Boron, total	mg/L	1.26
UA	MW-384	C	2017/11/28	Boron, total	mg/L	1.92
UA	MW-384	C	2018/06/27	Boron, total	mg/L	1.51
UA	MW-384	C	2018/09/25	Boron, total	mg/L	1.39
UA	MW-384	C	2019/03/20	Boron, total	mg/L	1.44
UA	MW-384	C	2019/09/24	Boron, total	mg/L	1.36
UA	MW-384	C	2020/03/25	Boron, total	mg/L	1.43
UA	MW-384	C	2020/09/15	Boron, total	mg/L	1.51
UA	MW-384	C	2021/03/11	Boron, total	mg/L	1.66
UA	MW-384	C	2021/09/13	Boron, total	mg/L	1.54
UA	MW-384	C	2022/03/29	Boron, total	mg/L	2.26
UA	MW-384	C	2022/09/30	Boron, total	mg/L	1.91
UA	MW-384	C	2023/03/14	Boron, total	mg/L	1.58
UA	MW-384	C	2023/05/22	Boron, total	mg/L	1.48
UA	MW-384	C	2023/08/03	Boron, total	mg/L	1.47
UA	MW-384	C	2023/11/01	Boron, total	mg/L	1.55
UA	MW-384	C	2016/01/21	Calcium, total	mg/L	22.6
UA	MW-384	C	2016/03/24	Calcium, total	mg/L	22.5
UA	MW-384	C	2016/06/23	Calcium, total	mg/L	23.2
UA	MW-384	C	2016/09/21	Calcium, total	mg/L	22.3
UA	MW-384	C	2016/12/27	Calcium, total	mg/L	19.8
UA	MW-384	C	2017/03/16	Calcium, total	mg/L	20.5
UA	MW-384	C	2017/06/19	Calcium, total	mg/L	19.5
UA	MW-384	C	2017/07/25	Calcium, total	mg/L	19.3
UA	MW-384	C	2017/11/28	Calcium, total	mg/L	20.7
UA	MW-384	C	2018/06/27	Calcium, total	mg/L	21.4
UA	MW-384	C	2018/09/25	Calcium, total	mg/L	19.8
UA	MW-384	C	2019/03/20	Calcium, total	mg/L	21.5
UA	MW-384	C	2019/09/24	Calcium, total	mg/L	19.8
UA	MW-384	C	2020/03/25	Calcium, total	mg/L	19.4
UA	MW-384	C	2020/09/15	Calcium, total	mg/L	18.4
UA	MW-384	C	2021/03/11	Calcium, total	mg/L	17.6
UA	MW-384	C	2021/09/13	Calcium, total	mg/L	20.0
UA	MW-384	C	2022/03/29	Calcium, total	mg/L	6.83
UA	MW-384	C	2022/09/30	Calcium, total	mg/L	19.4
UA	MW-384	C	2023/03/14	Calcium, total	mg/L	18.2
UA	MW-384	C	2023/05/22	Calcium, total	mg/L	17.4
UA	MW-384	C	2023/08/03	Calcium, total	mg/L	5.32

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UA	MW-384	C	2023/11/01	Calcium, total	mg/L	8.11
UA	MW-384	C	2016/01/21	Chloride, total	mg/L	138
UA	MW-384	C	2016/03/24	Chloride, total	mg/L	109
UA	MW-384	C	2016/06/23	Chloride, total	mg/L	141
UA	MW-384	C	2016/09/21	Chloride, total	mg/L	158
UA	MW-384	C	2016/12/27	Chloride, total	mg/L	187
UA	MW-384	C	2017/03/16	Chloride, total	mg/L	206
UA	MW-384	C	2017/06/19	Chloride, total	mg/L	170
UA	MW-384	C	2017/07/25	Chloride, total	mg/L	179
UA	MW-384	C	2017/11/28	Chloride, total	mg/L	234
UA	MW-384	C	2018/06/27	Chloride, total	mg/L	248
UA	MW-384	C	2018/09/25	Chloride, total	mg/L	396
UA	MW-384	C	2019/03/20	Chloride, total	mg/L	216
UA	MW-384	C	2019/09/24	Chloride, total	mg/L	197
UA	MW-384	C	2020/03/25	Chloride, total	mg/L	229
UA	MW-384	C	2020/09/15	Chloride, total	mg/L	493
UA	MW-384	C	2021/03/11	Chloride, total	mg/L	488
UA	MW-384	C	2021/09/13	Chloride, total	mg/L	501
UA	MW-384	C	2022/03/29	Chloride, total	mg/L	466
UA	MW-384	C	2022/09/30	Chloride, total	mg/L	531
UA	MW-384	C	2023/03/14	Chloride, total	mg/L	474
UA	MW-384	C	2023/05/22	Chloride, total	mg/L	492
UA	MW-384	C	2023/08/03	Chloride, total	mg/L	508
UA	MW-384	C	2023/11/01	Chloride, total	mg/L	978
UA	MW-384	C	2023/05/22	Iron, dissolved	mg/L	<0.02
UA	MW-384	C	2023/08/03	Iron, dissolved	mg/L	<0.0115
UA	MW-384	C	2017/07/25	Magnesium, total	mg/L	7.24
UA	MW-384	C	2020/03/25	Magnesium, total	mg/L	7.96
UA	MW-384	C	2020/09/15	Magnesium, total	mg/L	7.91
UA	MW-384	C	2021/03/11	Magnesium, total	mg/L	7.25
UA	MW-384	C	2021/09/13	Magnesium, total	mg/L	7.86
UA	MW-384	C	2022/03/29	Magnesium, total	mg/L	2.79
UA	MW-384	C	2022/09/30	Magnesium, total	mg/L	7.59
UA	MW-384	C	2023/03/14	Magnesium, total	mg/L	7.23
UA	MW-384	C	2023/05/22	Magnesium, total	mg/L	7.00
UA	MW-384	C	2023/08/03	Magnesium, total	mg/L	2.37
UA	MW-384	C	2023/11/01	Magnesium, total	mg/L	3.41
UA	MW-384	C	2023/05/22	Manganese, dissolved	mg/L	0.00310
UA	MW-384	C	2023/08/03	Manganese, dissolved	mg/L	0.00660
UA	MW-384	C	2023/05/22	Phosphate, dissolved	mg/L	0.0280
UA	MW-384	C	2023/08/03	Phosphate, dissolved	mg/L	0.0460
UA	MW-384	C	2017/07/25	Potassium, total	mg/L	1.92
UA	MW-384	C	2020/03/25	Potassium, total	mg/L	2.11
UA	MW-384	C	2020/09/15	Potassium, total	mg/L	2.66
UA	MW-384	C	2021/03/11	Potassium, total	mg/L	2.10
UA	MW-384	C	2021/09/13	Potassium, total	mg/L	2.47
UA	MW-384	C	2022/03/29	Potassium, total	mg/L	2.03
UA	MW-384	C	2022/09/30	Potassium, total	mg/L	2.64
UA	MW-384	C	2023/03/14	Potassium, total	mg/L	2.15
UA	MW-384	C	2023/05/22	Potassium, total	mg/L	2.65
UA	MW-384	C	2023/08/03	Potassium, total	mg/L	1.90
UA	MW-384	C	2023/11/01	Potassium, total	mg/L	2.04
UA	MW-384	C	2023/05/22	Silicon, dissolved	mg/L	4.23
UA	MW-384	C	2023/08/03	Silicon, dissolved	mg/L	3.85
UA	MW-384	C	2017/07/25	Sodium, total	mg/L	396
UA	MW-384	C	2020/03/25	Sodium, total	mg/L	474
UA	MW-384	C	2020/09/15	Sodium, total	mg/L	668

