

TRANSMITTAL

To: Illinois Environmental Protection Agency
DWPC – Permits Section (MC 15)
Attn: Part 845 Coal Combustion Residual Rule Submittal
1021 North Grand Avenue East
Springfield, IL 62702

Date: January 30, 2024

From: Midwest Generation, LLC Joliet 9 Station

**Re: Midwest Generation, LLC – Joliet 9 Generating Station
Account No. W1970450046
CCR Surface Impoundment Annual Consolidated Report**

In accordance with the requirements of Title 35 of the Illinois Administrative Code (“35 IAC”) Section 845.550, the Annual Consolidated Report is attached for the following CCR surface impoundments at Joliet 9 Generating Station:

Pond ID	CCR Surface Impoundment Description
W1970450046-01	Lincoln Stone Quarry

Lincoln Stone Quarry is an incised impoundment; therefore, the Hazard Potential Classification Assessment, Structural Stability Assessment, and Safety Factor Assessment (Attachments B1, B2, and B3, respectively) are not applicable. The certification page from the Inflow Design Flood Control System Plan has been provided in Attachment B4. A full copy of this assessment can be found on our public website at www.midwestgenerationllc.com. If you have any questions or require additional information regarding this submittal, please contact Jill Buckley at Jill.Buckley@nrg.com.

2023 ANNUAL CONSOLIDATED REPORT JOLIET 9 GENERATING STATION

LINCOLN STONE QUARRY – W1970450046-01

ATTACHMENT A – ANNUAL CCR FUGITIVE DUST CONTROL REPORT

ATTACHMENT B – ANNUAL INSPECTION REPORT

ATTACHMENT B.1 – HAZARD POTENTIAL CLASSIFICATION ASSESSMENT
CERTIFICATION

ATTACHMENT B.2 – STRUCTURAL STABILITY ASSESSMENT CERTIFICATION

ATTACHMENT B.3 – SAFETY FACTOR ASSESSMENT CERTIFICATION

ATTACHMENT B.4 – INFLOW DESIGN FLOOD CONTROL PLAN

ATTACHMENT C – ANNUAL GROUNDWATER MONITORING AND CORRECTIVE
ACTION REPORT

ATTACHMENT D – MONTHLY SURFACE IMPOUNDMENT WATER ELEVATIONS

ATTACHMENT A
2023 ANNUAL CCR FUGITIVE DUST
CONTROL REPORT

Annual CCR Fugitive Dust Control Report

Joliet #9 Generating Station

1601 South Patterson Road, Joliet, Illinois

1.0 Introduction

On April 15, 2021, the Illinois Pollution Control Board adopted a new part of its waste disposal regulations creating state-wide standards for the disposal of coal combustion residuals (CCR) in surface impoundments, created by the generation of electricity by coal-fired power plants (the IL CCR Rule). These requirements include air criteria specified in Title 35 of the Illinois Administrative Code, §845.500, to address the potential pollution caused by windblown dust from CCR units.

The Joliet #9 Generating Station, operated by Midwest Generation, LLC (MWG), is located at 1601 South Patterson Road, Joliet, Will County, Illinois. The facility consists of a retired natural gas-fired electric power generating station (formerly coal-fired) situated on approximately 170 acres and the associated Lincoln Stone Quarry (LSQ) occupying approximately 120 acres, each are located on the south side of the Des Plaines River. The Station has one generating unit, identified as Unit 6, that retired on June 1, 2023. Lincoln Stone Quarry includes a former ash placement site referred to as the West Filled Area that ceased receiving CCR prior to 1994 and the Main Quarry which is permitted as a landfill by Illinois EPA for bottom ash and slag and has ceased receiving CCR. Lincoln Stone Quarry may remain open to allow for the beneficial reuse of slag. The Rule applies to this facility due to the management of CCR that was generated from the combustion of coal. The CCR unit associated with the station is the LSQ Main Quarry.

According to the IL CCR Rule, owners or operators of CCR units must adopt measures that will effectively minimize CCR from becoming airborne at the facility by developing and operating in accordance with a Fugitive Dust Control Plan (Plan) with adequate dust control measures. In this regard, a Plan was prepared that complied with the requirements as specified in §845.500(b)(1-7) of the IL CCR Rule and placed in the Lincoln Stone Quarry facility's operating record on October 31, 2021 per §845.800(d)(7). As required, the Plan was also posted to the publicly accessible internet site per §845.810(e).

In addition to the above and per §845.500(c), an Annual Fugitive Dust Control Report (Annual Report) must be completed that includes the following:

- Description of actions taken to control CCR fugitive dust and
- The four quarterly fugitive dust complaint reports submitted under subsection (b)(2)(B)

Annual CCR Fugitive Dust Control Report

Joliet #9 Generating Station

1601 South Patterson Road, Joliet, Illinois

The Annual Report must be submitted as part of the annual consolidated report required by §845.550. This document represents the 2023 Annual Report for LSQ and will also be appropriately placed in the facility's operating record per §845.800(d)(7) and posted to the publicly accessible internet site per §845.810(e).

2.0 Actions Taken to Control CCR Fugitive Dust

As detailed in the CCR Fugitive Dust Control Plan (Plan) and reiterated below, the station has established procedures and inspection requirements which are implemented to minimize/eliminate airborne emissions from the potential fugitive dust sources. The results from inspections conducted and associated observations made during CCR handling activities are documented on logs maintained in the station's Environmental Department. As a result of the fuel conversion, and the correlated fact that all coal combustion ceased at the facility as of March 20, 2016 and the cessation of receipt of CCR, the only remaining potential CCR fugitive dust source is final closure of LSQ.

2.1 Lincoln Stone Quarry

Prior to the 2016 fuel conversion of Joliet #9 and Joliet #29 to Natural Gas, LSQ used to receive bottom ash and slag from both generating stations. Ash in the Main Quarry is approximately 40 feet below grade and is confined by the quarry walls and, therefore, not readily susceptible to wind erosion and generation of potential CCR fugitive dust emissions. If slag or ash are removed from the Main Quarry for beneficial use, loading of the moisture laden material would also be performed within the Main Quarry at a level well below grade. Therefore, the loading operation is also not susceptible to wind erosion. The ash in the West Filled Area lies beneath a vegetated soil cover which mitigates any wind erosion impacts and the potential for CCR fugitive dust emissions.

No CCR was removed from the Main Quarry for beneficial use during the reporting period.

Operation of the Main Quarry and West Filled Area is performed in accordance with the conditions of the state issued permit, No. 1994-241-LFM, dated June 11, 2018, Modification No. 24. The issued permit includes the requirement to control dust to prevent wind dispersal of particulate matter off site. Additionally, the permit requires quarterly inspections of the West Filled Area and requires repair of erosion and scoured channels observed during the inspection.

Annual CCR Fugitive Dust Control Report

Joliet #9 Generating Station

1601 South Patterson Road, Joliet, Illinois

3.0 Fugitive CCR Dust Assessments

Pursuant to §845.500(b)(3), assessments of the potential fugitive dust emission sources identified in LSQ facility's CCR Fugitive Dust Control Plan (Plan) are conducted to assess the effectiveness of the Plan, if warranted. When required, the assessment includes observation of ash removal and transport activities at the facility to confirm the adequacy of the control measures. If assessments are warranted, they are conducted on a quarterly basis by an individual designated by the contact identified below. Observations made during each assessment are recorded on a form similar to the one included in Appendix B of the LSQ facility's CCR Fugitive Dust Control Plan.

No assessments were deemed necessary in the past year based on the weekly CCR impoundment inspections and lack of changes to operations at this unit.

If the results of the assessment determine that ash-related equipment has malfunctioned or the integrity of the equipment has been compromised, the necessary repairs or replacement are performed as soon as feasible. If the assessment finds that the Plan does not effectively minimize the CCR from becoming airborne, the Plan is amended to include additional control measures. No issues were identified during this Annual Report's period of record covering January through December 2023.

Owner Representative/Responsible Person Contact Information:

Mr. Phillip Raush
Plant Manager
815-207-5412

4.0 Record of Citizen Complaints

Per the Rule, the Annual Report must include copies of the four quarterly fugitive dust complaint reports submitted under §845.500(b)(2)(B). The quarterly fugitive dust complaint reports contain a record of all citizen complaints that were received by the station with regard to fugitive dust emission incidents. In line with established protocols and within 24 hours of receipt, the station's environmental coordinator enters the citizen complaint into MWG's Environmental Management Information System (EMIS) database. The EMIS database then automatically forwards notice of the complaint to the station manager and corporate environmental department. Following initial evaluation of the complaint, MWG then conducts a thorough investigation to confirm the reported incident/conditions and implement corrective actions as may be warranted.

Annual CCR Fugitive Dust Control Report
Joliet #9 Generating Station
1601 South Patterson Road, Joliet, Illinois

No complaints were registered during this Annual Report's period of record covering January through December 2023.

5.0 Summary of Corrective Actions Taken

For the January through December 2023 period of record and based on continued monitoring and inspections as outlined in Section 2.0 and 3.0 and as required under the CCR rules, the currently established control measures remain effective in minimizing potential fugitive dust emissions. Moreover, this assertion is further validated by the lack of citizen complaints logged over this same period. Accordingly, no corrective actions were required during the past year.

QUARTERLY FUGITIVE DUST
COMPLAINT REPORTS



Midwest Generation, LLC
Joliet Generating Station
1800 Channahon Road
Joliet, Illinois 60436

April 6, 2023

Illinois Environmental Protection Agency
DWPC – Permits Section (MC 15)
Attn: Part 845 Coal Combustion Residual Rule Submittal
1021 North Grand Avenue East
Springfield, IL 62702

**Re: Midwest Generation, LLC – Joliet 9 Generating Station
Account No. W1970450046
Pond ID: W1970450046-01
CCR Surface Impoundment Quarterly Fugitive Dust Complaint Report**

Dear Sir or Madam:

In accordance with the requirements of Title 35 of the Illinois Administrative Code ("35 IAC") Section 845.500(b)(2)(B), this letter serves as the fugitive dust complaint report for First Quarter 2023 at Joliet 9 Generating Station. There were no complaints received from members of the public during the period January 1, 2023 through March 31, 2023.

If you have any questions or require additional information regarding this submittal, please contact Jill Buckley at Jill.Buckley@nrg.com.

Sincerely,

A handwritten signature in black ink that reads "P. Raush". The signature is written in a cursive style.

Phillip Raush
Plant Manager
Joliet Generating Station



Midwest Generation, LLC
Joliet Generating Station
1800 Channahon Road
Joliet, Illinois 60436

July 13, 2023

Illinois Environmental Protection Agency
DWPC – Permits Section (MC 15)
Attn: Part 845 Coal Combustion Residual Rule Submittal
1021 North Grand Avenue East
Springfield, IL 62702

**Re: Midwest Generation, LLC – Joliet 9 Generating Station
Account No. W1970450046
Pond ID: W1970450046-01
CCR Surface Impoundment Quarterly Fugitive Dust Complaint Report**

Dear Sir or Madam:

In accordance with the requirements of Title 35 of the Illinois Administrative Code ("35 IAC") Section 845.500(b)(2)(B), this letter serves as the fugitive dust complaint report for Second Quarter 2023 at Joliet 9 Generating Station. There were no complaints received from members of the public during the period April 1, 2023 through June 30, 2023.

If you have any questions or require additional information regarding this submittal, please contact Jill Buckley at Jill.Buckley@nrg.com.

Sincerely,

A handwritten signature in black ink that reads "James Thorne" with a stylized flourish at the end.

Phillip Raush
Plant Manager, Joliet Generating Station



Midwest Generation, LLC
Joliet Generating Station
1800 Channahon Road
Joliet, Illinois 60436

October 2, 2023

Illinois Environmental Protection Agency
DWPC – Permits Section (MC 15)
Attn: Part 845 Coal Combustion Residual Rule Submittal
1021 North Grand Avenue East
Springfield, IL 62702

**Re: Midwest Generation, LLC – Joliet 9 Generating Station
Account No. W1970450046
Pond ID: W1970450046-01
CCR Surface Impoundment Quarterly Fugitive Dust Complaint Report**

Dear Sir or Madam:

In accordance with the requirements of Title 35 of the Illinois Administrative Code (“35 IAC”) Section 845.500(b)(2)(B), this letter serves as the fugitive dust complaint report for Third Quarter 2023 at Joliet 9 Generating Station. There were no complaints received from members of the public during the period July 1, 2023 through September 30, 2023.

If you have any questions or require additional information regarding this submittal, please contact Jill Buckley at Jill.Buckley@nrg.com.

Sincerely,

A handwritten signature in black ink, appearing to read "P. Raush".

Phillip Raush
Plant Manager, Joliet Generating Station



Midwest Generation, LLC
Joliet Generating Station
1800 Channahon Road
Joliet, Illinois 60436

January 8, 2024

Illinois Environmental Protection Agency
DWPC – Permits Section (MC 15)
Attn: Part 845 Coal Combustion Residual Rule Submittal
1021 North Grand Avenue East
Springfield, IL 62702

**Re: Midwest Generation, LLC – Joliet 9 Generating Station
Account No. W1970450046
Pond ID: W1970450046-01
CCR Surface Impoundment Quarterly Fugitive Dust Complaint Report**

Dear Sir or Madam:

In accordance with the requirements of Title 35 of the Illinois Administrative Code ("35 IAC") Section 845.500(b)(2)(B), this letter serves as the fugitive dust complaint report for Fourth Quarter 2023 at Joliet 9 Generating Station. There were no complaints received from members of the public during the period October 1, 2023 through December 31, 2023.

If you have any questions or require additional information regarding this submittal, please contact Jill Buckley at Jill.Buckley@nrg.com.

Sincerely,

A handwritten signature in black ink, appearing to read "P. Raush".

Phillip Raush
Plant Manager, Joliet Generating Station

ATTACHMENT B
2023 ANNUAL INSPECTION REPORT



ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, Inc.

**MIDWEST GENERATION
JOLIET/LINCOLN STONE QUARRY LANDFILL
2978090002—Will County
Permit No. 1994-241-LFM (Modification No. 24)**

**3rd ANNUAL CCR SURFACE IMPOUNDMENT REPORT
YEAR ENDING DECEMBER 31ST, 2023**

**Prepared By:
KPRG and Associates, Inc.
14665 W. Lisbon Rd., Suite 1A
Brookfield, WI 53005**

January 29, 2024

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1.0 INTRODUCTION TO ANNUAL REPORT

The Lincoln Stone Quarry (LSQ) facility, which is operated by Midwest Generation, LLC, is located at the southwest corner of the intersection of Patterson Road and Brandon Road in Joliet, Illinois. It operated as a disposal facility for bottom ash and slag from two coal-fired generating stations (Joliet Stations #9 and #29) since 1962. LSQ last received ash for disposal in 2019. It is noted that both power generating stations were converted to natural gas firing in 2016 and ceased power-generating operations entirely in 2023. The disposal facility consists of an inactive portion referred to as the West Filled Area (WFA) and a now inactive ash/slag disposal area referred to as the Main Quarry. The Main Quarry was active as of 2019 when the last ash disposal was received. Water was used to sluice the ash from the generating plants and was discharged into the Main Quarry where the ash then settled out and the water was subsequently discharged as discussed further below. The third Annual Coal Combustion Residuals (CCR) Report for the Midwest Generation Lincoln Stone Quarry for calendar year 2023 was prepared in accordance with 35 Illinois Administrative Code (IAC) Sections 845.540 and 845.550.

2.0 ANNUAL INSPECTION (Section 35 IAC Section 845.540(b))

In accordance with Section 35 IAC Section 845.540(b), the Annual Inspection was by a Qualified Professional Engineer, Timothy J. Stohner, on December 13, 2023.