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UA	MW-384	C	2021/03/11	Sodium, total	mg/L	610
UA	MW-384	C	2021/09/13	Sodium, total	mg/L	553
UA	MW-384	C	2022/03/29	Sodium, total	mg/L	677
UA	MW-384	C	2022/09/30	Sodium, total	mg/L	577
UA	MW-384	C	2023/03/14	Sodium, total	mg/L	577
UA	MW-384	C	2023/05/22	Sodium, total	mg/L	575
UA	MW-384	C	2023/08/03	Sodium, total	mg/L	695
UA	MW-384	C	2023/11/01	Sodium, total	mg/L	709
UA	MW-384	C	2016/01/21	Sulfate, total	mg/L	178
UA	MW-384	C	2016/03/24	Sulfate, total	mg/L	178
UA	MW-384	C	2016/06/23	Sulfate, total	mg/L	135
UA	MW-384	C	2016/09/21	Sulfate, total	mg/L	142
UA	MW-384	C	2016/12/27	Sulfate, total	mg/L	160
UA	MW-384	C	2017/03/16	Sulfate, total	mg/L	156
UA	MW-384	C	2017/06/19	Sulfate, total	mg/L	130
UA	MW-384	C	2017/07/25	Sulfate, total	mg/L	127
UA	MW-384	C	2017/11/28	Sulfate, total	mg/L	114
UA	MW-384	C	2018/06/27	Sulfate, total	mg/L	124
UA	MW-384	C	2018/09/25	Sulfate, total	mg/L	82.0
UA	MW-384	C	2019/03/20	Sulfate, total	mg/L	94.0
UA	MW-384	C	2019/09/24	Sulfate, total	mg/L	102
UA	MW-384	C	2020/03/25	Sulfate, total	mg/L	110
UA	MW-384	C	2020/09/15	Sulfate, total	mg/L	53.0
UA	MW-384	C	2021/03/11	Sulfate, total	mg/L	38.0
UA	MW-384	C	2021/09/13	Sulfate, total	mg/L	40.0
UA	MW-384	C	2022/03/29	Sulfate, total	mg/L	34.0
UA	MW-384	C	2022/09/30	Sulfate, total	mg/L	35.0
UA	MW-384	C	2023/03/14	Sulfate, total	mg/L	36.0
UA	MW-384	C	2023/05/22	Sulfate, total	mg/L	43.0
UA	MW-384	C	2023/08/03	Sulfate, total	mg/L	32.0
UA	MW-384	C	2023/11/01	Sulfate, total	mg/L	30.0
UA	MW-384	C	2016/01/21	Temperature (Celsius)	degrees C	12.6
UA	MW-384	C	2016/03/24	Temperature (Celsius)	degrees C	14.6
UA	MW-384	C	2016/06/23	Temperature (Celsius)	degrees C	22.4
UA	MW-384	C	2016/09/21	Temperature (Celsius)	degrees C	24.4
UA	MW-384	C	2016/12/27	Temperature (Celsius)	degrees C	13.7
UA	MW-384	C	2017/03/16	Temperature (Celsius)	degrees C	13.6
UA	MW-384	C	2017/06/19	Temperature (Celsius)	degrees C	23.4
UA	MW-384	C	2017/07/25	Temperature (Celsius)	degrees C	26.6
UA	MW-384	C	2017/11/28	Temperature (Celsius)	degrees C	16.4
UA	MW-384	C	2018/06/27	Temperature (Celsius)	degrees C	19.8
UA	MW-384	C	2018/09/25	Temperature (Celsius)	degrees C	19.1
UA	MW-384	C	2019/03/20	Temperature (Celsius)	degrees C	14.9
UA	MW-384	C	2019/09/24	Temperature (Celsius)	degrees C	18.5
UA	MW-384	C	2020/03/25	Temperature (Celsius)	degrees C	16.4
UA	MW-384	C	2020/09/15	Temperature (Celsius)	degrees C	17.6
UA	MW-384	C	2021/03/11	Temperature (Celsius)	degrees C	15.4
UA	MW-384	C	2021/09/13	Temperature (Celsius)	degrees C	20.7
UA	MW-384	C	2022/03/29	Temperature (Celsius)	degrees C	16.7
UA	MW-384	C	2022/09/30	Temperature (Celsius)	degrees C	17.0
UA	MW-384	C	2023/03/14	Temperature (Celsius)	degrees C	15.7
UA	MW-384	C	2023/05/22	Temperature (Celsius)	degrees C	17.0
UA	MW-384	C	2023/08/03	Temperature (Celsius)	degrees C	17.5
UA	MW-384	C	2023/11/01	Temperature (Celsius)	degrees C	16.3
UA	MW-384	C	2016/01/21	Total Dissolved Solids	mg/L	992
UA	MW-384	C	2016/03/24	Total Dissolved Solids	mg/L	1,080
UA	MW-384	C	2016/06/23	Total Dissolved Solids	mg/L	1,110

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Baldwin Power Plant
Baldwin, IL