- 1) The CCR surface impoundment must be inspected on an annual basis by a qualified professional engineer to ensure that the design, construction, operation, and maintenance of the CCR surface impoundment is consistent with recognized and generally accepted engineering standards. In accordance with 35 IAC Section 845.540(b)(1), A through G, the inspection included, at a minimum, the following except as where it was noted to be not applicable.
 - A) A review of available information regarding the status and condition of the CCR surface impoundment, including files available in the operating record (e.g., CCR surface impoundment design and construction information required by Sections 845.220(a)(1) and 845.230(d)(2)(A), previous structural stability assessments required under Section 845.450, the results of inspections by a qualified person, and results of previous annual inspections);

In accordance with Sections 845.220(a)(1) and 845.230(d)(2)(A), the operating record in the form of the Application for Initial Operating Permit, prepared by KPRG and dated October 29, 2021 and the Application for Initial Construction Permit and dated January 28, 2022, both prepared by KPRG, were reviewed. It is noted that as LSQ was initially developed in 1962 by others, detailed construction plans from that time are not available. It is noted that Section 845.450 is NOT APPLICABLE as LSQ is an incised CCR surface impoundment. It is also noted that the annual inspection conducted on December 21, 2022 marks the second annual inspection since the April 21, 2021 effective date of the 35 IAC Part 845 regulation.

- B) A visual inspection of the CCR surface impoundment to identify signs of distress or malfunction of the CCR surface impoundment and appurtenant structures;

The visual inspection of the CCR surface impoundment conducted on December 13, 2023 did not identify any signs of distress or malfunction of the CCR surface impoundment and appurtenant structures.

- C) A visual inspection of any hydraulic structures underlying the base of the CCR surface impoundment or passing through the dike of the CCR surface impoundment for structural integrity and continued safe and reliable operation;

The visual inspection of visually accessible hydraulic structures underlying or passing through the dike of the CCR surface impoundment conducted on December 13, 2023 did not identify any deficiencies in structural integrity that would prevent continued safe and reliable operation.

- D) The annual hazard potential classification certification, if applicable (see Section 845.440);

In accordance with 35 IAC Section 845.440(b), this requirement is NOT APPLICABLE as LSQ is an incised CCR surface impoundment.

- E) The annual structural stability assessment certification, if applicable (see Section 845.450);

In accordance with 35 IAC Section 845.450(e), this requirement is NOT APPLICABLE as LSQ is an incised CCR surface impoundment.

- F) The annual safety factor assessment certification, if applicable (see Section 845.460); and

In accordance with 35 IAC Section 845.460(e), this requirement is NOT APPLICABLE as LSQ is an incised CCR surface impoundment.

- G) The inflow design flood control system plan certification (see Section 845.510(c)).

For an incised CCR surface impoundment, the inflow design flood corresponds to the 25-year flood. This plan certification was prepared by Geosyntec Consultants and dated October 2023.

- 2) Inspection Report. The qualified professional engineer must prepare a report following each inspection that addresses the following:

- A) Any changes in geometry of the impounding structure since the previous annual inspection;

The annual inspection conducted on December 13, 2023 marks the third annual inspection since the April 21, 2021 effective date of the 35 IAC Part 845 regulation. Also, KPRG personnel have been performing weekly inspections of LSQ since April 1, 2020. To date, no changes in the impounding structure have been identified.

- B) The location and type of existing instrumentation and the maximum recorded readings of each instrument since the previous annual inspection;

Water level instrumentation (pressure transducer, data logger, and radio antenna to transmit data to a website accessible by MWG) for LSQ is located near the northeast corner of the site (Figure 1). Water levels are recorded daily and delivered wirelessly to QED Environmental. Water level alerts are transmitted via email to relevant personnel with Midwest Generation and KPRG.

An interim remedial action consisting of four extraction wells was installed and operational since the end of April 2010 at the southeast corner of the Main Quarry. This system was expanded in 2011 along the entire south perimeter of the Main Quarry and WFA (becoming operational in the first quarter of 2012) to include a total of 12 extraction wells. The extraction system intercepts Main Quarry water before it is pulled to the southeast as a result of dewatering operations at the Vulcan Laraway Quarry located approximately 1,000 feet southeast of the LSQ facility. KPRG monitors the proper pump operation. Instrumentation located in control panels along the southern perimeter notes the pump operation and includes total hours of operation for each pump.

- C) The approximate minimum, maximum, and present depth and elevation of the impounded water and CCR since the previous annual inspection;

KPRG reviewed water level data from January 1, 2023 through December 31, 2023, the minimum water level was 536.88 feet above mean sea level (amsl) on July 28, 2023 and the maximum water level was 541.89 feet amsl occurring on October 16, 2023. The average water level during 2023 was 538.91 feet amsl.

The base of the Main Quarry ranges from 510 ft amsl to a low point of 477 ft amsl and the base of the West Filled Area (WFA) at approximately 480 ft amsl. The current average ash elevation is 533 ft amsl. The surrounding ground elevation of the WFA and the Main Quarry is at approximately 590-600 ft amsl. The surrounding walls of LSQ are Silurian Dolomite bedrock topped with overburden soil. The overburden ranges from approximately 5 feet in thickness to 20 feet in thickness as the ground elevations increase to the south, west, and east. The overburden to the north, remains at a relatively constant elevation because Patterson Road is constructed adjacent to LSQ.

- D) The storage capacity of the impounding structure at the time of the inspection;

According to available records, the storage capacity is approximately 6,300,000 cubic yards).

- E) The approximate volume of the impounded water and CCR at the time of the inspection;

The approximate volumes of impounded water and CCR based on the average 2023 water level of 538.91 feet above sea level were 505,000 and 4,300,000 cubic yards, respectively.

- F) Any appearances of an actual or potential structural weakness of the CCR surface impoundment, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR surface impoundment and appurtenant structures;

The annual inspection conducted on December 13, 2023 marks the third annual inspection since the April 21, 2021 effective date of the 35 IAC Part 845 regulation. No actual or potential structural weaknesses have been noted to date.

- G) Any other changes that may have affected the stability or operation of the impounding structure since the previous annual inspection.

The annual inspection conducted on December 13, 2023 marks the third annual inspection since the April 21, 2021 effective date of the 35 IAC Part 845 regulation. No changes were noted to the stability or operation of the impounding structure on that day or previously.

- 3) By January 31 of each year, the inspection report must be completed and included with the annual consolidated report required by Section 845.550.

This annual inspection report is included as an Attachment to the Annual Consolidated Report.

- 4) Frequency of Inspections. The owner or operator of the CCR surface impoundment must conduct the inspection required by subsections (b)(1) and (2) on an annual basis. The deadline for conducting a subsequent inspection is based on the date of conducting the previous inspection.

Future annual inspections will be performed on or before December 31, of the appropriate year.

- 5) If a deficiency or release is identified during an inspection, the owner or operator must submit to the Agency documentation detailing proposed corrective measures and obtain any necessary permits from the Agency.

This inspection did not identify any deficiency or release.

3.0 PE CERTIFICATION

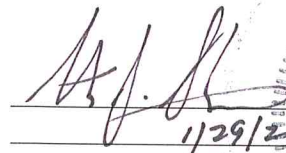
The owner or operator of the CCR surface impoundment must submit the annual consolidated report to the Agency in addition to placing the annual consolidated report in the facility's operating record as required by Section 845.800(d)(14).

I hereby certify that the annual inspection was conducted in accordance with Section 845.540(b), and that this annual consolidated report was prepared and is being submitted to IEPA and placed in the facility's operating record as required.

Certified by:

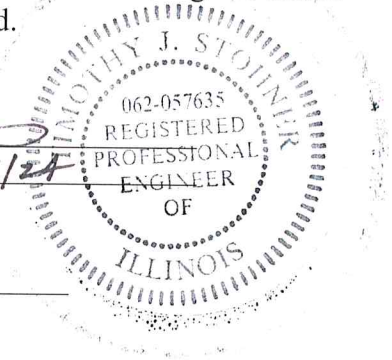
Date:

Timothy J. Stohner, P.E.
Professional Engineer Registration No.:
KPRG and Associates, Inc.



1/29/24

062.057635



ATTACHMENT B.1
2023 ANNUAL HAZARD POTENTIAL
CLASSIFICATION CERTIFICATION

Lincoln Stone Quarry is an incised impoundment; therefore, per §845.440(b), this certification is not required.

ATTACHMENT B.2
2023 ANNUAL STRUCTURAL STABILITY
ASSESSMENT CERTIFICATION

Lincoln Stone Quarry is an incised impoundment; therefore, per §845.450(e), this certification is not required.

ATTACHMENT B.3
2023 ANNUAL SAFETY FACTOR
ASSESSMENT CERTIFICATION

Lincoln Stone Quarry is an incised impoundment; therefore, per §845.460(e), this certification is not required.

**ATTACHMENT B.4
2023 ANNUAL INFLOW DESIGN FLOOD
CONTROL SYSTEM PLAN
CERTIFICATION**

24-hour, 25-year storm event for the upstream catchment area, which was estimated based on regional topography and the Runoff Curve Number Method. Analysis demonstrating the inflow design flow is included in **Appendix A**. The total inflow into the Quarry during the 24-hour 25-year storm event is estimated to be 38.4 acre-feet. Based on 2023 surface water conditions, the surface area of the impounded water within the Quarry is approximately 12.5 acres. The estimated potential water level increase is calculated to be 3.1 ft from the design event. Therefore, the water level in the Quarry after the design event is estimated to be at or below 552 ft MSL (operating level of 548 ft MSL plus 4 ft).

The freeboard after the design event is estimated to be a minimum of 20 ft (572 ft MSL – 552 ft MSL). As the existing freeboard is estimated to be at least 20 feet, sufficient storage capacity exists within Quarry to manage the inflow from the design flood event. The inflow design system, as designed and constructed, meets the requirements of Section 845.510.

7. Limitations and Certification

The annual inflow design flood control system plan meets the requirements of 35 IAC Sections 845.510 and 845.540 and was prepared in accordance with current practices and the standard of care exercised by scientists and engineers performing similar tasks in the field of civil engineering. The contents of this report are based solely on the observations of the conditions observed by Geosyntec personnel and information provided to Geosyntec by Midwest Generation. Consistent with applicable professional standards of care, our opinions and recommendations were based in part on data furnished by others, which was consistent with other information that we developed in the course of our performance of the scope of services. The information contained in this report is intended for use solely by Midwest Generation and their subconsultants.



A handwritten signature in black ink, appearing to read "Jesse P. Varsho", positioned above a horizontal line.

Jesse P. Varsho, P.E.
Illinois Professional Engineer No. 062.059069
License Expires: November 30, 2025

ATTACHMENT C
2023 ANNUAL GROUNDWATER
MONITORING AND CORRECTIVE ACTION
REPORT



ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, Inc.

**ILLINOIS CCR COMPLIANCE
ANNUAL GROUNDWATER MONITORING and
CORRECTIVE ACTION REPORT - 2023**

**Midwest Generation, LLC
Joliet #9 Generating Station
Lincoln Stone Quarry
1800 Channahon Rd.
Joliet, Illinois**

Prepared By: **KPRG and Associates, Inc.
14665 West Lisbon Road, Suite 1A
Brookfield, WI 53005**

January 31, 2024

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1.0 INTRODUCTION and OVERVIEW

Groundwater monitoring requirements in accordance with the Ill. Adm. Code Title 35, Part 845: Standards for the Disposal of Coal Combustion Residuals in Surface Impoundments dated April 15, 2021 (State CCR Rule) and subsequent amendments, have been completed for the monitoring wells located at the Midwest Generation, LLC (Midwest Generation) Joliet #9 Generating Station – Lincoln Stone Quarry (LSQ). The wells sampled were selected to meet the monitoring requirements of the State CCR Rule for LSQ. The CCR monitoring well network around this pond consists of ten wells (R08S, G20S, G30S, R32S, G44S, G45S, G46S, G47S, G48S and T03S) as shown on Figure 1. Wells T03S (side-gradient) and G45S are considered background monitoring wells and the remaining wells are considered downgradient wells. All CCR groundwater monitoring data available to date, which includes data from previous groundwater monitoring under the Federal CCR Rule, are provided in Tables 1 and 2. As part of the Application for Initial Operating Permit – Joliet #9 Generating Station submitted on October 31, 2021 (Application) *proposed* statistical background concentration calculations along with *proposed* site-specific Groundwater Protection Standards (GWPSs) were submitted for Illinois Environmental Protection Agency (Agency) review/approval. Table 3 summarizes the *proposed* background statistical concentrations for each parameter along with the site-specific *Proposed* GWPSs in accordance with Section 845.600(a)(2). These are currently still under review by the Agency and, therefore, are not finalized. However, for the purposes of evaluations required for the annual report, data comparisons will be presented relative to the “*proposed*” values for statistical background concentrations and site-specific GWPSs.

This overview of the 2023 groundwater monitoring period is provided in accordance with Section 845.610(e)(4). Each required item is discussed separately below.

- Section 845.610(e)(4)(A and B) – *Proposed* statistical background concentration calculations (see Table 3) were submitted to the Agency as part of the Application for Initial Operating Permit. This Application is currently still under Agency review. However, assuming that the Agency accepts the proposed background calculations, the groundwater monitoring since the enactment of the State CCR Rule in April 2021 has identified the following constituents with potential statistically significant increases (SSIs) above the *proposed* background concentrations during 2023 sampling. It is noted that other than those constituents identified in the next main bullet, none of these potential SSI concentrations are above *proposed* site-specific GWPSs. The constituents and associated wells are:
 - Boron – T03S, R08S, G20S, G30S, G44S, G46S, G47S and G48S (1st through 4th quarters) and R32S (1st through 3rd quarters)
 - Calcium – R08S (1st and 2nd quarters) and G44S and G46S (2nd quarter)
 - Fluoride – G20S, G30S, G47S and G48S (1st through 4th quarter)
 - pH – R08S, G30S, G47S and G48S (1st through 4th quarters), and G46S (1st quarter)
 - Sulfate – R08S, G30S, G46S, G47S and G48S (1st through 4th quarters) and R32S (1st through 3rd quarters)

- Total Dissolved Solids (TDS) – G30S (1st through 4th quarters), G46S and G47S (1st quarter)
- Arsenic – G45S, G46S, G47S and G48S (1st through 4th quarters), G30S (4th quarter)
- Barium – T03S, G44S and G46S (1st through 4th quarters)
- Cobalt – T03S (4th quarter), G20S (1st quarter) and G46S (3rd quarter)
- Lithium – R08S and G46S (1st through 4th quarters), R32S (1st and 3rd quarters), and G47S (1st, 2nd and 4th quarters)
- Molybdenum – T03S, R08S, R32S, G44S, G46S, G47S and G48S (1st through 4th quarters), and G30S (4th quarter)
- Radium 226/228 Combined – G45S (1st, 3rd and 4th quarters), G20S and G46S (1st through 4th quarters), T03S (2nd quarter), G30S (2nd and 4th quarters), and R32S (2nd 3rd and 4th quarters) and R08S (4th quarter)
- Selenium – R08S (1st through 4th quarters) and G47S (2nd quarter)
- Thallium – G30S (3rd quarter)

Wells G45S and T03S are background monitoring points.

- Section 845.610(e)(4)(C and D) – *Proposed* GWPSs in accordance with Section 845.600(a)(2) (see Table 3) were submitted to the Agency as part of the Application for Initial Operating Permit. This Application is currently still under review by the Agency. However, assuming that the Agency accepts the *proposed* GWPSs, the groundwater monitoring since the enactment of the State CCR Rule in April 2021 has identified the following constituents above the proposed GWPSs during 2023 sampling:
 - Boron – T03S (1st and 2nd quarters), R08S, G30S, G46S, G47S and G48S (1st through 4th quarters) and R32S (1st and 3rd quarters)
 - Calcium – R08S (1st and 2nd quarters) and G44S and G46S (2nd quarter)
 - pH – G47S (1st quarter)
 - Sulfate – R08S (1st through 3rd quarters), G30S, G46S and G47S (1st through 4th quarters)
 - TDS – G30S (3rd quarter)
 - Arsenic – G46S and G47S (1st through 4th quarters) and G48S (1st, 2nd and 4th quarters)
 - Lithium – R08S and G46S (1st through 4th quarters), R32S (1st and 3rd quarters), and G47S (1st, 2nd and 4th quarters)
 - Molybdenum – T03S, R08S, G44S, G46S, G47S and G48S (1st through 4th quarters), R32S (1st and 3rd quarters)
 - Thallium – G30S (3rd quarter)

Wells G45S and T03S are background monitoring points.

- Section 845.610(e)(4)(E through H) – The LSQ is currently not in corrective action relative to the State CCR Rule. However, as part of IEPA Application for Initial Construction

Permit submittal requirements, an engineering evaluation of potential corrective measures and closure alternative options was completed. This evaluation included groundwater modeling to assist in assessing each considered closure option's effect on addressing groundwater impacts. A public meeting was held on December 8 and 9, 2021 to present the results of the engineering evaluations and obtain public comment/input of the proposed closure option. The Application for Initial Construction Permit was submitted to IEPA on January 28, 2022 and is currently still under review.

2.0 ANNUAL STATUS SUMMARY

As discussed in Section 1.0 the CCR monitoring well network around the LSQ consists of ten monitoring wells (R08S, G20S, G30S, R32S, G44S, G45S, G46S, G47S, G48S and T03S) as shown on Figure 1. Wells T03S (side-gradient) and G45S are considered background monitoring wells and the remaining wells are considered downgradient wells. All CCR groundwater monitoring data available to date, which includes data from previous groundwater monitoring under the Federal CCR Rule, are provided in Tables 1 and 2. The backup analytical data packages were previously provided as part of the 60-day reporting requirements. Table 3 summarizes the *proposed* background statistical concentrations for each parameter along with the site-specific *Proposed* GWPSs in accordance with Section 845.600(a)(2). These are included as part of the Initial Operating Permit Application referenced above, are currently still under review by the Agency and, therefore, are not finalized. However, for the purposes of evaluations required for this annual report, data comparisons will be presented relative to the “*proposed*” values for statistical background concentrations and site-specific GWPSs.

This section provides the information specified under Section 845.610(e) (2-3).

2.1 Summary of Actions and Submittals (Section 845.610(e)(2))

The following key actions have been completed during the 2023 reporting period:

- Quarterly sampling of all parameters specified in Section 845.600(a) plus calcium and turbidity was completed and the associated 60-day data summary submittals were placed in the facility's operating record in accordance with Section 845.610(b)(3)(D).
- Water levels were recorded monthly for the specified CCR monitoring wells and pond water levels were concurrently recorded for the LSQ.

Key activities for the upcoming year include:

- Receipt of an approved Application for Initial Operating Permit which will facilitate finalization of the *proposed* statistical background concentrations and the *proposed* site-specific GWPSs. Once these are accepted/finalized by the Agency, formal groundwater data comparisons and evaluations can be made based on quarterly monitoring results relative to these comparison criteria.

- Receipt of an approved Application for Construction Permit – Midwest Generation Joliet #9 Station which will facilitate closure and groundwater remedy construction for the Lincoln Stone Quarry.
- Installation of additional assessment monitoring wells in fulfillment of requirements under the Federal CCR Rule. For additional information regarding these wells, please refer to the Federal CCR Compliance - Nature and Extent of Impacts Evaluation – Lincoln Stone Quarry dated November 8, 2023 in the facility’s operating record.
- Continued quarterly groundwater monitoring/reporting.

2.2 Groundwater Data Summary (Section 845.610(e)(3)(A-F))

Identification of monitoring wells and associated constituent concentrations above the *proposed* site-specific GWPSs was included in Section 1.0 above. A map for the most recent round of sampling (4th quarter 2023) showing these wells and constituent concentrations is provided on Figure 2.

There were no monitoring wells installed or decommissioned during this reporting period relative to the State CCR Rule. It is noted, however, that two additional well installations were completed for the purposes of a nature and extent of impacts delineation under the Federal CCR Rule. Please refer to the Federal CCR Compliance - Nature and Extent of Impacts Evaluation – Lincoln Stone Quarry dated November 8, 2023 in the facility’s operating record for additional information.

Monthly water levels were recorded from the specified CCR monitoring wells. The water levels are summarized in Table 4. Potentiometric surface maps for each round of water levels are provided in Attachment 1. In accordance with Section 845.640(c)(2), groundwater flow direction and seepage velocity estimates for each round of water levels are provided in Table 5.

A summary of the number of groundwater samples collected for analysis for each CCR monitoring well along with sample dates is provided in Table 6.

Proposed statistical background concentration calculations (see Table 3) were submitted to the Agency as part of the Application for Initial Operating Permit. This Application is currently still under Agency review. However, assuming that the Agency accepts the *proposed* background calculations, the groundwater monitoring over the 2023 reporting period has identified the following constituents with potential statistically significant increases (SSIs) above the proposed background concentrations:

- Boron – T03S, R08S, G20S, G30S, G44S, G46S, G47S and G48S (1st through 4th quarters) and R32S (1st through 3rd quarters)

- Calcium – R08S (1st and 2nd quarters) and G44S and G46S (2nd quarter)
- Fluoride – G20S, G30S, G47S and G48S (1st through 4th quarter)
- pH – R08S, G30S, G47S and G48S (1st through 4th quarters), and G46S (1st quarter)
- Sulfate – R08S, G30S, G46S, G47S and G48S (1st through 4th quarters) and R32S (1st through 3rd quarters)
- Total Dissolved Solids (TDS) – G30S (1st through 4th quarters), G46S and G47S (1st quarter)
- Arsenic – G45S, G46S, G47S and G48S (1st through 4th quarters), G30S (4th quarter)
- Barium – T03S, G44S and G46S (1st through 4th quarters)
- Cobalt – T03S (4th quarter), G20S (1st quarter) and G46S (3rd quarter)
- Lithium – R08S and G46S (1st through 4th quarters), R32S (1st and 3rd quarters), and G47S (1st, 2nd and 4th quarters)
- Molybdenum – T03S, R08S, R32S, G44S, G46S, G47S and G48S (1st through 4th quarters), and G30S (4th quarter)
- Radium 226/228 Combined – G45S (1st, 3rd and 4th quarters), G20S and G46S (1st through 4th quarters), T03S (2nd quarter), G30S (2nd and 4th quarters), and R32S (2nd, 3rd and 4th quarters) and R08S (4th quarter)
- Selenium – R08S (1st through 4th quarters) and G47S (2nd quarter)
- Thallium – G30S (3rd quarter)

Wells G45S and T03S are background monitoring points. As previously stated, other than those constituents identified in the second bullet in Section 1.0, none of these potential SSI concentrations are above *proposed* site-specific GWPSs.

TABLES

Table 1. Groundwater Analytical Results - Midwest Generation, LLC, Joliet Station #9, Joliet, IL

Well	Date	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Radium 226 - 228 Combined	Selenium	Thallium		
up-gradient	11/20/2015	0.81	120	180	0.55	7.20	260	810	< 0.003	0.0081	0.044	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.056	< 0.002	0.0120	1.76	< 0.0025	< 0.002		
	5/12/2016	0.68	110	140	0.54	7.37	300	840	< 0.003	0.0076	0.041	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.056	< 0.002	0.0100	3.01	< 0.0025	< 0.002		
	6/28/2016	0.48	87	110	0.54	7.50	170	670	< 0.003	0.0075	0.031	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.054	< 0.002	0.0088	2.65	< 0.0025	< 0.002		
	8/25/2016	0.47	94	100	0.53	7.28	170	790	< 0.003	0.0076	0.036	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.051	< 0.002	0.0086	1.91	< 0.0025	< 0.002		
	11/16/2016	0.41	91	90	0.53	7.34	170	620	< 0.003	0.0079	0.033	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.028	< 0.002	0.0094	2.04	< 0.0025	< 0.002		
	2/14/2017	0.43	97	97	0.52	7.36	160	620	< 0.003	0.0093	0.037	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.029	< 0.002	0.0083	1.85	< 0.0025	< 0.002		
	5/22/2017	0.26	85	120	0.53	7.20	150	660	< 0.003	0.0082	0.033	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.027	< 0.002	0.0093	1.40	< 0.0025	< 0.002		
	7/7/2017	0.42	94	120	< 0.1	7.21	150	600	< 0.003	0.0086	0.035	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.030	< 0.002	0.007	1.88	< 0.0025	< 0.002		
	9/26/2017	0.43	110	130	0.53	7.21	160	790	< 0.003	0.0096	0.04	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.029	< 0.002	0.0079	2.14	< 0.0025	< 0.002		
	11/21/2017	0.44	96	130	0.53	7.29	180	700	< 0.003	0.0094	0.038	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.028	< 0.002	0.0072	8.45	< 0.0025	< 0.002		
	3/9/2018	0.38	97	110	0.53	7.18	180	710	< 0.003	0.0075	0.036	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.028	< 0.002	0.008	1.89	< 0.0025	< 0.002		
	5/21/2018	0.76	110	150	0.53	7.00	230	970	NA	0.0072	0.047	NA	NA	NA	NA	NA	NA	NA	0.033	NA	0.013	2.37	< 0.0025	NA
	12/7/2018	0.46	91	120	0.53	7.02	190	740	NA	0.0090	0.047	NA	NA	NA	NA	NA	NA	NA	0.031	NA	0.0100	1.910	< 0.0025	NA
	6/28/2019	0.29	96	120	0.53	7.20	120	720	NA	0.0100	0.039	NA	NA	NA	NA	NA	NA	NA	0.029	NA	0.0085	0.032	< 0.0025	NA
	11/14/2019	0.48	110	170	0.53	7.33	170	830	NA	< 0.0100	0.042	NA	NA	NA	NA	NA	NA	NA	0.034	NA	0.0100	2.89	< 0.010	NA
	6/26/2020	0.62	130	220	0.53	7.21	240	970	NA	0.011	0.049	NA	NA	NA	NA	NA	NA	NA	0.039	NA	0.0088	3.1	< 0.0025	NA
	12/1/2020	0.70	120	180	0.58	7.16	220	790	NA	0.011	0.042	NA	NA	NA	NA	NA	NA	NA	0.038	NA	0.012	1.88	< 0.0025	NA
	6/28/2021	0.44	91	120	0.55	7.20	150	680	< 0.003	0.01	0.034	< 0.10	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.021	< 0.002	0.0083	2.14	< 0.0025	< 2.10	
	9/23/2021	0.39	85	110	0.55	7.43	140	690	< 0.003	0.01	0.36	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.030	< 0.002	0.0076	2.77	< 0.0025	< 0.002		
	12/16/2021	0.34	84	87	0.56	7.35	130	510	< 0.003	0.0092	0.037	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.028	< 0.002	0.0073	1.74	< 0.0025	< 0.002		
	3/16/2022	0.5	130	86	0.56	7.25	130	700	< 0.003	0.0018	0.035	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.025	< 0.002	0.0092	2.62	< 0.0025	< 0.002		
	6/10/2022	0.34	84	130	0.55	7.28	130	630	< 0.003	0.0082	0.036	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.028	< 0.002	0.0072	2.17	< 0.0025	< 0.002		
	9/26/2022	0.48	97	150	0.58	7.14	180	830	< 0.003	0.0086	0.042	*1+ < 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.029	< 0.002	0.011	2.63	< 0.0025	< 0.002		
	12/21/2022	0.39	110	190	0.72	7.06	190	820	< 0.003	0.0095	0.05	< 0.001	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.029	< 0.002	0.0089	2.91	< 0.0025	< 0.002	
	3/22/2023	0.44	91	120	0.55	7.20	160	620	< 0.003	0.0096	0.04	< 0.001	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.03	< 0.002	0.011	2.28	< 0.0025	< 0.002	
	6/9/2023	0.44	89	120	0.56	7.23	150	610	< 0.003	0.0094	0.038	*1+ < 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.031	< 0.002	0.012	1.88	< 0.0025	< 0.002		
	9/14/2023	0.46	67	120	0.56	7.35	FI 150	600	< 0.0020	0.010	0.033	< 0.0010	< 0.0020	< 0.0050	< 0.0050	< 0.0050	0.026	< 0.0020	0.012	1.95	< 0.0020	0.010	0.0010	
	12/28/2023	0.50	80	140	0.57	7.20	160	680	*1+ < 0.0010	0.010	0.036	< 0.0010	< 0.0020	< 0.0050	< 0.0050	0.026	< 0.0020	0.012	1.68	< 0.0020	0.010	0.0010		
	11/10/2015	0.5	110	79	0.22	7.07	250	710	< 0.003	0.0019	0.063	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.019	< 0.002	0.0070	1.01	< 0.0025	< 0.002		
	5/4/2016	0.84	100	190	0.21	7.16	190	820	< 0.003	0.0013	0.081	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.018	< 0.002	0.007	1.43	< 0.0025	< 0.002		
6/28/2016	0.98	100	94	0.19	7.30	180	910	< 0.003	0.0011	0.086	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.017	< 0.002	0.007	1.18	< 0.0025	< 0.002			
8/25/2016	1.1	100	110	0.28	7.22	180	800	< 0.003	0.008	0.086	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.018	< 0.002	0.007	1.54	< 0.0025	< 0.002			
11/17/2016	1.3	120	100	0.19	7.14	150	860	< 0.003	0.0012	0.096	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.022	< 0.002	0.014	1.61	< 0.0025	< 0.002			
2/15/2017	1.0	98	110	0.19	7.36	230	810	< 0.003	0.0011	0.086	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.023	< 0.002	0.012	0.938	< 0.0025	< 0.002			
5/22/2017	1.4	110	78	0.21	7.25	160	740	< 0.003	0.0017	0.088	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.021	< 0.002	0.013	1.21	< 0.0025	< 0.002			
7/7/2017	1.1	100	FI 71	< 0.1	7.12	180	710	< 0.003	0.0015	0.085	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.022	< 0.002	0.009	1.11	< 0.0025	< 0.002			
9/26/2017	1.3	110	80	0.21	7.19	240	790	< 0.003	0.0011	0.086	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.018	< 0.002	0.014	1.33	< 0.0025	< 0.002			
11/20/2017	1.7	98	90	0.24	7.13	230	770	< 0.003	0.0014	0.087	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.02	< 0.002	0.020	1.59	< 0.0025	< 0.002			
3/7/2018	1.5	110	110	0.24	7.24	250	900	< 0.003	0.0023	0.093	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.023	< 0.002	0.026	1.30	< 0.0025	< 0.002			
5/17/2018	1.4	100	82	0.24	7.07	210	890	NA	0.001	NA	NA	NA	NA	NA	NA	NA	NA	0.021	NA	0.020	1.58	< 0.0025	NA	
12/1/2018	1.8	100	140	0.23	6.96	160	890	NA	0.0014	0.095	NA	NA	NA	NA	NA	NA	NA	0.021	NA	0.020	1.31	< 0.0025	NA	
6/24/2019	2.7	100	89	0.27	7.17	260	830	NA	0.0020	0.090	NA	NA	NA	NA	NA	NA	NA	0.027	NA	0.020	1.33	< 0.0025	NA	
10/28/2019	1.5	100	73	0.28	7.19	< 0.100	780	NA	< 0.0100	0.088	NA	NA	NA	NA	NA	NA	NA	0.029	NA	0.020	1.38	< 0.0025	NA	
6/25/2020	2.3	97	74	0.33	7.24	240	770	NA	0.0024	0.093	NA	NA	NA	NA	NA	NA	NA	0.025	NA	0.023	1.65	< 0.0025	NA	
12/15/2020	1.4	140	FI 170	0.27	7.01	280	960	NA	0.0013	0.11	NA	NA	NA	NA	NA	NA	NA	0.035	< 0.0005	0.031	NA	0.14	< 0.0025	NA
6/22/2021	0.92	120	130	0.23	6.94	220	980	< 0.003	0.0016	0.085	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.029	H < 0.002	0.021	1.34	< 0.0025	< 0.002			
9/28/2021	1.2																							

Table 1. Groundwater Analytical Results - Midwest Generation, LLC, John Station #9, Joliet, IL