UA	MW-384	C	2016/09/21	Total Dissolved Solids	mg/L	1,080
UA	MW-384	C	2016/12/27	Total Dissolved Solids	mg/L	1,220
UA	MW-384	C	2017/03/16	Total Dissolved Solids	mg/L	1,230
UA	MW-384	C	2017/06/19	Total Dissolved Solids	mg/L	1,120
UA	MW-384	C	2017/07/25	Total Dissolved Solids	mg/L	1,090
UA	MW-384	C	2017/11/28	Total Dissolved Solids	mg/L	1,230
UA	MW-384	C	2018/06/27	Total Dissolved Solids	mg/L	1,200
UA	MW-384	C	2018/09/25	Total Dissolved Solids	mg/L	1,510
UA	MW-384	C	2019/03/20	Total Dissolved Solids	mg/L	1,180
UA	MW-384	C	2019/09/24	Total Dissolved Solids	mg/L	1,120
UA	MW-384	C	2020/03/25	Total Dissolved Solids	mg/L	1,150
UA	MW-384	C	2020/09/15	Total Dissolved Solids	mg/L	1,520
UA	MW-384	C	2021/03/11	Total Dissolved Solids	mg/L	1,540
UA	MW-384	C	2021/09/13	Total Dissolved Solids	mg/L	1,440
UA	MW-384	C	2022/03/29	Total Dissolved Solids	mg/L	1,520
UA	MW-384	C	2022/09/30	Total Dissolved Solids	mg/L	1,600
UA	MW-384	C	2023/03/14	Total Dissolved Solids	mg/L	1,500
UA	MW-384	C	2023/05/22	Total Dissolved Solids	mg/L	1,480
UA	MW-384	C	2023/08/03	Total Dissolved Solids	mg/L	1,570
UA	MW-384	C	2023/11/01	Total Dissolved Solids	mg/L	1,540
UA	MW-390	C	2016/03/22	pH (field)	SU	7.4
UA	MW-390	C	2016/06/23	pH (field)	SU	7.6
UA	MW-390	C	2016/08/18	pH (field)	SU	7.2
UA	MW-390	C	2016/09/20	pH (field)	SU	7.5
UA	MW-390	C	2016/12/22	pH (field)	SU	7.5
UA	MW-390	C	2017/03/15	pH (field)	SU	7.8
UA	MW-390	C	2017/06/20	pH (field)	SU	7.2
UA	MW-390	C	2017/07/28	pH (field)	SU	7.4
UA	MW-390	C	2017/11/27	pH (field)	SU	7.5
UA	MW-390	C	2018/06/26	pH (field)	SU	6.9
UA	MW-390	C	2018/09/25	pH (field)	SU	7.0
UA	MW-390	C	2019/03/19	pH (field)	SU	7.2
UA	MW-390	C	2019/09/24	pH (field)	SU	7.1
UA	MW-390	C	2020/03/26	pH (field)	SU	6.9
UA	MW-390	C	2020/09/16	pH (field)	SU	7.2
UA	MW-390	C	2021/03/12	pH (field)	SU	7.2
UA	MW-390	C	2021/09/15	pH (field)	SU	7.1
UA	MW-390	C	2022/03/29	pH (field)	SU	7.1
UA	MW-390	C	2022/09/30	pH (field)	SU	7.2
UA	MW-390	C	2023/03/14	pH (field)	SU	7.0
UA	MW-390	C	2023/05/17	pH (field)	SU	6.8
UA	MW-390	C	2023/08/04	pH (field)	SU	7.2
UA	MW-390	C	2023/11/02	pH (field)	SU	7.2
UA	MW-390	C	2016/03/22	Oxidation Reduction Potential	mV	132
UA	MW-390	C	2016/06/23	Oxidation Reduction Potential	mV	7.00
UA	MW-390	C	2016/08/18	Oxidation Reduction Potential	mV	-19.0
UA	MW-390	C	2016/09/20	Oxidation Reduction Potential	mV	-28.0
UA	MW-390	C	2016/12/22	Oxidation Reduction Potential	mV	-16.0
UA	MW-390	C	2017/03/15	Oxidation Reduction Potential	mV	-66.0
UA	MW-390	C	2017/06/20	Oxidation Reduction Potential	mV	-124
UA	MW-390	C	2017/07/28	Oxidation Reduction Potential	mV	-92.0
UA	MW-390	C	2017/11/27	Oxidation Reduction Potential	mV	204
UA	MW-390	C	2018/06/26	Oxidation Reduction Potential	mV	-18.0
UA	MW-390	C	2018/09/25	Oxidation Reduction Potential	mV	-162
UA	MW-390	C	2019/03/19	Oxidation Reduction Potential	mV	-128
UA	MW-390	C	2019/09/24	Oxidation Reduction Potential	mV	-133
UA	MW-390	C	2020/03/26	Oxidation Reduction Potential	mV	-14.0

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UA	MW-390	C	2020/09/16	Oxidation Reduction Potential	mV	-105
UA	MW-390	C	2021/03/12	Oxidation Reduction Potential	mV	-65.0
UA	MW-390	C	2021/09/15	Oxidation Reduction Potential	mV	-98.0
UA	MW-390	C	2022/03/29	Oxidation Reduction Potential	mV	-106
UA	MW-390	C	2022/09/30	Oxidation Reduction Potential	mV	55.0
UA	MW-390	C	2023/03/14	Oxidation Reduction Potential	mV	-70.2
UA	MW-390	C	2023/05/17	Oxidation Reduction Potential	mV	-32.0
UA	MW-390	C	2023/08/04	Oxidation Reduction Potential	mV	73.0
UA	MW-390	C	2023/11/02	Oxidation Reduction Potential	mV	-70.0
UA	MW-390	C	2016/03/22	Eh	V	0.33
UA	MW-390	C	2016/06/23	Eh	V	0.20
UA	MW-390	C	2016/08/18	Eh	V	0.17
UA	MW-390	C	2016/09/20	Eh	V	0.16
UA	MW-390	C	2016/12/22	Eh	V	0.18
UA	MW-390	C	2017/03/15	Eh	V	0.13
UA	MW-390	C	2017/06/20	Eh	V	0.065
UA	MW-390	C	2017/07/28	Eh	V	0.10
UA	MW-390	C	2017/11/27	Eh	V	0.40
UA	MW-390	C	2018/06/26	Eh	V	0.17
UA	MW-390	C	2018/09/25	Eh	V	0.030
UA	MW-390	C	2019/03/19	Eh	V	0.068
UA	MW-390	C	2019/09/24	Eh	V	0.061
UA	MW-390	C	2020/03/26	Eh	V	0.18
UA	MW-390	C	2020/09/16	Eh	V	0.090
UA	MW-390	C	2021/03/12	Eh	V	0.13
UA	MW-390	C	2021/09/15	Eh	V	0.095
UA	MW-390	C	2022/03/29	Eh	V	0.091
UA	MW-390	C	2022/09/30	Eh	V	0.25
UA	MW-390	C	2023/03/14	Eh	V	0.13
UA	MW-390	C	2023/05/17	Eh	V	0.16
UA	MW-390	C	2023/08/04	Eh	V	0.27
UA	MW-390	C	2023/11/02	Eh	V	0.12
UA	MW-390	C	2017/07/28	Alkalinity, bicarbonate	mg/L CaCO3	392
UA	MW-390	C	2020/03/26	Alkalinity, bicarbonate	mg/L CaCO3	376
UA	MW-390	C	2020/09/16	Alkalinity, bicarbonate	mg/L CaCO3	408
UA	MW-390	C	2021/03/12	Alkalinity, bicarbonate	mg/L CaCO3	422
UA	MW-390	C	2021/09/15	Alkalinity, bicarbonate	mg/L CaCO3	416
UA	MW-390	C	2022/03/29	Alkalinity, bicarbonate	mg/L CaCO3	413
UA	MW-390	C	2022/09/30	Alkalinity, bicarbonate	mg/L CaCO3	435
UA	MW-390	C	2023/03/14	Alkalinity, bicarbonate	mg/L CaCO3	374
UA	MW-390	C	2023/05/17	Alkalinity, bicarbonate	mg/L CaCO3	382
UA	MW-390	C	2023/08/04	Alkalinity, bicarbonate	mg/L CaCO3	426
UA	MW-390	C	2023/11/02	Alkalinity, bicarbonate	mg/L CaCO3	440
UA	MW-390	C	2016/03/22	Barium, total	mg/L	0.0330
UA	MW-390	C	2016/06/23	Barium, total	mg/L	0.0299
UA	MW-390	C	2016/08/18	Barium, total	mg/L	0.0289
UA	MW-390	C	2016/09/20	Barium, total	mg/L	0.0258
UA	MW-390	C	2016/12/22	Barium, total	mg/L	0.0228
UA	MW-390	C	2017/03/15	Barium, total	mg/L	0.0520
UA	MW-390	C	2017/06/20	Barium, total	mg/L	0.0400
UA	MW-390	C	2017/07/28	Barium, total	mg/L	0.0385
UA	MW-390	C	2018/06/26	Barium, total	mg/L	0.0806
UA	MW-390	C	2018/09/25	Barium, total	mg/L	0.101
UA	MW-390	C	2019/03/19	Barium, total	mg/L	0.0962
UA	MW-390	C	2019/09/24	Barium, total	mg/L	0.0830
UA	MW-390	C	2020/03/26	Barium, total	mg/L	0.0895
UA	MW-390	C	2020/09/16	Barium, total	mg/L	0.0785

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UA	MW-390	C	2021/03/12	Barium, total	mg/L	0.0838
UA	MW-390	C	2021/09/15	Barium, total	mg/L	0.0695
UA	MW-390	C	2022/03/29	Barium, total	mg/L	0.0552
UA	MW-390	C	2022/09/30	Barium, total	mg/L	0.105
UA	MW-390	C	2023/03/14	Barium, total	mg/L	0.0674
UA	MW-390	C	2023/05/17	Barium, total	mg/L	0.0886
UA	MW-390	C	2023/08/04	Barium, total	mg/L	0.0225
UA	MW-390	C	2023/11/02	Barium, total	mg/L	0.0442
UA	MW-390	C	2016/03/22	Boron, total	mg/L	1.74
UA	MW-390	C	2016/06/23	Boron, total	mg/L	2.30
UA	MW-390	C	2016/08/18	Boron, total	mg/L	1.88
UA	MW-390	C	2016/09/20	Boron, total	mg/L	2.18
UA	MW-390	C	2016/12/22	Boron, total	mg/L	2.12
UA	MW-390	C	2017/03/15	Boron, total	mg/L	0.668
UA	MW-390	C	2017/06/20	Boron, total	mg/L	1.30
UA	MW-390	C	2017/07/28	Boron, total	mg/L	1.12
UA	MW-390	C	2017/11/27	Boron, total	mg/L	0.854
UA	MW-390	C	2018/06/26	Boron, total	mg/L	0.207
UA	MW-390	C	2018/09/25	Boron, total	mg/L	0.175
UA	MW-390	C	2019/03/19	Boron, total	mg/L	0.178
UA	MW-390	C	2019/09/24	Boron, total	mg/L	0.288
UA	MW-390	C	2020/03/26	Boron, total	mg/L	0.182
UA	MW-390	C	2020/09/16	Boron, total	mg/L	0.247
UA	MW-390	C	2021/03/12	Boron, total	mg/L	0.274
UA	MW-390	C	2021/09/15	Boron, total	mg/L	0.308
UA	MW-390	C	2022/03/29	Boron, total	mg/L	0.546
UA	MW-390	C	2022/09/30	Boron, total	mg/L	0.384
UA	MW-390	C	2023/03/14	Boron, total	mg/L	0.268
UA	MW-390	C	2023/05/17	Boron, total	mg/L	0.234
UA	MW-390	C	2023/08/04	Boron, total	mg/L	1.42
UA	MW-390	C	2023/11/02	Boron, total	mg/L	0.962
UA	MW-390	C	2016/03/22	Calcium, total	mg/L	55.0
UA	MW-390	C	2016/06/23	Calcium, total	mg/L	53.6
UA	MW-390	C	2016/08/18	Calcium, total	mg/L	53.1
UA	MW-390	C	2016/09/20	Calcium, total	mg/L	52.8
UA	MW-390	C	2016/12/22	Calcium, total	mg/L	49.6
UA	MW-390	C	2017/03/15	Calcium, total	mg/L	53.0
UA	MW-390	C	2017/06/20	Calcium, total	mg/L	57.4
UA	MW-390	C	2017/07/28	Calcium, total	mg/L	58.6
UA	MW-390	C	2017/11/27	Calcium, total	mg/L	69.7
UA	MW-390	C	2018/06/26	Calcium, total	mg/L	68.4
UA	MW-390	C	2018/09/25	Calcium, total	mg/L	90.4
UA	MW-390	C	2019/03/19	Calcium, total	mg/L	89.2
UA	MW-390	C	2019/09/24	Calcium, total	mg/L	90.9
UA	MW-390	C	2020/03/26	Calcium, total	mg/L	96.7
UA	MW-390	C	2020/09/16	Calcium, total	mg/L	91.8
UA	MW-390	C	2021/03/12	Calcium, total	mg/L	92.2
UA	MW-390	C	2021/09/15	Calcium, total	mg/L	90.2
UA	MW-390	C	2022/03/29	Calcium, total	mg/L	88.1
UA	MW-390	C	2022/09/30	Calcium, total	mg/L	100
UA	MW-390	C	2023/03/14	Calcium, total	mg/L	82.6
UA	MW-390	C	2023/05/17	Calcium, total	mg/L	96.0
UA	MW-390	C	2023/08/04	Calcium, total	mg/L	58.4
UA	MW-390	C	2023/11/02	Calcium, total	mg/L	74.0
UA	MW-390	C	2016/03/22	Chloride, total	mg/L	24.0
UA	MW-390	C	2016/06/23	Chloride, total	mg/L	36.0
UA	MW-390	C	2016/08/18	Chloride, total	mg/L	77.0