Well	Date	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Radium 226 + 228 Combined	Selenium	Thallium	
R32S down-gradient	11/19/2015	1.3	99	88	0.28	7.32	210	640	< 0.003	0.0018	0.033	* < 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.04	< 0.0002	0.16	1.928	< 0.0025	< 0.002	
	4/5/2016	1.8	140	140	0.25	7.28	210	830	< 0.003	0.0034	0.039	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.065	< 0.0002	0.29	2.28	< 0.0025	< 0.002	
	6/29/2016	2.5	110	110	0.35	7.53	280	840	< 0.003	0.0021	0.042	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.065	< 0.0002	0.43	2.12	< 0.0025	< 0.002	
	8/26/2016	3.0	120	100	0.4	7.30	330	850	< 0.003	0.0014	0.043	* < 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.056	< 0.0002	0.48	2.39	< 0.0025	< 0.002	
	11/18/2016	3.3	120	99	0.34	7.38	270	830	< 0.003	0.0016	0.042	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.063	< 0.0002	0.55	3.17	< 0.0025	< 0.002	
	2/16/2017	FL	4.0	120	99	0.4	7.39	340	830	< 0.003	0.0027	0.039	< 0.001	< 0.0005	< 0.005	< 0.001	0.064	< 0.0002	0.57	1.76	FI < 0.0025	< 0.002	
	5/25/2017	8.3	340	88	0.42	7.54	320	850	< 0.006	0.0042	0.075	* < 0.002	< 0.001	< 0.01	< 0.002	< 0.001	0.14	< 0.0002	1.4	1.82	< 0.0025	< 0.002	
	7/7/2017	6.2	120	96	0.42	7.61	360	830	< 0.003	0.0043	0.04	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.1	< 0.0002	0.87	2.08	< 0.0025	< 0.002	
	9/28/2017	4.8	140	76	0.46	7.29	290	870	< 0.003	0.006	0.044	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.066	< 0.0002	0.67	1.79	< 0.0025	< 0.002	
	11/21/2017	5.3	120	97	0.38	7.50	390	900	< 0.003	0.0037	0.041	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.11	< 0.0002	0.74	1.82	< 0.0025	< 0.002	
	3/7/2018	5.8	130	86	0.52	7.57	350	880	< 0.003	0.0029	0.042	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.11	< 0.0002	0.67	2.56	< 0.0025	< 0.002	
	5/21/2018	4.4	120	77	0.29	7.13	310	1000	NA	0.0034	0.04	NA	NA	NA	NA	< 0.001	< 0.0005	0.1	NA	0.64	2.22	< 0.0025	NA
	12/1/2018	3.5	120	80	0.26	7.53	280	880	NA	0.0019	0.043	NA	NA	NA	NA	< 0.001	< 0.0005	0.037	0.060	NA	0.560	< 0.0025	< 0.002
	6/27/2019	6.3	140	74	0.27	7.33	380	880	NA	0.0027	0.041	NA	NA	NA	NA	< 0.001	< 0.0005	0.060	NA	0.810	2.67	< 0.0025	NA
	11/6/2019	4.8	150	69	0.27	7.45	360	820	NA	< 0.01	0.039	NA	NA	NA	NA	< 0.001	< 0.0005	0.13	NA	0.580	2.370	< 0.0100	NA
	6/29/2020	6.0	130	71	0.28	7.47	400	790	NA	0.0021	0.038	NA	NA	NA	NA	< 0.001	< 0.0005	0.11	NA	0.64	3.92	< 0.0025	NA
	12/16/2020	6.1	150	FL	0.34	7.43	430	840	NA	0.0025	0.038	NA	NA	NA	NA	< 0.001	< 0.0005	0.11	NA	0.75	3.27	FI < 0.0025	< 0.002
	6/28/2021	B	4.0	130	56	0.30	7.16	430	790	< 3.0	< 0.001	0.036	< 1.0	< 0.5	< 5.0	< 0.001	< 0.0005	0.071	< 0.0002	0.53	2.10	< 0.0025	< 3.0
	9/30/2021	6.0	140	62	0.31	7.47	520	970	< 0.003	0.0029	0.037	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.12	< 0.0002	0.95	2.45	< 0.0025	< 0.002	
	12/16/2021	4.8	150	59	0.32	7.42	490	970	< 0.003	0.0016	0.037	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.097	< 0.0002	0.75	2.68	< 0.0025	< 0.002	
3/16/2022	4.0	9.6	50	0.31	7.56	430	1100	< 0.003	0.0017	0.032	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.043	< 0.0002	0.51	2.61	< 0.0025	< 0.002		
6/08/2022	5.5	120	54	0.31	7.23	460	880	< 0.003	0.0017	0.034	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.089	< 0.0002	0.88	2.96	< 0.0025	< 0.002		
9/26/2022	5.1	130	57	0.30	7.21	450	870	< 0.003	0.0012	0.034	* < 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.12	< 0.0002	0.69	2.27	< 0.0025	< 0.002		
12/16/2022	4.7	61	41	0.51	7.41	400	860	< 0.003	0.0021	0.035	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.11	< 0.0002	0.63	2.66	< 0.0025	< 0.002		
3/23/2023	4.4	130	56	0.29	7.57	390	940	< 0.003	0.0026	0.034	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.1	< 0.0002	0.62	1.86	< 0.0025	< 0.002		
6/29/2023	1.4	100	47	0.29	7.07	380	770	< 0.003	0.002	0.028	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.035	< 0.0002	0.092	2.02	< 0.0025	< 0.002		
9/12/2023	2.8	88	30	0.29	7.40	380	790	< 0.0020	< 0.0020	0.030	< 0.0010	< 0.0020	< 0.0050	< 0.0050	< 0.0050	0.074	< 0.0020	0.42	1.97	< 0.0020	< 0.0010		
12/19/2023	0.48	88	28	0.28	7.41	350	780	< 0.0030	< 0.0030	0.027	< 0.0010	< 0.0020	< 0.0050	< 0.0050	0.027	< 0.0020	0.031	< 0.0020	0.031	2.54	< 0.0020	< 0.0010	
G44S down-gradient	11/20/2015	1.0	120	43	0.21	7.11	220	640	< 0.003	0.0012	0.053	* < 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.017	< 0.0002	0.100	1.161	< 0.0025	< 0.002	
	5/9/2016	0.91	110	37	0.18	7.39	120	690	< 0.003	< 0.001	0.049	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.015	< 0.0002	0.046	< 0.415	< 0.0025	< 0.002	
	6/18/2016	0.68	100	39	0.18	7.29	99	620	< 0.003	0.005	0.044	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.029	< 0.0002	0.025	0.914	< 0.0025	< 0.002	
	8/26/2016	0.89	120	36	0.19	7.12	110	710	< 0.003	< 0.001	0.053	* < 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.014	< 0.0002	0.047	0.816	< 0.0025	< 0.002	
	11/16/2016	0.82	120	26	0.17	7.15	88	530	< 0.003	< 0.001	0.048	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.011	< 0.0002	0.041	0.475	< 0.0025	< 0.002	
	2/16/2017	0.86	120	30	0.15	7.38	120	670	< 0.003	< 0.001	0.051	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.014	< 0.0002	0.044	0.729	< 0.0025	< 0.002	
	5/24/2017	0.83	120	35	0.19	7.56	95	650	< 0.003	0.0013	0.048	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.011	< 0.0002	0.031	1.02	< 0.0025	< 0.002	
	7/10/2017	0.83	110	30	< 0.1	7.00	110	700	< 0.003	< 0.001	0.049	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.012	< 0.0002	0.061	0.667	< 0.0025	< 0.002	
	9/26/2017	0.99	130	30	0.19	7.13	100	730	< 0.003	< 0.001	0.048	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.014	< 0.0002	0.081	0.614	< 0.0025	< 0.002	
	11/21/2017	0.79	110	35	0.18	7.06	120	640	< 0.003	< 0.001	0.051	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.016	< 0.0002	0.055	0.913	< 0.0025	< 0.002	
	3/7/2018	0.91	120	36	0.18	7.19	110	670	< 0.003	0.0013	0.053	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.017	< 0.0002	0.049	0.911	< 0.0025	< 0.002	
	5/17/2018	0.98	120	35	0.18	7.02	96	780	NA	< 0.001	0.054	NA	NA	NA	NA	< 0.001	< 0.0005	0.016	NA	0.071	0.714	< 0.0025	NA
	12/10/2018	1.1	120	43	0.19	7.41	78	630	NA	< 0.001	0.057	NA	NA	NA	NA	< 0.001	< 0.0005	0.019	NA	0.14	0.454	< 0.0025	NA
	6/19/2019	1.3	130	39	0.19	7.02	140	720	NA	< 0.001	0.062	NA	NA	NA	NA	< 0.001	< 0.0005	0.021	NA	0.13	0.441	< 0.0025	NA
	11/12/2019	1.3	140	53	0.21	7.22	160	670	NA	< 0.001	0.065	NA	NA	NA	NA	< 0.001	< 0.0005	0.026	NA	0.20	1.01	< 0.01	< 0.001
	6/29/2020	1.4	130	52	0.21	7.30	160	670	NA	< 0.001	0.066	NA	NA	NA	NA	< 0.001	< 0.0005	0.024	NA	0.15	1.860	< 0.0025	NA
	12/15/2020	1.7	140	52	0.25	7.17	180	650	NA	< 0.001	0.062	NA	NA	NA	NA	< 0.001	< 0.0005	0.031	NA	0.28	1.18	< 0.0025	NA
	6/20/2021	B	1.8	120	69	0.21	7.00	170	730	< 0.003	0.061	* < 0.001	< 0.5	< 5.0	< 0.001	< 0.0005	0.011	< 0.0002	0.025	1.29	< 0.01		

Table 2. Groundwater Turbidity - Midwest Generation, LLC, Joliet #9 Generating Station

Well ID	Date	Turbidity (NTU)
G4SS	3/12/2021	0.87
	4/5/2021	0.33
	4/23/2021	0.54
	5/18/2021	0.36
	6/8/2021	0.64
	7/2/2021	1.4
	8/12/2021	0.36
	9/2/2021	0.46
	12/16/2021	0.89
	3/16/2022	0.98
	6/10/2022	0.03
	9/26/2022	0.29
	12/21/2022	2.04
	3/23/2023	1.13
	6/30/2023	0.42
9/14/2023	0.97	
12/20/2023	1.74	
T03S	3/15/2021	2.42
	4/1/2021	0.44
	4/22/2021	94
	5/17/2021	0.47
	6/7/2021	0.47
	7/1/2021	0.3
	8/12/2021	0.34
	9/1/2021	0.67
	12/9/2021	0.56
	3/14/2022	0.65
	6/13/2022	-0.1
	9/29/2022	0.53
	12/21/2022	2.03
	3/20/2023	1.19
	6/30/2023	0.39
9/13/2023	0.22	
12/12/2023	1.23	
R08S	3/12/2021	0.19
	4/1/2021	0.46
	4/23/2021	0.34
	5/18/2021	0.24
	6/8/2021	0.2
	7/1/2021	0.17
	8/12/2021	0.58
	9/2/2021	0.42
	12/14/2021	0.57
	3/11/2022	0.52
	6/7/2022	0.23
	9/19/2022	0.36
	12/19/2022	1.01
	3/22/2023	1.41
	6/28/2023	0.34
9/7/2023	0.15	
12/20/2023	3.33	
G20S	3/12/2021	0.32
	4/1/2021	0.29
	4/22/2021	0.14
	5/18/2021	0.63
	6/8/2021	0.2
	7/1/2021	0.29
	8/12/2021	0.32
	9/2/2021	0.48
	12/10/2021	1.28
	3/15/2022	0.46
	6/7/2022	0.5
	9/19/2022	2.47
	12/19/2022	2.61
	3/14/2023	0.39
	6/28/2023	0.25
9/6/2023	1.17	
12/11/2023	1.40	
G30S	3/12/2021	0.05
	4/2/2021	0.14
	4/23/2021	0.25
	5/18/2021	0.43
	6/8/2021	0.61
	7/2/2021	0.48
	8/13/2021	0.31
	9/2/2021	0.48
	12/15/2021	0.09
	3/15/2022	0.45
	6/10/2022	0.16
	9/28/2022	0.61
	12/19/2022	1.04
	3/17/2023	2.43
	6/29/2023	0.74
9/12/2023	0.71	
12/19/2023	3.05	

Table 2. Groundwater Turbidity - Midwest Generation, LLC, Joliet #9 Generating Station

Well ID	Date	Turbidity (NTU)
R32S	3/12/2021	0.42
	4/5/2021	0.81
	4/23/2021	1.23
	5/18/2021	1.78
	6/8/2021	1.14
	7/2/2021	0.42
	8/13/2021	0.57
	9/30/2021	0.39
	12/15/2021	0.84
	3/16/2022	1.31
	6/10/2022	-0.1
	9/26/2022	0.66
	12/16/2022	1.53
	3/23/2023	1.59
6/29/2023	0.74	
9/12/2023	0.52	
12/19/2023	2.10	
G44S	3/15/2021	3.66
	4/5/2021	3.89
	4/23/2021	3.31
	5/18/2021	1.41
	6/8/2021	1.42
	7/2/2021	1.37
	8/12/2021	1.56
	9/2/2021	1.38
	12/16/2021	1.29
	3/15/2022	1.09
	6/9/2022	0.78
	9/26/2022	0.86
	12/21/2022	11.7
	3/15/2023	1.13
6/29/2023	3.04	
9/13/2023	0.93	
12/19/2023	12.60	
G46S	3/15/2021	18.4
	4/5/2021	106.5
	4/23/2021	59.2
	5/18/2021	181
	6/8/2021	3140
	7/1/2021	11.6
	8/12/2021	112
	9/2/2021	43.3
	12/15/2021	73.1
	3/11/2022	99.3
	6/9/2022	6.63
	9/26/2022	34.4
	12/20/2022	77.9
	3/22/2023	88.61
6/29/2023	32.30	
9/13/2023	113	
12/20/2023	58.70	
G47S	3/15/2021	0.12
	4/5/2021	0.1
	4/22/2021	0.16
	5/18/2021	0.14
	6/8/2021	0.53
	7/1/2021	0.3
	8/13/2021	0.18
	9/2/2021	0.68
	12/16/2021	0.59
	3/16/2022	0.26
	6/9/2022	-0.11
	9/26/2022	0.35
	12/21/2022	0.76
	3/23/2023	1.12
6/30/2023	0.76	
9/7/2023	0.18	
12/18/2023	1.15	
G48S	3/15/2021	0.47
	4/5/2021	0.14
	4/22/2021	0.22
	5/18/2021	0.44
	6/8/2021	0.24
	7/1/2021	0.91
	8/13/2021	0.23
	9/2/2021	0.63
	12/16/2021	0.62
	3/16/2022	0.31
	6/9/2022	0.22
	9/26/2022	0.96
	12/21/2022	3.73
	3/23/2023	3.13
6/30/2023	1.87	
9/7/2023	1.56	
12/18/2023	2.61	

Table 3. Proposed Site-Specific Groundwater Protection Standards - Joliet #9 Lincoln Stone Quarry

Upgradient Well(s)	Parameter	Section 845.600 Standards	Interwell Background Prediction Limit	Proposed GWPS
G45S and T03S Pooled	Antimony	0.006	0.003	0.006
T03S	Arsenic	0.01	0.003	0.01
G45S	Barium	2	0.05	2
G45S and T03S Pooled	Beryllium	0.004	0.001	0.004
G45S	Boron	2.0	1.039	2
G45S and T03S Pooled	Cadmium	0.005	0.001	0.005
G45S	Chloride	200	232.4	232.4
G45S and T03S Pooled	Chromium	0.1	0.005	0.1
G45S	Cobalt	0.006	0.001	0.006
T03S	Combined Radium 226 + 228 (pCi/L)	5.0	1.922	5.0
G45S	Fluoride	4.0	0.389	4.0
G45S and T03S Pooled	Lead	0.0075	0.0023	0.0075
G45S	Lithium	0.04	0.042	0.042
G45S and T03S Pooled	Mercury	0.002	0.0002	0.002
G45S	Molybdenum	0.10	0.014	0.10
G45S and T03S Pooled	pH (standard units)	6.5-9.0	6.85-7.62	6.5-9.0
G45S and T03S Pooled	Selenium	0.05	0.003	0.05
G45S	Sulfate	400	369.6	400
G45S and T03S Pooled	Thallium	0.002	0.002	0.002
G45S	Total Dissolved Solids	1200	1053	1200
G45S	Calcium	NE	138.4	138.4
G45S and T03S Pooled	Turbidity	NE	94	94

All values are in mg/L (ppm) unless otherwise noted.