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UA	MW-390	C	2016/09/20	Chloride, total	mg/L	61.0
UA	MW-390	C	2016/12/22	Chloride, total	mg/L	74.0
UA	MW-390	C	2017/03/15	Chloride, total	mg/L	125
UA	MW-390	C	2017/06/20	Chloride, total	mg/L	127
UA	MW-390	C	2017/07/28	Chloride, total	mg/L	123
UA	MW-390	C	2017/11/27	Chloride, total	mg/L	112
UA	MW-390	C	2018/06/26	Chloride, total	mg/L	64.0
UA	MW-390	C	2018/09/25	Chloride, total	mg/L	69.0
UA	MW-390	C	2019/03/19	Chloride, total	mg/L	67.0
UA	MW-390	C	2019/09/24	Chloride, total	mg/L	116
UA	MW-390	C	2020/03/26	Chloride, total	mg/L	87.0
UA	MW-390	C	2020/09/16	Chloride, total	mg/L	71.0
UA	MW-390	C	2021/03/12	Chloride, total	mg/L	106
UA	MW-390	C	2021/09/15	Chloride, total	mg/L	62.0
UA	MW-390	C	2022/03/29	Chloride, total	mg/L	80.0
UA	MW-390	C	2022/09/30	Chloride, total	mg/L	115
UA	MW-390	C	2023/03/14	Chloride, total	mg/L	54.0
UA	MW-390	C	2023/05/17	Chloride, total	mg/L	47.0
UA	MW-390	C	2023/08/04	Chloride, total	mg/L	74.0
UA	MW-390	C	2023/11/02	Chloride, total	mg/L	72.0
UA	MW-390	C	2023/05/17	Iron, dissolved	mg/L	<0.02
UA	MW-390	C	2023/08/04	Iron, dissolved	mg/L	<0.012
UA	MW-390	C	2017/07/28	Magnesium, total	mg/L	29.8
UA	MW-390	C	2020/03/26	Magnesium, total	mg/L	42.2
UA	MW-390	C	2020/09/16	Magnesium, total	mg/L	42.6
UA	MW-390	C	2021/03/12	Magnesium, total	mg/L	40.4
UA	MW-390	C	2021/09/15	Magnesium, total	mg/L	38.6
UA	MW-390	C	2022/03/29	Magnesium, total	mg/L	39.9
UA	MW-390	C	2022/09/30	Magnesium, total	mg/L	42.4
UA	MW-390	C	2023/03/14	Magnesium, total	mg/L	34.6
UA	MW-390	C	2023/05/17	Magnesium, total	mg/L	39.4
UA	MW-390	C	2023/08/04	Magnesium, total	mg/L	32.2
UA	MW-390	C	2023/11/02	Magnesium, total	mg/L	34.8
UA	MW-390	C	2023/05/17	Manganese, dissolved	mg/L	0.364
UA	MW-390	C	2023/08/04	Manganese, dissolved	mg/L	0.681
UA	MW-390	C	2023/05/17	Phosphate, dissolved	mg/L	0.0860
UA	MW-390	C	2023/08/04	Phosphate, dissolved	mg/L	0.0180
UA	MW-390	C	2017/07/28	Potassium, total	mg/L	5.62
UA	MW-390	C	2020/03/26	Potassium, total	mg/L	4.17
UA	MW-390	C	2020/09/16	Potassium, total	mg/L	3.88
UA	MW-390	C	2021/03/12	Potassium, total	mg/L	3.42
UA	MW-390	C	2021/09/15	Potassium, total	mg/L	3.26
UA	MW-390	C	2022/03/29	Potassium, total	mg/L	4.05
UA	MW-390	C	2022/09/30	Potassium, total	mg/L	4.14
UA	MW-390	C	2023/03/14	Potassium, total	mg/L	3.08
UA	MW-390	C	2023/05/17	Potassium, total	mg/L	3.78
UA	MW-390	C	2023/08/04	Potassium, total	mg/L	3.70
UA	MW-390	C	2023/11/02	Potassium, total	mg/L	3.99
UA	MW-390	C	2023/05/17	Silicon, dissolved	mg/L	7.77
UA	MW-390	C	2023/08/04	Silicon, dissolved	mg/L	7.23
UA	MW-390	C	2017/07/28	Sodium, total	mg/L	225
UA	MW-390	C	2020/03/26	Sodium, total	mg/L	98.7
UA	MW-390	C	2020/09/16	Sodium, total	mg/L	84.2
UA	MW-390	C	2021/03/12	Sodium, total	mg/L	107
UA	MW-390	C	2021/09/15	Sodium, total	mg/L	68.4
UA	MW-390	C	2022/03/29	Sodium, total	mg/L	122
UA	MW-390	C	2022/09/30	Sodium, total	mg/L	113

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UA	MW-390	C	2023/03/14	Sodium, total	mg/L	75.5
UA	MW-390	C	2023/05/17	Sodium, total	mg/L	106
UA	MW-390	C	2023/08/04	Sodium, total	mg/L	178
UA	MW-390	C	2023/11/02	Sodium, total	mg/L	143
UA	MW-390	C	2016/03/22	Sulfate, total	mg/L	102
UA	MW-390	C	2016/06/23	Sulfate, total	mg/L	154
UA	MW-390	C	2016/08/18	Sulfate, total	mg/L	169
UA	MW-390	C	2016/09/20	Sulfate, total	mg/L	154
UA	MW-390	C	2016/12/22	Sulfate, total	mg/L	171
UA	MW-390	C	2017/03/15	Sulfate, total	mg/L	234
UA	MW-390	C	2017/06/20	Sulfate, total	mg/L	233
UA	MW-390	C	2017/07/28	Sulfate, total	mg/L	222
UA	MW-390	C	2017/11/27	Sulfate, total	mg/L	228
UA	MW-390	C	2018/06/26	Sulfate, total	mg/L	141
UA	MW-390	C	2018/09/25	Sulfate, total	mg/L	117
UA	MW-390	C	2019/03/19	Sulfate, total	mg/L	114
UA	MW-390	C	2019/09/24	Sulfate, total	mg/L	171
UA	MW-390	C	2020/03/26	Sulfate, total	mg/L	139
UA	MW-390	C	2020/09/16	Sulfate, total	mg/L	132
UA	MW-390	C	2021/03/12	Sulfate, total	mg/L	174
UA	MW-390	C	2021/09/15	Sulfate, total	mg/L	152
UA	MW-390	C	2022/03/29	Sulfate, total	mg/L	142
UA	MW-390	C	2022/09/30	Sulfate, total	mg/L	180
UA	MW-390	C	2023/03/14	Sulfate, total	mg/L	107
UA	MW-390	C	2023/05/17	Sulfate, total	mg/L	118
UA	MW-390	C	2023/08/04	Sulfate, total	mg/L	133
UA	MW-390	C	2023/11/02	Sulfate, total	mg/L	134
UA	MW-390	C	2016/03/22	Temperature (Celsius)	degrees C	15.2
UA	MW-390	C	2016/06/23	Temperature (Celsius)	degrees C	22.3
UA	MW-390	C	2016/08/18	Temperature (Celsius)	degrees C	20.5
UA	MW-390	C	2016/09/20	Temperature (Celsius)	degrees C	22.0
UA	MW-390	C	2016/12/22	Temperature (Celsius)	degrees C	13.2
UA	MW-390	C	2017/03/15	Temperature (Celsius)	degrees C	12.4
UA	MW-390	C	2017/06/20	Temperature (Celsius)	degrees C	23.8
UA	MW-390	C	2017/07/28	Temperature (Celsius)	degrees C	18.5
UA	MW-390	C	2017/11/27	Temperature (Celsius)	degrees C	16.4
UA	MW-390	C	2018/06/26	Temperature (Celsius)	degrees C	20.7
UA	MW-390	C	2018/09/25	Temperature (Celsius)	degrees C	19.5
UA	MW-390	C	2019/03/19	Temperature (Celsius)	degrees C	14.4
UA	MW-390	C	2019/09/24	Temperature (Celsius)	degrees C	17.2
UA	MW-390	C	2020/03/26	Temperature (Celsius)	degrees C	13.8
UA	MW-390	C	2020/09/16	Temperature (Celsius)	degrees C	16.4
UA	MW-390	C	2021/03/12	Temperature (Celsius)	degrees C	13.0
UA	MW-390	C	2021/09/15	Temperature (Celsius)	degrees C	18.4
UA	MW-390	C	2022/03/29	Temperature (Celsius)	degrees C	12.8
UA	MW-390	C	2022/09/30	Temperature (Celsius)	degrees C	17.0
UA	MW-390	C	2023/03/14	Temperature (Celsius)	degrees C	13.4
UA	MW-390	C	2023/05/17	Temperature (Celsius)	degrees C	15.4
UA	MW-390	C	2023/08/04	Temperature (Celsius)	degrees C	17.3
UA	MW-390	C	2023/11/02	Temperature (Celsius)	degrees C	16.6
UA	MW-390	C	2016/03/22	Total Dissolved Solids	mg/L	590
UA	MW-390	C	2016/06/23	Total Dissolved Solids	mg/L	722
UA	MW-390	C	2016/08/18	Total Dissolved Solids	mg/L	778
UA	MW-390	C	2016/09/20	Total Dissolved Solids	mg/L	704
UA	MW-390	C	2016/12/22	Total Dissolved Solids	mg/L	780
UA	MW-390	C	2017/03/15	Total Dissolved Solids	mg/L	898
UA	MW-390	C	2017/06/20	Total Dissolved Solids	mg/L	894