NE - Not Established

Bold - Site-specific Groundwater Protection Standard based on Section 845.600(a)(2)

Table 4. Groundwater Elevations, Midwest Generation, LLC, Joliet Station #9.

Well ID	Date ^a	Top of Casing Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft above MSL)
R08S	Nov-2015	578.65	66.74	511.91
	May-2016	578.65	67.02	511.63
	Jun-2016	578.65	67.50	511.15
	Aug-2016	578.65	67.47	511.18
	Nov-2016	578.65	67.84	510.81
	Feb-2017	578.65	69.28	509.37
	May-2017	578.65	67.56	511.09
	Jul-2017	578.65	67.54	511.11
	Sep-2017	578.65	65.72	512.93
	Nov-2017	578.65	64.83	513.82
	Mar-2018	578.66	65.12	513.53
	May-2018	578.65	65.31	513.34
	Oct-2018	578.62	65.48	513.14
	May-2019	578.62	67.24	511.38
	Nov-2019	578.62	66.78	511.84
	Apr-2020	578.62	65.63	512.99
	Oct-2020	578.62	68.14	510.48
	Apr-2021	578.62	69.20	509.42
	May-2021	578.62	68.06	510.56
	Jun-2021	578.62	68.49	510.13
	Jul-2021	578.62	66.54	512.08
	Aug-2021	578.62	67.38	511.24
	Sep-2021	578.62	67.15	511.47
	Oct-2021	578.62	68.05	510.57
	Nov-2021	578.62	66.18	512.44
	Dec-2021	578.62	69.45	509.17
	Jan-2022	578.62	66.75	511.87
	Feb-2022	578.62	67.19	511.43
	Mar-2022	578.62	66.09	512.53
	Apr-2022	578.62	66.96	511.66
	May-2022	578.62	67.58	511.04
	Jun-2022	578.62	68.20	510.42
	Jul-2022	578.62	66.21	512.41
	Aug-2022	578.62	65.86	512.76
	Sep-2022	578.62	67.21	511.41
	Oct-2022	578.62	65.20	513.42
	Nov-2022	578.62	66.41	512.21
	Dec-2022	578.62	66.33	512.29
	Jan-2023	578.62	66.52	512.10
	Feb-2023	578.62	66.37	512.25
	Mar-2023	578.62	70.08	508.54
	Apr-2023	578.62	69.77	508.85
May-2023	578.62	70.38	508.24	
Jun-2023	578.62	70.29	508.33	
Jul-2023	578.62	69.93	508.69	
Aug-2023	578.62	71.18	507.44	
Sep-2023	578.62	69.85	508.77	
Oct-2023	578.62	73.29	505.33	
Nov-2023	578.62	73.78	504.84	
Dec-2023	578.62	70.99	507.63	
G20S	Nov-2015	580.33	55.33	525.00
	May-2016	580.33	51.32	529.01
	Jun-2016	580.33	53.14	527.19
	Aug-2016	580.33	61.32	519.01
	Nov-2016	580.33	54.69	525.64
	Feb-2017	580.33	52.41	527.92
	May-2017	580.33	46.06	534.27
	Jul-2017	580.33	47.85	532.48
	Sep-2017	580.33	49.02	531.31
	Nov-2017	580.33	52.57	527.76
	Mar-2018	580.33	46.65	533.68
	May-2018	580.33	48.83	531.50
	Oct-2018	580.91	49.46	531.45
	May-2019	580.91	39.03	541.88
	Nov-2019	580.91	41.82	539.09
	Apr-2020	580.91	41.69	539.22
	Oct-2020	580.91	46.74	534.17
	Apr-2021	580.91	45.69	535.22
	May-2021	580.91	46.15	534.76
	Jun-2021	580.91	48.50	532.41
	Jul-2021	580.91	56.19	524.72
	Aug-2021	580.91	64.02	516.89
	Sep-2021	580.91	72.75	508.16
	Oct-2021	580.91	78.99	501.92
	Nov-2021	580.91	77.54	503.37
	Dec-2021	580.91	129.36	451.55
	Jan-2022	580.91	72.71	508.20
	Feb-2022	580.91	67.38	513.53
	Mar-2022	580.91	55.70	525.21
	Apr-2022	580.91	60.53	520.38
	May-2022	580.91	67.59	513.32
	Jun-2022	580.91	67.32	513.59
	Jul-2022	580.91	73.05	507.86
	Aug-2022	580.91	71.72	509.19
	Sep-2022	580.91	73.94	506.97
	Oct-2022	580.91	79.84	501.07
	Nov-2022	580.91	82.86	498.05
	Dec-2022	580.91	72.26	508.65
	Jan-2023	580.91	69.70	511.21
	Feb-2023	580.91	66.19	514.72
	Mar-2023	580.91	55.27	525.64
	Apr-2023	580.91	55.07	525.84
May-2023	580.91	50.69	530.22	
Jun-2023	580.91	53.60	527.31	
Jul-2023	580.91	60.64	520.27	
Aug-2023	580.91	57.12	523.79	
Sep-2023	580.91	58.38	522.53	
Oct-2023	580.91	55.38	525.53	
Nov-2023	580.91	53.54	527.37	
Dec-2023	580.91	54.10	526.81	

MSL - Mean Sea Level
 TOC - Top of Casing
^a - Date of water levels collected at beginning of quarter, actual sample date may vary.
 NM - Not Measured

Table 4. Groundwater Elevations, Midwest Generation, LLC, Joliet Station #9.

Well ID	Date ¹	Top of Casing Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft above MSL)
G308	Nov-2015	524.40	2.74	521.66
	May-2016	524.40	2.53	521.87
	Jun-2016	524.40	3.54	520.86
	Aug-2016	524.40	2.45	521.95
	Nov-2016	524.40	2.57	521.83
	Feb-2017	524.40	2.13	522.27
	May-2017	524.40	1.69	522.71
	Jul-2017	524.40	1.96	522.44
	Sep-2017	524.40	1.84	522.56
	Nov-2017	524.40	1.48	522.92
	Mar-2018	524.40	1.48	522.92
	May-2018	524.40	1.62	522.78
	Oct-2018	524.70	2.51	522.19
	May-2019	524.70	1.57	523.13
	Nov-2019	524.70	1.53	523.17
	Apr-2020	524.70	1.03	523.67
	Oct-2020	524.70	2.19	522.51
	Apr-2021	524.70	2.55	522.15
	May-2021	524.70	2.37	522.33
	Jun-2021	524.70	2.53	522.17
	Jul-2021	524.70	2.32	522.38
	Aug-2021	524.70	2.45	522.25
	Sep-2021	524.70	2.65	522.05
	Oct-2021	524.70	2.43	522.27
	Nov-2021	524.70	2.20	522.50
	Dec-2021	524.70	2.21	522.49
	Jan-2022	524.70	2.25	522.45
	Feb-2022	524.70	2.01	522.69
	Mar-2022	524.70	2.02	522.68
	Apr-2022	524.70	1.84	522.86
	May-2022	524.70	1.77	522.93
	Jun-2022	524.70	1.82	522.88
	Jul-2022	524.70	1.18	523.52
	Aug-2022	524.70	1.65	523.05
	Sep-2022	524.70	2.59	522.11
	Oct-2022	524.70	2.61	522.09
	Nov-2022	524.70	2.60	522.10
	Dec-2022	524.70	2.48	522.22
	Jan-2023	524.70	2.42	522.28
	Feb-2023	524.70	2.26	522.44
	Mar-2023	524.70	2.09	522.61
	Apr-2023	524.70	2.21	522.49
	May-2023	524.70	2.82	521.88
	Jun-2023	524.70	2.44	522.26
	Jul-2023	524.70	2.29	522.41
	Aug-2023	524.70	2.30	522.40
	Sep-2023	524.70	2.06	522.64
	Oct-2023	524.70	2.10	522.60
Nov-2023	524.70	2.65	522.05	
Dec-2023	524.70	2.10	522.60	
R328	Nov-2015	536.81	19.99	516.82
	May-2016	536.81	19.72	517.09
	Jun-2016	536.81	20.51	516.30
	Aug-2016	536.81	20.51	516.30
	Nov-2016	536.81	20.24	516.57
	Feb-2017	536.81	21.12	515.69
	May-2017	536.81	19.33	517.48
	Jul-2017	536.81	19.38	517.43
	Sep-2017	536.81	17.91	518.90
	Nov-2017	536.81	16.32	520.49
	Mar-2018	536.81	16.98	519.83
	May-2018	536.81	20.26	516.55
	Oct-2018	536.99	18.32	518.67
	May-2019	536.99	19.28	517.71
	Nov-2019	536.99	19.09	517.90
	Apr-2020	536.99	17.74	519.25
	Oct-2020	536.99	20.76	516.23
	Apr-2021	536.99	22.06	514.93
	May-2021	536.99	21.41	515.58
	Jun-2021	536.99	21.19	515.80
	Jul-2021	536.99	19.69	517.30
	Aug-2021	536.99	NM	NM
	Sep-2021	536.99	21.18	515.81
	Oct-2021	536.99	20.91	516.08
	Nov-2021	536.99	19.17	517.82
	Dec-2021	536.99	21.74	515.25
	Jan-2022	536.99	19.69	517.30
	Feb-2022	536.99	20.06	516.93
	Mar-2022	536.99	19.68	517.31
	Apr-2022	536.99	19.80	517.19
	May-2022	536.99	20.09	516.90
	Jun-2022	536.99	20.49	516.50
	Jul-2022	536.99	18.70	518.29
	Aug-2022	536.99	20.59	516.40
	Sep-2022	536.99	20.17	516.82
	Oct-2022	536.99	18.28	518.71
	Nov-2022	536.99	19.28	517.71
	Dec-2022	536.99	18.35	518.64
	Jan-2023	536.99	19.31	517.68
	Feb-2023	536.99	19.36	517.63
	Mar-2023	536.99	22.18	514.81
	Apr-2023	536.99	21.92	515.07
	May-2023	536.99	22.41	514.58
	Jun-2023	536.99	22.35	514.64
	Jul-2023	536.99	22.15	514.84
	Aug-2023	536.99	22.95	514.04
	Sep-2023	536.99	22.34	514.65
	Oct-2023	536.99	24.92	512.07
Nov-2023	536.99	25.28	511.71	
Dec-2023	536.99	22.74	514.25	

MSL - Mean Sea Level
 TOC - Top of Casing
¹ - Date of water levels collected at beginning of quarter, actual sample date may vary.
 NM - Not Measured

Table 4. Groundwater Elevations, Midwest Generation, LLC, Joliet Station #9.

Well ID	Date ¹	Top of Casing Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft above MSL)
G44S	Nov-2015	586.69	80.54	506.15
	May-2016	586.69	80.42	506.27
	Jun-2016	586.69	80.68	506.01
	Aug-2016	586.69	80.65	506.04
	Nov-2016	586.69	80.69	506.00
	Feb-2017	586.69	84.34	502.35
	May-2017	586.69	82.14	504.55
	Jul-2017	586.69	81.13	505.56
	Sep-2017	586.69	80.15	506.54
	Nov-2017	586.69	77.10	509.59
	Mar-2018	586.69	78.74	507.95
	May-2018	586.69	80.17	506.52
	Oct-2018	586.53	78.21	508.32
	May-2019	586.53	80.05	506.48
	Nov-2019	586.53	79.96	506.57
	Apr-2020	586.53	79.25	507.38
	Oct-2020	586.53	81.51	505.02
	Apr-2021	586.53	82.51	504.02
	May-2021	586.53	80.80	505.73
	Jun-2021	586.53	82.21	504.32
	Jul-2021	586.53	79.66	506.87
	Aug-2021	586.53	80.80	505.73
	Sep-2021	586.53	80.90	505.63
	Oct-2021	586.53	77.51	509.02
	Nov-2021	586.53	66.28	520.25
	Dec-2021	586.53	82.71	503.82
	Jan-2022	586.53	80.30	506.23
	Feb-2022	586.53	81.07	505.66
	Mar-2022	586.53	79.64	506.99
	Apr-2022	586.53	78.65	507.88
	May-2022	586.53	89.85	496.68
	Jun-2022	586.53	80.75	505.78
	Jul-2022	586.53	80.09	506.44
	Aug-2022	586.53	79.01	507.52
	Sep-2022	586.53	80.24	506.29
	Oct-2022	586.53	78.82	507.71
	Nov-2022	586.53	79.79	506.74
	Dec-2022	586.53	80.89	505.64
	Jan-2023	586.53	80.04	506.49
	Feb-2023	586.53	80.59	505.94
	Mar-2023	586.53	78.52	508.01
	Apr-2023	586.53	82.13	504.40
	May-2023	586.53	83.05	503.48
	Jun-2023	586.53	83.12	503.41
	Jul-2023	586.53	32.61	553.92
Aug-2023	586.53	52.75	533.78	
Sep-2023	586.53	82.75	503.78	
Oct-2023	586.53	85.46	501.07	
Nov-2023	586.53	86.11	500.42	
Dec-2023	586.53	83.45	503.08	
G45S	Nov-2015	603.31	68.90	534.41
	May-2016	603.31	67.28	536.03
	Jun-2016	603.31	68.88	534.43
	Aug-2016	603.31	68.39	534.92
	Nov-2016	603.31	66.69	536.62
	Feb-2017	603.31	65.34	537.97
	May-2017	603.31	63.07	540.24
	Jul-2017	603.31	63.44	539.87
	Sep-2017	603.31	63.10	540.21
	Nov-2017	603.31	62.28	541.03
	Mar-2018	603.31	61.82	541.49
	May-2018	603.31	68.50	534.81
	Oct-2018	603.90	66.74	537.16
	May-2019	603.90	62.72	541.18
	Nov-2019	603.90	62.38	541.52
	Apr-2020	603.90	60.10	543.80
	Oct-2020	603.90	65.51	538.39
	Apr-2021	603.90	67.71	536.19
	May-2021	603.90	67.32	536.58
	Jun-2021	603.90	67.41	536.49
	Jul-2021	603.90	66.55	537.35
	Aug-2021	603.90	66.74	537.16
	Sep-2021	603.90	66.87	537.03
	Oct-2021	603.90	66.94	536.96
	Nov-2021	603.90	66.28	537.62
	Dec-2021	603.90	66.15	537.75
	Jan-2022	603.90	66.16	537.74
	Feb-2022	603.90	66.13	537.77
	Mar-2022	603.90	65.50	538.40
	Apr-2022	603.90	64.85	539.05
	May-2022	603.90	64.13	539.77
	Jun-2022	603.90	64.07	539.83
	Jul-2022	603.90	64.36	539.54
	Aug-2022	603.90	53.95	549.95
	Sep-2022	603.90	67.31	536.59
	Oct-2022	603.90	67.47	536.43
	Nov-2022	603.90	67.51	536.39
	Dec-2022	603.90	67.78	536.12
	Jan-2023	603.90	67.34	536.56
	Feb-2023	603.90	67.42	536.48
	Mar-2023	603.90	66.41	537.49
	Apr-2023	603.90	66.11	537.79
	May-2023	603.90	66.12	537.78
	Jun-2023	603.90	66.33	537.57
	Jul-2023	603.90	66.21	537.69
Aug-2023	603.90	66.20	537.70	
Sep-2023	603.90	65.12	538.78	
Oct-2023	603.90	65.89	538.01	
Nov-2023	603.90	66.51	537.39	
Dec-2023	603.90	66.45	537.45	

MSL - Mean Sea Level
 TOC - Top of Casing
¹ - Date of water levels collected at bottom of quarter, actual sample date may vary.
 NM - Not Measured

Table 4. Groundwater Elevations, Midwest Generation, LLC, Joliet Station #9.