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Baldwin, IL

UA	MW-390	C	2017/07/28	Total Dissolved Solids	mg/L	842
UA	MW-390	C	2017/11/27	Total Dissolved Solids	mg/L	898
UA	MW-390	C	2018/06/26	Total Dissolved Solids	mg/L	636
UA	MW-390	C	2018/09/25	Total Dissolved Solids	mg/L	660
UA	MW-390	C	2019/03/19	Total Dissolved Solids	mg/L	646
UA	MW-390	C	2019/09/24	Total Dissolved Solids	mg/L	800
UA	MW-390	C	2020/03/26	Total Dissolved Solids	mg/L	654
UA	MW-390	C	2020/09/16	Total Dissolved Solids	mg/L	644
UA	MW-390	C	2021/03/12	Total Dissolved Solids	mg/L	852
UA	MW-390	C	2021/09/15	Total Dissolved Solids	mg/L	682
UA	MW-390	C	2022/03/29	Total Dissolved Solids	mg/L	742
UA	MW-390	C	2022/09/30	Total Dissolved Solids	mg/L	826
UA	MW-390	C	2023/03/14	Total Dissolved Solids	mg/L	544
UA	MW-390	C	2023/05/17	Total Dissolved Solids	mg/L	642
UA	MW-390	C	2023/08/04	Total Dissolved Solids	mg/L	740
UA	MW-390	C	2023/11/02	Total Dissolved Solids	mg/L	750
UA	MW-391	C	2016/12/22	pH (field)	SU	7.6
UA	MW-391	C	2017/03/15	pH (field)	SU	8.0
UA	MW-391	C	2017/06/20	pH (field)	SU	7.5
UA	MW-391	C	2018/06/26	pH (field)	SU	7.3
UA	MW-391	C	2018/09/25	pH (field)	SU	7.5
UA	MW-391	C	2019/03/19	pH (field)	SU	7.6
UA	MW-391	C	2019/09/25	pH (field)	SU	7.6
UA	MW-391	C	2020/03/24	pH (field)	SU	7.7
UA	MW-391	C	2020/09/16	pH (field)	SU	7.8
UA	MW-391	C	2021/03/12	pH (field)	SU	7.7
UA	MW-391	C	2021/06/22	pH (field)	SU	7.7
UA	MW-391	C	2021/09/14	pH (field)	SU	7.7
UA	MW-391	C	2022/03/29	pH (field)	SU	7.9
UA	MW-391	C	2022/09/30	pH (field)	SU	8.2
UA	MW-391	C	2023/03/14	pH (field)	SU	7.8
UA	MW-391	C	2023/05/17	pH (field)	SU	7.8
UA	MW-391	C	2023/08/04	pH (field)	SU	7.8
UA	MW-391	C	2023/11/03	pH (field)	SU	7.7
UA	MW-391	C	2016/12/22	Oxidation Reduction Potential	mV	1.00
UA	MW-391	C	2017/03/15	Oxidation Reduction Potential	mV	14.0
UA	MW-391	C	2017/06/20	Oxidation Reduction Potential	mV	116
UA	MW-391	C	2018/06/26	Oxidation Reduction Potential	mV	101
UA	MW-391	C	2018/09/25	Oxidation Reduction Potential	mV	140
UA	MW-391	C	2019/03/19	Oxidation Reduction Potential	mV	63.0
UA	MW-391	C	2019/09/25	Oxidation Reduction Potential	mV	56.0
UA	MW-391	C	2020/03/24	Oxidation Reduction Potential	mV	73.0
UA	MW-391	C	2020/09/16	Oxidation Reduction Potential	mV	22.0
UA	MW-391	C	2021/03/12	Oxidation Reduction Potential	mV	7.00
UA	MW-391	C	2021/06/22	Oxidation Reduction Potential	mV	31.0
UA	MW-391	C	2021/09/14	Oxidation Reduction Potential	mV	-4.00
UA	MW-391	C	2022/03/29	Oxidation Reduction Potential	mV	-6.00
UA	MW-391	C	2022/09/30	Oxidation Reduction Potential	mV	110
UA	MW-391	C	2023/03/14	Oxidation Reduction Potential	mV	-6.10
UA	MW-391	C	2023/05/17	Oxidation Reduction Potential	mV	53.0
UA	MW-391	C	2023/08/04	Oxidation Reduction Potential	mV	122
UA	MW-391	C	2023/11/03	Oxidation Reduction Potential	mV	55.0
UA	MW-391	C	2016/12/22	Eh	V	0.20
UA	MW-391	C	2017/03/15	Eh	V	0.21
UA	MW-391	C	2017/06/20	Eh	V	0.31
UA	MW-391	C	2018/06/26	Eh	V	0.29
UA	MW-391	C	2018/09/25	Eh	V	0.33