Well ID	Date ¹	Top of Casing Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft above MSL)
G46S	Nov-2015	601.32	95.78	505.54
	May-2016	601.32	96.74	504.58
	Jun-2016	601.32	97.31	504.01
	Aug-2016	601.32	97.32	504.00
	Nov-2016	601.32	97.80	503.82
	Feb-2017	601.32	98.14	503.18
	May-2017	601.32	98.43	502.89
	Jul-2017	601.32	98.96	502.36
	Sep-2017	601.32	96.61	504.71
	Nov-2017	601.32	95.65	505.67
	Mar-2018	601.32	96.80	504.52
	May-2018	601.32	95.59	505.73
	Oct-2018	601.43	91.34	510.09
	May-2019	601.43	101.40	500.03
	Nov-2019	601.43	100.01	503.83
	Apr-2020	601.43	100.19	501.24
	Oct-2020	601.43	101.44	499.99
	Apr-2021	601.43	103.09	498.34
	May-2021	601.43	99.02	502.41
	Jun-2021	601.43	100.03	501.40
	Jul-2021	601.43	94.99	506.44
	Aug-2021	601.43	99.46	501.97
	Sep-2021	601.43	99.09	502.34
	Oct-2021	601.43	100.36	501.07
	Nov-2021	601.43	95.22	506.21
	Dec-2021	601.43	105.28	496.15
	Jan-2022	601.43	95.79	505.64
	Feb-2022	601.43	95.75	505.68
	Mar-2022	601.43	95.71	505.72
	Apr-2022	601.43	105.41	496.02
	May-2022	601.43	102.83	498.60
	Jun-2022	601.43	103.40	498.03
	Jul-2022	601.43	105.51	495.92
	Aug-2022	601.43	107.49	493.94
	Sep-2022	601.43	96.60	504.83
	Oct-2022	601.43	92.39	509.04
	Nov-2022	601.43	93.24	508.19
	Dec-2022	601.43	93.90	507.53
	Jan-2023	601.43	94.61	506.82
	Feb-2023	601.43	95.79	505.64
	Mar-2023	601.43	91.99	509.44
	Apr-2023	601.43	106.56	494.87
	May-2023	601.43	108.96	492.47
	Jun-2023	601.43	104.26	497.17
	Jul-2023	601.43	105.51	495.92
	Aug-2023	601.43	105.75	495.68
	Sep-2023	601.43	106.12	495.31
	Oct-2023	601.43	107.45	493.98
Nov-2023	601.43	112.32	489.11	
Dec-2023	601.43	109.48	491.95	
G47S	Nov-2015	612.32	99.44	512.88
	May-2016	612.32	95.48	516.84
	Jun-2016	612.32	96.58	515.74
	Aug-2016	612.32	96.79	515.53
	Nov-2016	612.32	88.96	523.36
	Feb-2017	612.32	96.41	515.91
	May-2017	612.32	92.61	519.71
	Jul-2017	612.32	93.53	518.79
	Sep-2017	612.32	93.80	518.82
	Nov-2017	612.32	92.57	519.75
	Mar-2018	612.32	93.63	518.69
	May-2018	612.32	93.51	518.81
	Oct-2018	612.10	96.29	515.81
	May-2019	612.10	91.78	520.32
	Nov-2019	612.10	91.98	520.12
	Apr-2020	612.10	89.34	522.76
	Oct-2020	612.10	86.78	525.32
	Apr-2021	612.10	96.78	515.32
	May-2021	612.10	96.77	515.33
	Jun-2021	612.10	96.78	515.32
	Jul-2021	612.10	94.99	517.11
	Aug-2021	612.10	95.92	516.18
	Sep-2021	612.10	96.51	515.59
	Oct-2021	612.10	96.84	515.26
	Nov-2021	612.10	95.49	516.61
	Dec-2021	612.10	95.98	516.12
	Jan-2022	612.10	95.61	516.49
	Feb-2022	612.10	96.08	516.02
	Mar-2022	612.10	94.26	517.84
	Apr-2022	612.10	92.90	519.20
	May-2022	612.10	92.19	519.91
	Jun-2022	612.10	92.26	519.84
	Jul-2022	612.10	93.24	518.86
	Aug-2022	612.10	86.20	525.90
	Sep-2022	612.10	88.85	523.25
	Oct-2022	612.10	88.50	523.60
	Nov-2022	612.10	95.24	516.86
	Dec-2022	612.10	96.57	515.53
	Jan-2023	612.10	96.16	515.94
	Feb-2023	612.10	96.20	515.90
	Mar-2023	612.10	95.75	516.35
	Apr-2023	612.10	94.75	517.35
	May-2023	612.10	95.10	517.00
	Jun-2023	612.10	95.05	517.05
	Jul-2023	612.10	94.38	517.72
	Aug-2023	612.10	95.11	516.99
	Sep-2023	612.10	95.26	516.84
	Oct-2023	612.10	95.74	516.36
Nov-2023	612.10	95.95	516.15	
Dec-2023	612.10	95.82	516.28	

MSL - Mean Sea Level
 TOC - Top of Casing
¹ - Date of water levels collected at beginning of quarter, actual sample date may vary.
 N/A - Not Measured

Table 4. Groundwater Elevations, Midwest Generation, LLC, Joliet Station #9.

Well ID	Date ¹	Top of Casing Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Groundwater Elevation (ft above MSL)
GH8	Nov-2015	620.77	106.83	513.94
	May-2016	620.77	105.20	515.57
	Jun-2016	620.77	104.95	515.82
	Aug-2016	620.77	104.77	516.00
	Nov-2016	620.77	102.41	518.36
	Feb-2017	620.77	103.05	517.72
	May-2017	620.77	100.06	520.71
	Jul-2017	620.77	102.51	518.46
	Sep-2017	620.77	102.88	517.89
	Nov-2017	620.77	100.83	519.94
	Mar-2018	620.77	99.77	521.00
	May-2018	620.77	100.74	520.03
	Oct-2018	620.78	105.79	514.99
	May-2019	620.78	98.18	522.60
	Nov-2019	620.78	98.30	522.48
	Apr-2020	620.78	95.54	525.24
	Oct-2020	620.78	100.63	520.15
	Apr-2021	620.78	104.98	515.80
	May-2021	620.78	103.69	517.09
	Jun-2021	620.78	NM	NM
	Jul-2021	620.78	100.85	519.93
	Aug-2021	620.78	95.92	524.86
	Sep-2021	620.78	105.19	515.59
	Oct-2021	620.78	106.32	514.46
	Nov-2021	620.78	103.91	516.87
	Dec-2021	620.78	105.09	515.69
	Jan-2022	620.78	104.97	515.81
	Feb-2022	620.78	105.59	515.19
	Mar-2022	620.78	104.27	516.51
	Apr-2022	620.78	101.51	519.27
	May-2022	620.78	101.03	519.75
	Jun-2022	620.78	101.51	519.27
	Jul-2022	620.78	102.06	518.72
	Aug-2022	620.78	99.48	521.30
	Sep-2022	620.78	104.86	515.92
	Oct-2022	620.78	105.38	515.40
	Nov-2022	620.78	105.42	515.36
	Dec-2022	620.78	105.61	515.17
	Jan-2023	620.78	104.83	515.95
	Feb-2023	620.78	104.72	516.06
	Mar-2023	620.78	103.82	516.96
	Apr-2023	620.78	103.35	517.43
	May-2023	620.78	104.10	516.68
	Jun-2023	620.78	104.53	516.25
	Jul-2023	620.78	103.51	517.27
	Aug-2023	620.78	103.54	517.24
	Sep-2023	620.78	103.25	517.53
	Oct-2023	620.78	103.04	517.74
Nov-2023	620.78	103.26	517.52	
Dec-2023	620.78	104.71	516.07	
TU8	Nov-2015	629.65	136.30	493.35
	May-2016	629.65	135.24	494.41
	Jun-2016	629.65	134.26	495.39
	Aug-2016	629.65	134.13	495.52
	Nov-2016	629.65	135.03	494.62
	Feb-2017	629.65	134.92	494.73
	May-2017	629.65	131.87	497.78
	Jul-2017	629.65	135.99	493.66
	Sep-2017	629.65	136.40	493.25
	Nov-2017	629.65	133.61	496.04
	Mar-2018	629.65	131.05	498.60
	May-2018	629.65	134.42	495.23
	Oct-2018	629.89	140.03	489.86
	May-2019	629.89	125.79	504.10
	Oct-2019	629.89	132.92	496.97
	Apr-2020	629.89	133.84	496.05
	Oct-2020	629.89	135.88	494.01
	Apr-2021	629.89	138.78	491.11
	May-2021	629.89	NM	NM
	Jun-2021	629.89	138.84	491.05
	Jul-2021	629.89	134.89	495.00
	Aug-2021	629.89	NM	NM
	Sep-2021	629.89	139.69	490.20
	Oct-2021	629.89	141.48	488.41
	Nov-2021	629.89	138.02	491.87
	Dec-2021	629.89	139.40	490.49
	Jan-2022	629.89	139.64	490.25
	Feb-2022	629.89	140.43	489.46
	Mar-2022	629.89	138.79	491.10
	Apr-2022	629.89	133.53	496.36
	May-2022	629.89	134.64	495.25
	Jun-2022	629.89	134.89	495.00
	Jul-2022	629.89	135.18	494.71
	Aug-2022	629.89	134.83	495.06
	Sep-2022	629.89	140.62	489.27
	Oct-2022	629.89	140.18	489.71
	Nov-2022	629.89	140.29	489.60
	Dec-2022	629.89	140.69	489.20
	Jan-2023	629.89	140.43	489.46
	Feb-2023	629.89	141.27	488.62
	Mar-2023	629.89	140.25	489.64
	Apr-2023	629.89	139.07	490.82
	May-2023	629.89	138.25	491.64
	Jun-2023	629.89	140.27	489.62
	Jul-2023	629.89	139.44	490.45
	Aug-2023	629.89	140.48	489.41
	Sep-2023	629.89	138.6	491.29
	Oct-2023	629.89	141.45	488.44
Nov-2023	629.89	141.38	488.51	
Dec-2023	629.89	142.03	487.86	

MSL - Mean Sea Level
 TOC - Top of Casing
¹ - Date of water levels collected at bottom of casing; actual sample date may vary.
 NM - Not Measured

Table 5. Groundwater Flow Direction and Estimated Seepage Velocity/Flow Rate - Joliet #9 Generation Station (Lincoln Stone Quarry).

DATE	Natural Groundwater Flow Direction	Kavg (ft/sec)*	Average Hydraulic Gradient (ft/ft)	Porosity (unitless)**	Estimated Seepage Velocity (ft/day)
January-23	Northerly and Westerly	1.38E-05	0.0665	0.05	1.59
February-23	Northerly and Westerly	1.38E-05	0.0660	0.05	1.57
March-23	Northerly and Westerly	1.38E-05	0.0685	0.05	1.63
April-23	Northerly and Westerly	1.38E-05	0.0750	0.05	1.79
May-23	Northerly and Westerly	1.38E-05	0.0680	0.05	1.62
June-23	Northerly and Westerly	1.38E-05	0.0610	0.05	1.45
July-23	Northerly and Westerly	1.38E-05	0.0590	0.05	1.41
August-23	Northerly and Westerly	1.38E-05	0.0640	0.05	1.53
September-23	Northerly and Westerly	1.38E-05	0.0645	0.05	1.54
October-23	Northerly and Westerly	1.38E-05	0.0645	0.05	1.54
November-23	Northerly and Westerly	1.38E-05	0.0590	0.05	1.41
December-23	Northerly and Westerly	1.38E-05	0.0465	0.05	1.11

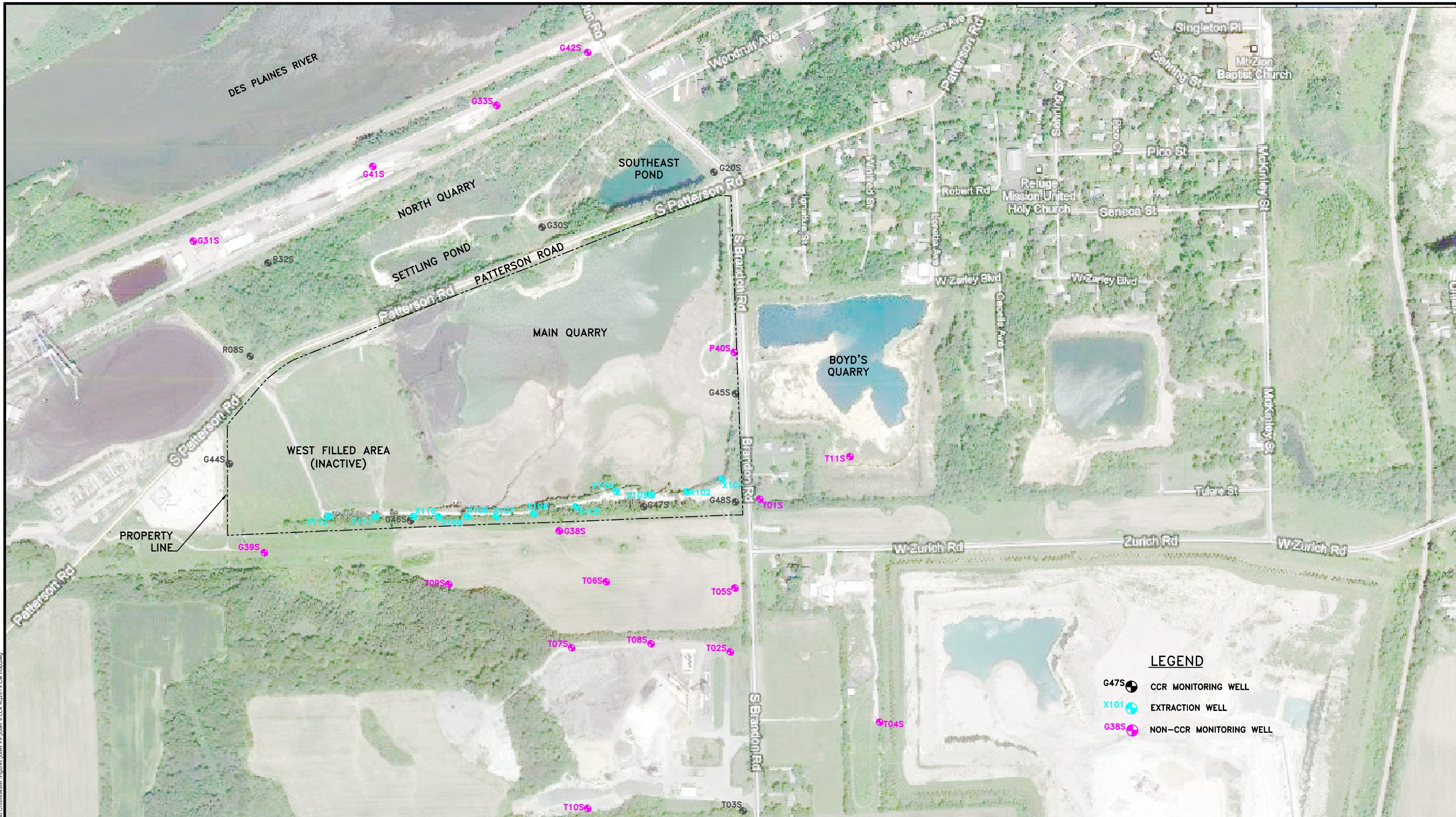
* Kavg - Average hydraulic conductivity (feet/second) from Revised Groundwater Impacts assessment Lincoln Stone Quarry, 3/13/2013.