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UA	MW-391	C	2019/03/19	Eh	V	0.26
UA	MW-391	C	2019/09/25	Eh	V	0.25
UA	MW-391	C	2020/03/24	Eh	V	0.27
UA	MW-391	C	2020/09/16	Eh	V	0.22
UA	MW-391	C	2021/03/12	Eh	V	0.20
UA	MW-391	C	2021/06/22	Eh	V	0.23
UA	MW-391	C	2021/09/14	Eh	V	0.19
UA	MW-391	C	2022/03/29	Eh	V	0.19
UA	MW-391	C	2022/09/30	Eh	V	0.31
UA	MW-391	C	2023/03/14	Eh	V	0.19
UA	MW-391	C	2023/05/17	Eh	V	0.25
UA	MW-391	C	2023/08/04	Eh	V	0.32
UA	MW-391	C	2023/11/03	Eh	V	0.25
UA	MW-391	C	2020/03/24	Alkalinity, bicarbonate	mg/L CaCO3	590
UA	MW-391	C	2020/09/16	Alkalinity, bicarbonate	mg/L CaCO3	588
UA	MW-391	C	2021/03/12	Alkalinity, bicarbonate	mg/L CaCO3	566
UA	MW-391	C	2021/09/14	Alkalinity, bicarbonate	mg/L CaCO3	560
UA	MW-391	C	2022/03/29	Alkalinity, bicarbonate	mg/L CaCO3	540
UA	MW-391	C	2022/09/30	Alkalinity, bicarbonate	mg/L CaCO3	632
UA	MW-391	C	2023/03/14	Alkalinity, bicarbonate	mg/L CaCO3	734
UA	MW-391	C	2023/05/17	Alkalinity, bicarbonate	mg/L CaCO3	728
UA	MW-391	C	2023/08/04	Alkalinity, bicarbonate	mg/L CaCO3	743
UA	MW-391	C	2023/11/03	Alkalinity, bicarbonate	mg/L CaCO3	643
UA	MW-391	C	2022/03/29	Alkalinity, carbonate	mg/L CaCO3	22.0
UA	MW-391	C	2022/09/30	Alkalinity, carbonate	mg/L CaCO3	24.0
UA	MW-391	C	2023/05/17	Alkalinity, carbonate	mg/L CaCO3	6.00
UA	MW-391	C	2023/11/03	Alkalinity, carbonate	mg/L CaCO3	17.0
UA	MW-391	C	2016/12/22	Barium, total	mg/L	0.0293
UA	MW-391	C	2017/03/15	Barium, total	mg/L	0.0332
UA	MW-391	C	2017/06/20	Barium, total	mg/L	0.0350
UA	MW-391	C	2018/06/26	Barium, total	mg/L	0.0475
UA	MW-391	C	2018/09/25	Barium, total	mg/L	0.0450
UA	MW-391	C	2019/03/19	Barium, total	mg/L	0.0366
UA	MW-391	C	2019/09/25	Barium, total	mg/L	0.0330
UA	MW-391	C	2020/03/24	Barium, total	mg/L	0.0297
UA	MW-391	C	2020/09/16	Barium, total	mg/L	0.0256
UA	MW-391	C	2021/03/12	Barium, total	mg/L	0.0161
UA	MW-391	C	2021/09/14	Barium, total	mg/L	0.0165
UA	MW-391	C	2022/03/29	Barium, total	mg/L	0.0135
UA	MW-391	C	2022/09/30	Barium, total	mg/L	0.0222
UA	MW-391	C	2023/03/14	Barium, total	mg/L	0.0209
UA	MW-391	C	2023/05/17	Barium, total	mg/L	0.0287
UA	MW-391	C	2023/08/04	Barium, total	mg/L	0.0234
UA	MW-391	C	2023/11/03	Barium, total	mg/L	0.124
UA	MW-391	C	2016/12/22	Boron, total	mg/L	1.30
UA	MW-391	C	2017/03/15	Boron, total	mg/L	1.43
UA	MW-391	C	2017/06/20	Boron, total	mg/L	1.88
UA	MW-391	C	2018/06/26	Boron, total	mg/L	8.91
UA	MW-391	C	2018/09/25	Boron, total	mg/L	8.60
UA	MW-391	C	2019/03/19	Boron, total	mg/L	6.77
UA	MW-391	C	2019/09/25	Boron, total	mg/L	6.16
UA	MW-391	C	2020/03/24	Boron, total	mg/L	5.29
UA	MW-391	C	2020/09/16	Boron, total	mg/L	4.35
UA	MW-391	C	2021/03/12	Boron, total	mg/L	2.60
UA	MW-391	C	2021/09/14	Boron, total	mg/L	2.84
UA	MW-391	C	2022/03/29	Boron, total	mg/L	3.24
UA	MW-391	C	2022/09/30	Boron, total	mg/L	3.25

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UA	MW-391	C	2023/03/14	Boron, total	mg/L	2.45
UA	MW-391	C	2023/05/17	Boron, total	mg/L	2.49
UA	MW-391	C	2023/08/04	Boron, total	mg/L	2.38
UA	MW-391	C	2023/11/03	Boron, total	mg/L	3.75
UA	MW-391	C	2016/12/22	Calcium, total	mg/L	22.4
UA	MW-391	C	2017/03/15	Calcium, total	mg/L	24.5
UA	MW-391	C	2017/06/20	Calcium, total	mg/L	23.6
UA	MW-391	C	2018/06/26	Calcium, total	mg/L	78.9
UA	MW-391	C	2018/09/25	Calcium, total	mg/L	64.6
UA	MW-391	C	2019/03/19	Calcium, total	mg/L	44.7
UA	MW-391	C	2019/09/25	Calcium, total	mg/L	35.5
UA	MW-391	C	2020/03/24	Calcium, total	mg/L	21.4
UA	MW-391	C	2020/09/16	Calcium, total	mg/L	24.7
UA	MW-391	C	2021/03/12	Calcium, total	mg/L	7.06
UA	MW-391	C	2021/09/14	Calcium, total	mg/L	8.95
UA	MW-391	C	2022/03/29	Calcium, total	mg/L	6.63
UA	MW-391	C	2022/09/30	Calcium, total	mg/L	8.06
UA	MW-391	C	2023/03/14	Calcium, total	mg/L	11.3
UA	MW-391	C	2023/05/17	Calcium, total	mg/L	18.7
UA	MW-391	C	2023/08/04	Calcium, total	mg/L	15.0
UA	MW-391	C	2023/11/03	Calcium, total	mg/L	183
UA	MW-391	C	2016/12/22	Chloride, total	mg/L	258
UA	MW-391	C	2017/03/15	Chloride, total	mg/L	274
UA	MW-391	C	2017/06/20	Chloride, total	mg/L	300
UA	MW-391	C	2018/06/26	Chloride, total	mg/L	168
UA	MW-391	C	2018/09/25	Chloride, total	mg/L	181
UA	MW-391	C	2019/03/19	Chloride, total	mg/L	182
UA	MW-391	C	2019/09/25	Chloride, total	mg/L	194
UA	MW-391	C	2020/03/24	Chloride, total	mg/L	206
UA	MW-391	C	2020/09/16	Chloride, total	mg/L	186
UA	MW-391	C	2021/03/12	Chloride, total	mg/L	147
UA	MW-391	C	2021/09/14	Chloride, total	mg/L	116
UA	MW-391	C	2022/03/29	Chloride, total	mg/L	110
UA	MW-391	C	2022/09/30	Chloride, total	mg/L	147
UA	MW-391	C	2023/03/14	Chloride, total	mg/L	161
UA	MW-391	C	2023/05/17	Chloride, total	mg/L	170
UA	MW-391	C	2023/08/04	Chloride, total	mg/L	174
UA	MW-391	C	2023/11/03	Chloride, total	mg/L	228
UA	MW-391	C	2023/05/17	Iron, dissolved	mg/L	<0.02
UA	MW-391	C	2023/08/04	Iron, dissolved	mg/L	<0.023
UA	MW-391	C	2020/03/24	Magnesium, total	mg/L	13.6
UA	MW-391	C	2020/09/16	Magnesium, total	mg/L	14.0
UA	MW-391	C	2021/03/12	Magnesium, total	mg/L	3.92
UA	MW-391	C	2021/09/14	Magnesium, total	mg/L	4.55
UA	MW-391	C	2022/03/29	Magnesium, total	mg/L	3.58
UA	MW-391	C	2022/09/30	Magnesium, total	mg/L	3.88
UA	MW-391	C	2023/03/14	Magnesium, total	mg/L	5.01
UA	MW-391	C	2023/05/17	Magnesium, total	mg/L	6.60
UA	MW-391	C	2023/08/04	Magnesium, total	mg/L	6.64
UA	MW-391	C	2023/11/03	Magnesium, total	mg/L	21.9
UA	MW-391	C	2023/05/17	Manganese, dissolved	mg/L	0.00700
UA	MW-391	C	2023/08/04	Manganese, dissolved	mg/L	0.0115
UA	MW-391	C	2023/05/17	Phosphate, dissolved	mg/L	0.0250
UA	MW-391	C	2023/08/04	Phosphate, dissolved	mg/L	0.0520
UA	MW-391	C	2020/03/24	Potassium, total	mg/L	4.75
UA	MW-391	C	2020/09/16	Potassium, total	mg/L	5.50
UA	MW-391	C	2021/03/12	Potassium, total	mg/L	2.39