** - Porosity estimate from Revised Groundwater Impacts assessment Lincoln Stone Quarry, 3/13/2013.

Table 6. CCR Groundwater Sample Collection Summary for 2022 - Joliet #9 Lincoln Stone Quarry

Well ID	Number of Groundwater Sampling Events	Dates of Groundwater Sampling Events
G45S (Upgradient)	4	3/23/2023
		6/30/2023
		9/14/2023
		12/20/2023
T03S (Upgradient)	4	3/20/2023
		6/30/2023
		9/13/2023
		12/12/2023
R08S (Downgradient)	4	3/22/2023
		6/28/2023
		9/7/2023
		12/20/2023
G20S (Downgradient)	4	3/14/2023
		6/28/2023
		9/6/2023
		12/11/2023
G30S (Downgradient)	4	3/17/2023
		6/29/2023
		9/12/2023
		12/19/2023
R32S (Downgradient)	4	3/23/2023
		6/29/2023
		9/12/2023
		12/19/2023
G44S (Downgradient)	4	3/15/2023
		6/29/2023
		9/13/2023
		12/19/2023
G46S (Downgradient)	4	3/22/2023
		6/29/2023
		9/13/2023
		12/20/2023
G47S (Downgradient)	4	3/23/2023
		6/30/2023
		9/7/2023
		12/18/2023
G48S (Downgradient)	4	3/23/2023
		6/30/2023
		9/7/2023
		12/18/2023

FIGURES



LEGEND

- G47S ● CCR MONITORING WELL
- X101 ● EXTRACTION WELL
- G38S ● NON-CCR MONITORING WELL



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CCR GROUNDWATER MONITORING NETWORK SITE MAP	
LINCOLN STONE QUARRY JOLIET, ILLINOIS	
Scale: 1" = 450'	Date: January 21, 2020
KPRG Project No. 11306	FIGURE 1

W:\projects\mrl\east_regeneration\12313_Ash Pond Groundwater Figures\Joliet_49_Joliet_9_CCR_402019_CW_map.dwg



G30S	
PARAMETER	RESULT
BORON	5.1
SULFATE	480

R08S	
PARAMETER	RESULT
BORON	8.5
LITHIUM	0.14
MOLYBDENUM	0.34

G44S	
PARAMETER	RESULT
MOLYBDENUM	0.17

G46S	
PARAMETER	RESULT
BORON	10
SULFATE	490
ARSENIC	0.051
LITHIUM	0.18
MOLYBDENUM	1.1

G47S	
PARAMETER	RESULT
BORON	7.1
SULFATE	470
ARSENIC	0.038
LITHIUM	0.054
MOLYBDENUM	0.55

G48S	
PARAMETER	RESULT
BORON	5.8
ARSENIC	0.012
MOLYBDENUM	0.35

T03S	
PARAMETER	RESULT
MOLYBDENUM	0.14

NOTES:
RESULTS ARE IN MILLIGRAMS PER LITER (mg/L)

LEGEND
G47S CCR MONITORING WELL



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4Q2023 AREAL DISTRIBUTION MAP OF
PARAMETERS ABOVE PROPOSED GWPSs

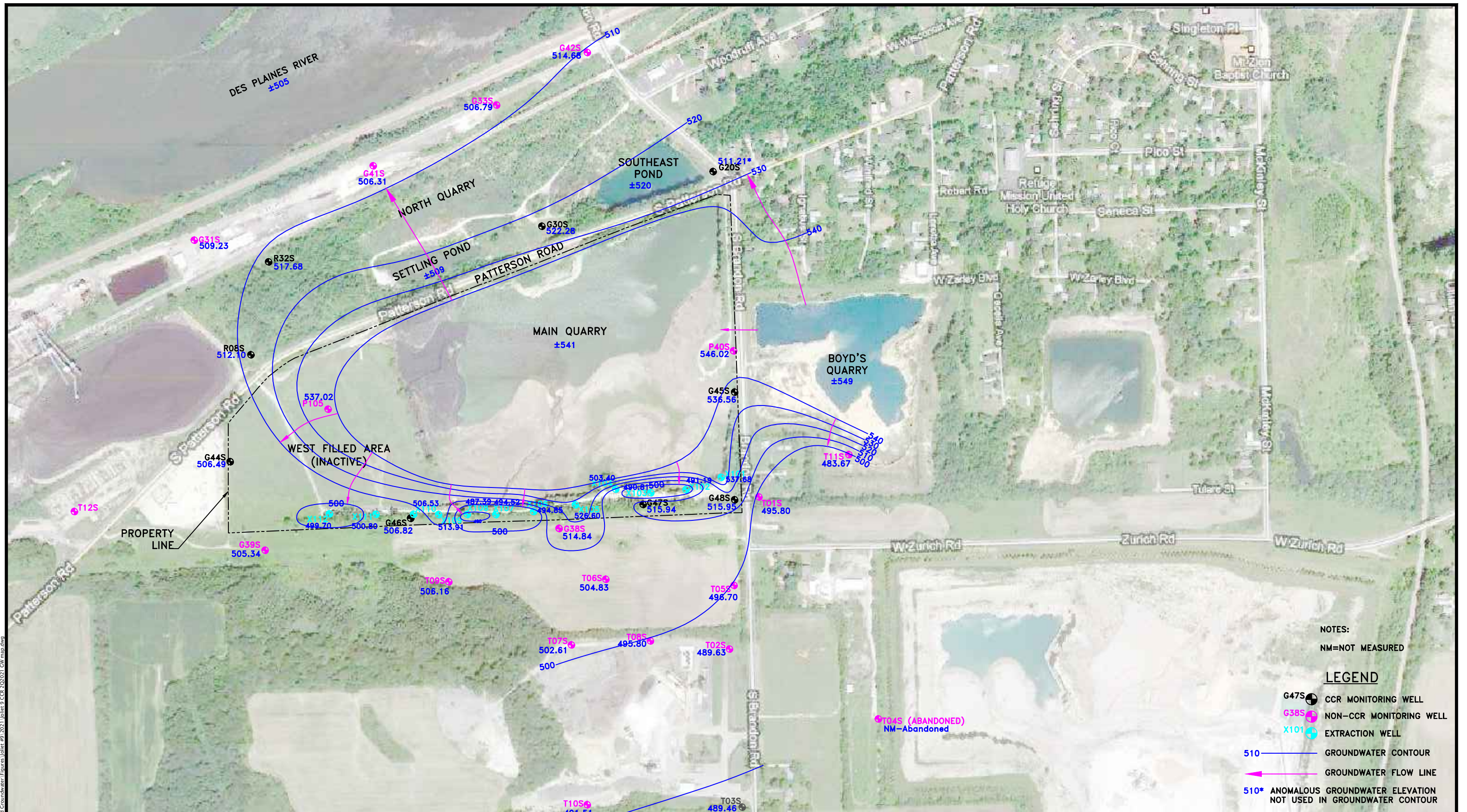
LINCOLN STONE QUARRY
JOLIET, ILLINOIS

Scale: 1" = 450' Date: January 17, 2024

KPRG Project No. 11306 FIGURE 2

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ATTACHMENT 1
Monthly Potentiometric Maps

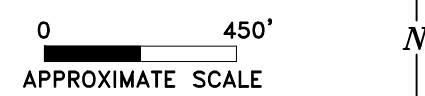


NOTES:
 NM=NOT MEASURED

LEGEND

- G47S ● CCR MONITORING WELL
- G38S ● NON-CCR MONITORING WELL
- X101 ● EXTRACTION WELL
- 510 — GROUNDWATER CONTOUR
- ← GROUNDWATER FLOW LINE
- 510* ANOMALOUS GROUNDWATER ELEVATION NOT USED IN GROUNDWATER CONTOUR

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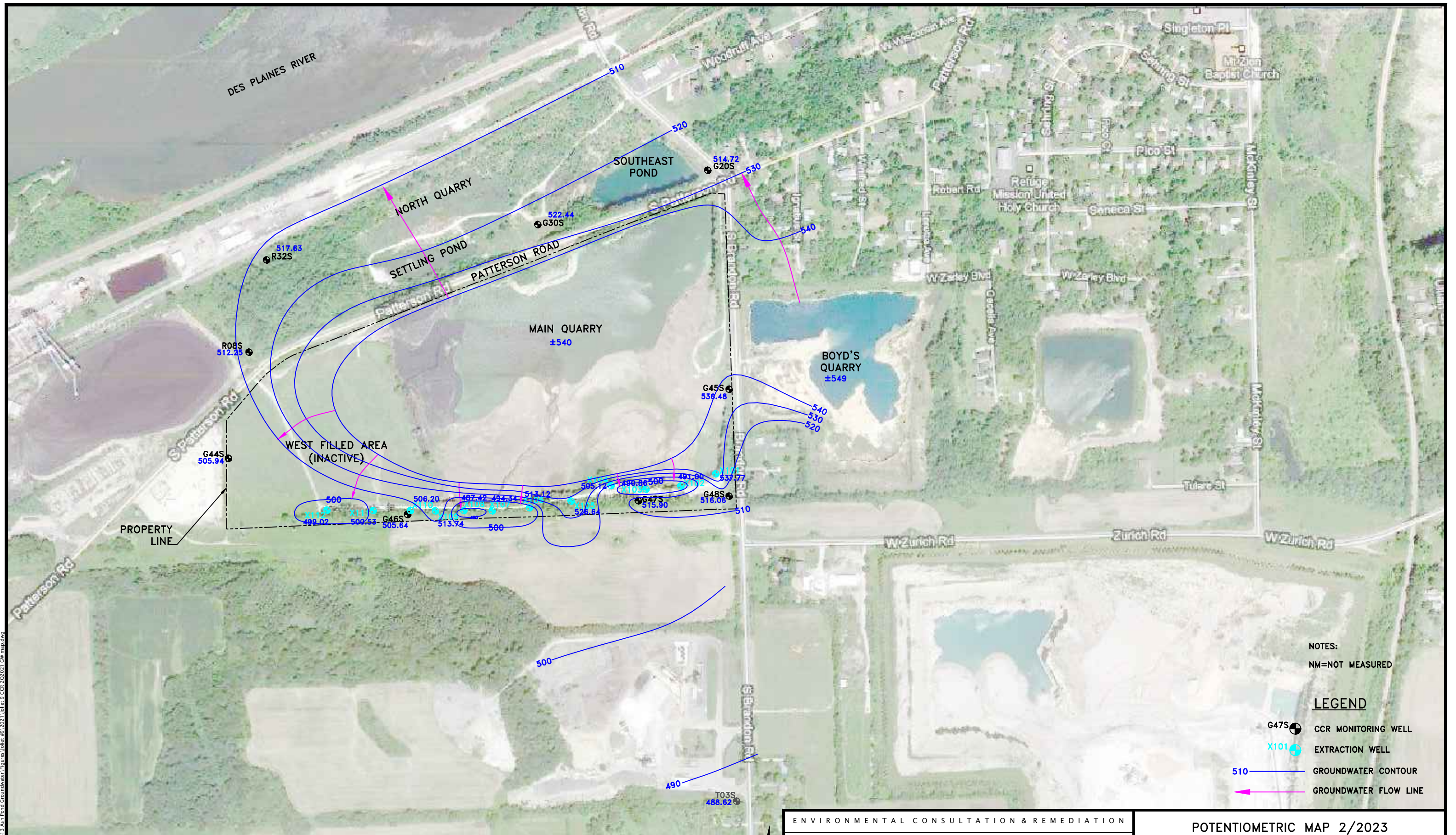
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POTENTIOMETRIC MAP 1Q2023

LINCOLN STONE QUARRY
 JOLIET, ILLINOIS

Scale: 1" = 450' | Date: January 17, 2024

KPRG Project No. 11306 | ATTACHMENT 1



NOTES:
 NM=NOT MEASURED

LEGEND

- G47S ● CCR MONITORING WELL
- X101 ● EXTRACTION WELL
- 510 — GROUNDWATER CONTOUR
- ← GROUNDWATER FLOW LINE



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POTENTIOMETRIC MAP 2/2023

LINCOLN STONE QUARRY
 JOLIET, ILLINOIS

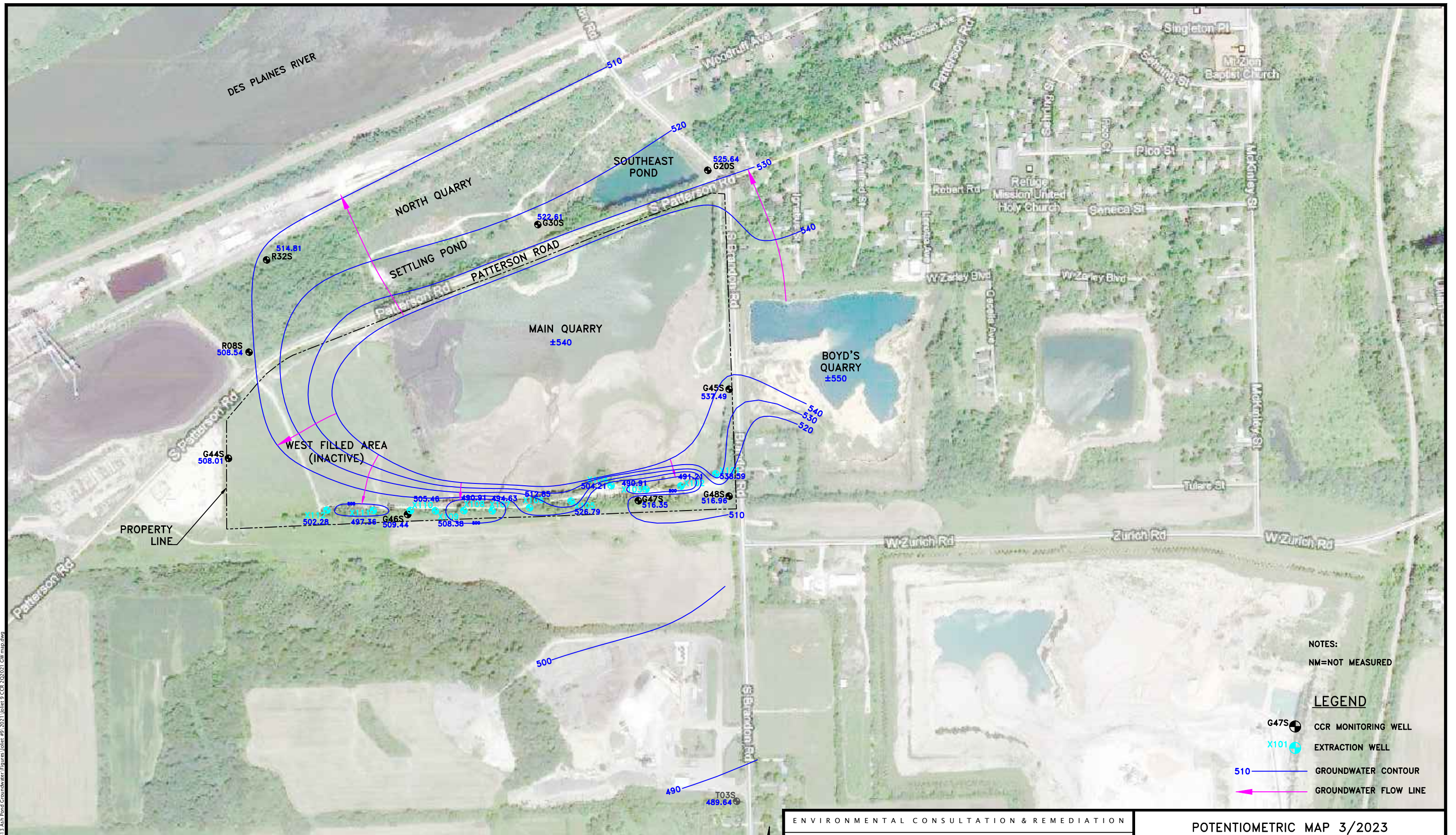
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Date: January 17, 2024