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UA	MW-391	C	2021/09/14	Potassium, total	mg/L	2.70
UA	MW-391	C	2022/03/29	Potassium, total	mg/L	2.60
UA	MW-391	C	2022/09/30	Potassium, total	mg/L	2.99
UA	MW-391	C	2023/03/14	Potassium, total	mg/L	3.06
UA	MW-391	C	2023/05/17	Potassium, total	mg/L	3.96
UA	MW-391	C	2023/08/04	Potassium, total	mg/L	3.66
UA	MW-391	C	2023/11/03	Potassium, total	mg/L	6.70
UA	MW-391	C	2023/05/17	Silicon, dissolved	mg/L	3.27
UA	MW-391	C	2023/08/04	Silicon, dissolved	mg/L	3.28
UA	MW-391	C	2020/03/24	Sodium, total	mg/L	1,040
UA	MW-391	C	2020/09/16	Sodium, total	mg/L	972
UA	MW-391	C	2021/03/12	Sodium, total	mg/L	541
UA	MW-391	C	2021/09/14	Sodium, total	mg/L	527
UA	MW-391	C	2022/03/29	Sodium, total	mg/L	554
UA	MW-391	C	2022/09/30	Sodium, total	mg/L	607
UA	MW-391	C	2023/03/14	Sodium, total	mg/L	663
UA	MW-391	C	2023/05/17	Sodium, total	mg/L	767
UA	MW-391	C	2023/08/04	Sodium, total	mg/L	791
UA	MW-391	C	2023/11/03	Sodium, total	mg/L	1,030
UA	MW-391	C	2016/12/22	Sulfate, total	mg/L	679
UA	MW-391	C	2017/03/15	Sulfate, total	mg/L	726
UA	MW-391	C	2017/06/20	Sulfate, total	mg/L	758
UA	MW-391	C	2018/06/26	Sulfate, total	mg/L	1,760
UA	MW-391	C	2018/09/25	Sulfate, total	mg/L	1,420
UA	MW-391	C	2019/03/19	Sulfate, total	mg/L	1,340
UA	MW-391	C	2019/09/25	Sulfate, total	mg/L	1,450
UA	MW-391	C	2020/03/24	Sulfate, total	mg/L	1,320
UA	MW-391	C	2020/09/16	Sulfate, total	mg/L	1,230
UA	MW-391	C	2021/03/12	Sulfate, total	mg/L	907
UA	MW-391	C	2021/09/14	Sulfate, total	mg/L	668
UA	MW-391	C	2022/03/29	Sulfate, total	mg/L	499
UA	MW-391	C	2022/09/30	Sulfate, total	mg/L	426
UA	MW-391	C	2023/03/14	Sulfate, total	mg/L	439
UA	MW-391	C	2023/05/17	Sulfate, total	mg/L	430
UA	MW-391	C	2023/08/04	Sulfate, total	mg/L	489
UA	MW-391	C	2023/11/03	Sulfate, total	mg/L	870
UA	MW-391	C	2016/12/22	Temperature (Celsius)	degrees C	14.5
UA	MW-391	C	2017/03/15	Temperature (Celsius)	degrees C	13.9
UA	MW-391	C	2017/06/20	Temperature (Celsius)	degrees C	23.2
UA	MW-391	C	2018/06/26	Temperature (Celsius)	degrees C	18.2
UA	MW-391	C	2018/09/25	Temperature (Celsius)	degrees C	17.9
UA	MW-391	C	2019/03/19	Temperature (Celsius)	degrees C	14.8
UA	MW-391	C	2019/09/25	Temperature (Celsius)	degrees C	17.8
UA	MW-391	C	2020/03/24	Temperature (Celsius)	degrees C	12.9
UA	MW-391	C	2020/09/16	Temperature (Celsius)	degrees C	15.6
UA	MW-391	C	2021/03/12	Temperature (Celsius)	degrees C	14.3
UA	MW-391	C	2021/06/22	Temperature (Celsius)	degrees C	15.8
UA	MW-391	C	2021/09/14	Temperature (Celsius)	degrees C	20.4
UA	MW-391	C	2022/03/29	Temperature (Celsius)	degrees C	14.0
UA	MW-391	C	2022/09/30	Temperature (Celsius)	degrees C	15.6
UA	MW-391	C	2023/03/14	Temperature (Celsius)	degrees C	14.4
UA	MW-391	C	2023/05/17	Temperature (Celsius)	degrees C	15.6
UA	MW-391	C	2023/08/04	Temperature (Celsius)	degrees C	16.4
UA	MW-391	C	2023/11/03	Temperature (Celsius)	degrees C	15.1
UA	MW-391	C	2016/12/22	Total Dissolved Solids	mg/L	1,980
UA	MW-391	C	2017/03/15	Total Dissolved Solids	mg/L	2,260
UA	MW-391	C	2017/06/20	Total Dissolved Solids	mg/L	2,460

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UA	MW-391	C	2018/06/26	Total Dissolved Solids	mg/L	3,030
UA	MW-391	C	2018/09/25	Total Dissolved Solids	mg/L	3,090
UA	MW-391	C	2019/03/19	Total Dissolved Solids	mg/L	3,110
UA	MW-391	C	2019/09/25	Total Dissolved Solids	mg/L	2,980
UA	MW-391	C	2020/03/24	Total Dissolved Solids	mg/L	2,870
UA	MW-391	C	2020/09/16	Total Dissolved Solids	mg/L	2,630
UA	MW-391	C	2021/03/12	Total Dissolved Solids	mg/L	2,180
UA	MW-391	C	2021/09/14	Total Dissolved Solids	mg/L	1,620
UA	MW-391	C	2022/03/29	Total Dissolved Solids	mg/L	1,510
UA	MW-391	C	2022/09/30	Total Dissolved Solids	mg/L	1,660
UA	MW-391	C	2023/03/14	Total Dissolved Solids	mg/L	1,860
UA	MW-391	C	2023/05/17	Total Dissolved Solids	mg/L	1,970
UA	MW-391	C	2023/08/04	Total Dissolved Solids	mg/L	2,090
UA	MW-391	C	2023/11/03	Total Dissolved Solids	mg/L	2,590

Notes:
< = results is less than detection limit
B = Background
C = Compliance
HSU = Hydrostratigraphic Unit
PMP = Potential Migration Pathway
UA = Uppermost Aquifer
mg/L = milligrams per liter
SU = standard units
V = volts