KPRG Project No. 11306

ATTACHMENT 1

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NOTES:
 NM=NOT MEASURED

LEGEND

- G47S ● CCR MONITORING WELL
- X101 ● EXTRACTION WELL
- 510 — GROUNDWATER CONTOUR
- ← GROUNDWATER FLOW LINE



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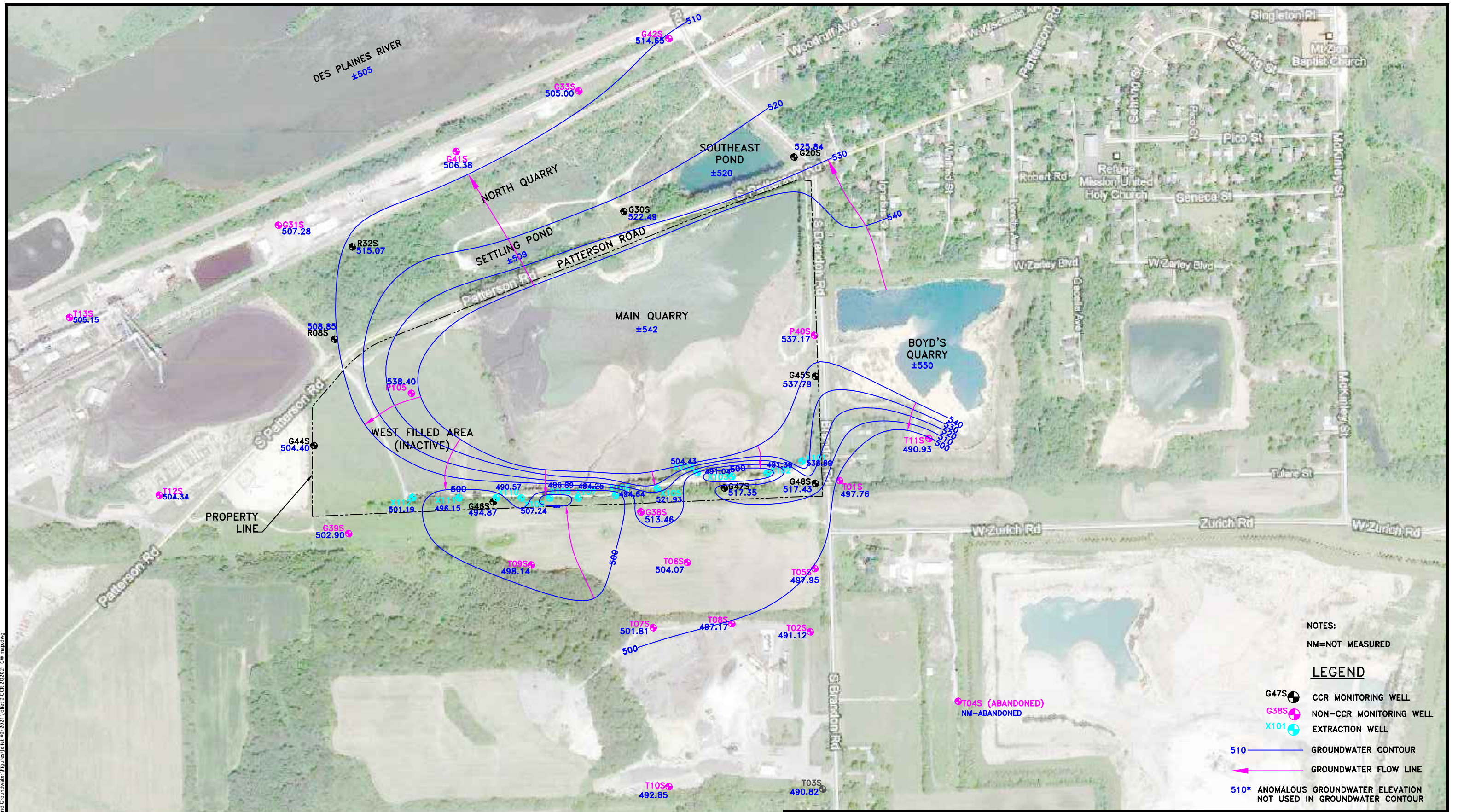
POTENTIOMETRIC MAP 3/2023

LINCOLN STONE QUARRY
 JOLIET, ILLINOIS

Scale: 1" = 450' | Date: January 17, 2024

KPRG Project No. 11306 | ATTACHMENT 1

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NOTES:
 NM=NOT MEASURED

LEGEND

- G47S ● CCR MONITORING WELL
- G38S ● NON-CCR MONITORING WELL
- X101 ● EXTRACTION WELL
- 510 — GROUNDWATER CONTOUR
- GROUNDWATER FLOW LINE
- 510* ANOMALOUS GROUNDWATER ELEVATION NOT USED IN GROUNDWATER CONTOUR

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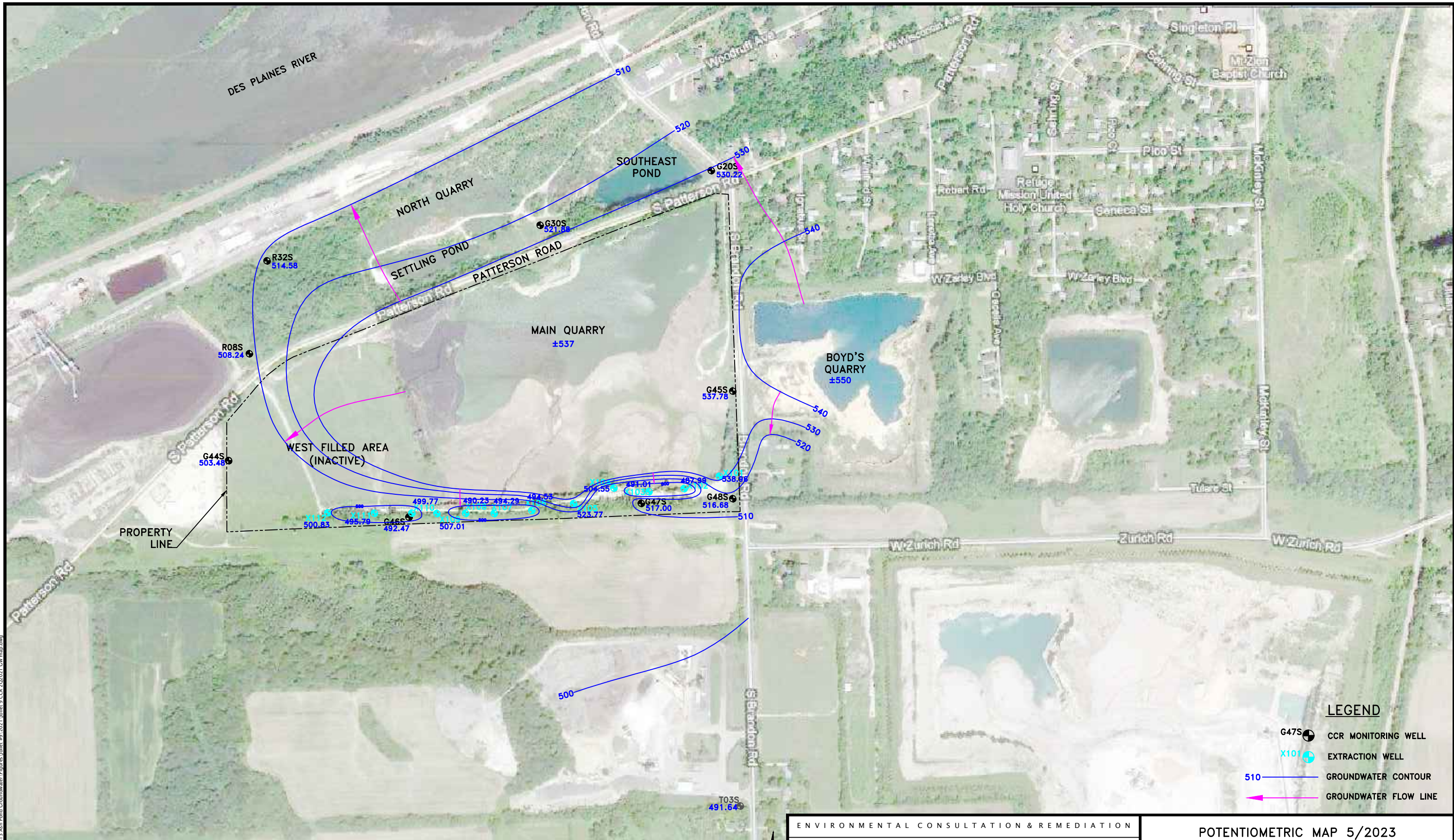


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POTENTIOMETRIC MAP 2Q2023	
LINCOLN STONE QUARRY JOLIET, ILLINOIS	
Scale: 1" = 450'	Date: January 17, 2024
KPRG Project No. 11306	ATTACHMENT 1



LEGEND

- G47S CCR MONITORING WELL
- X101 EXTRACTION WELL
- 510 GROUNDWATER CONTOUR
- GROUNDWATER FLOW LINE

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POTENTIOMETRIC MAP 5/2023

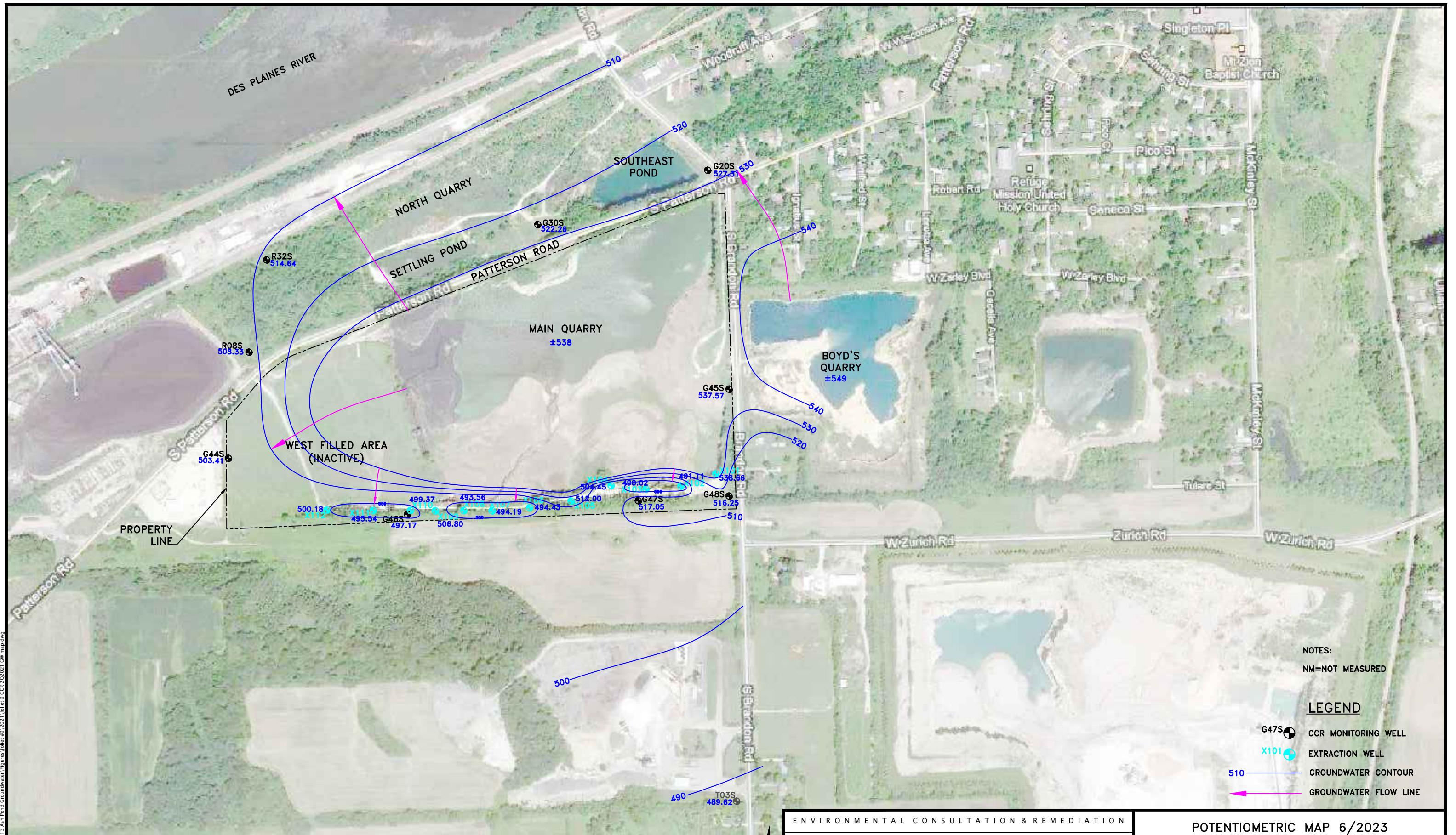
LINCOLN STONE QUARRY
JOLIET, ILLINOIS

Scale: 1" = 450' | Date: January 17, 2024

KPRG Project No. 11306 | ATTACHMENT 1



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NOTES:
 NM=NOT MEASURED

LEGEND

- G47S CCR MONITORING WELL
- X101 EXTRACTION WELL
- 510 GROUNDWATER CONTOUR
- GROUNDWATER FLOW LINE



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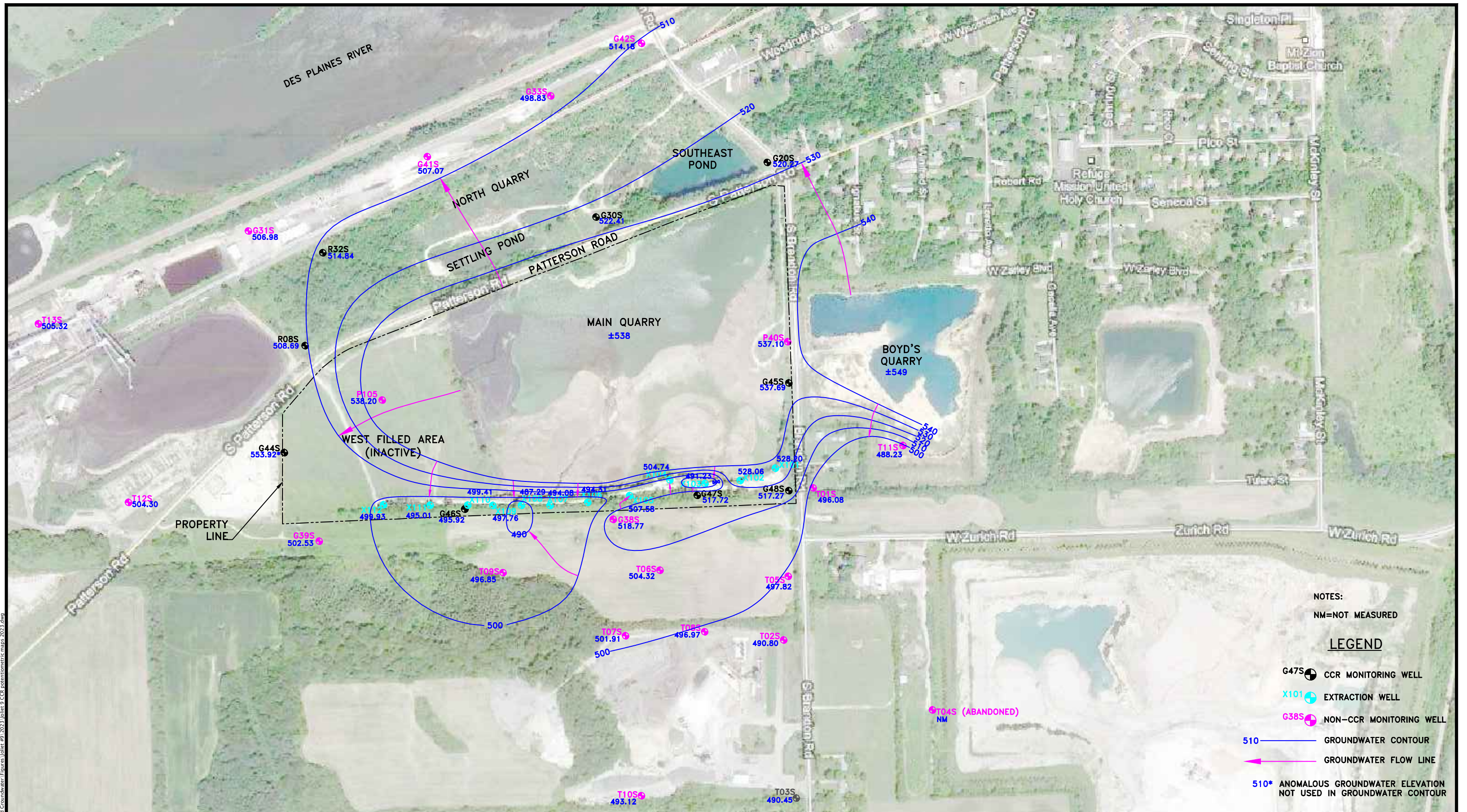
POTENTIOMETRIC MAP 6/2023

LINCOLN STONE QUARRY
 JOLIET, ILLINOIS

Scale: 1" = 450' | Date: January 17, 2024

KPRG Project No. 11306 | ATTACHMENT 1

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NOTES:

NM=NOT MEASURED

LEGEND

- G47S CCR MONITORING WELL
- X101 EXTRACTION WELL
- G38S NON-CCR MONITORING WELL
- 510 GROUNDWATER CONTOUR
- GROUNDWATER FLOW LINE
- 510* ANOMALOUS GROUNDWATER ELEVATION NOT USED IN GROUNDWATER CONTOUR

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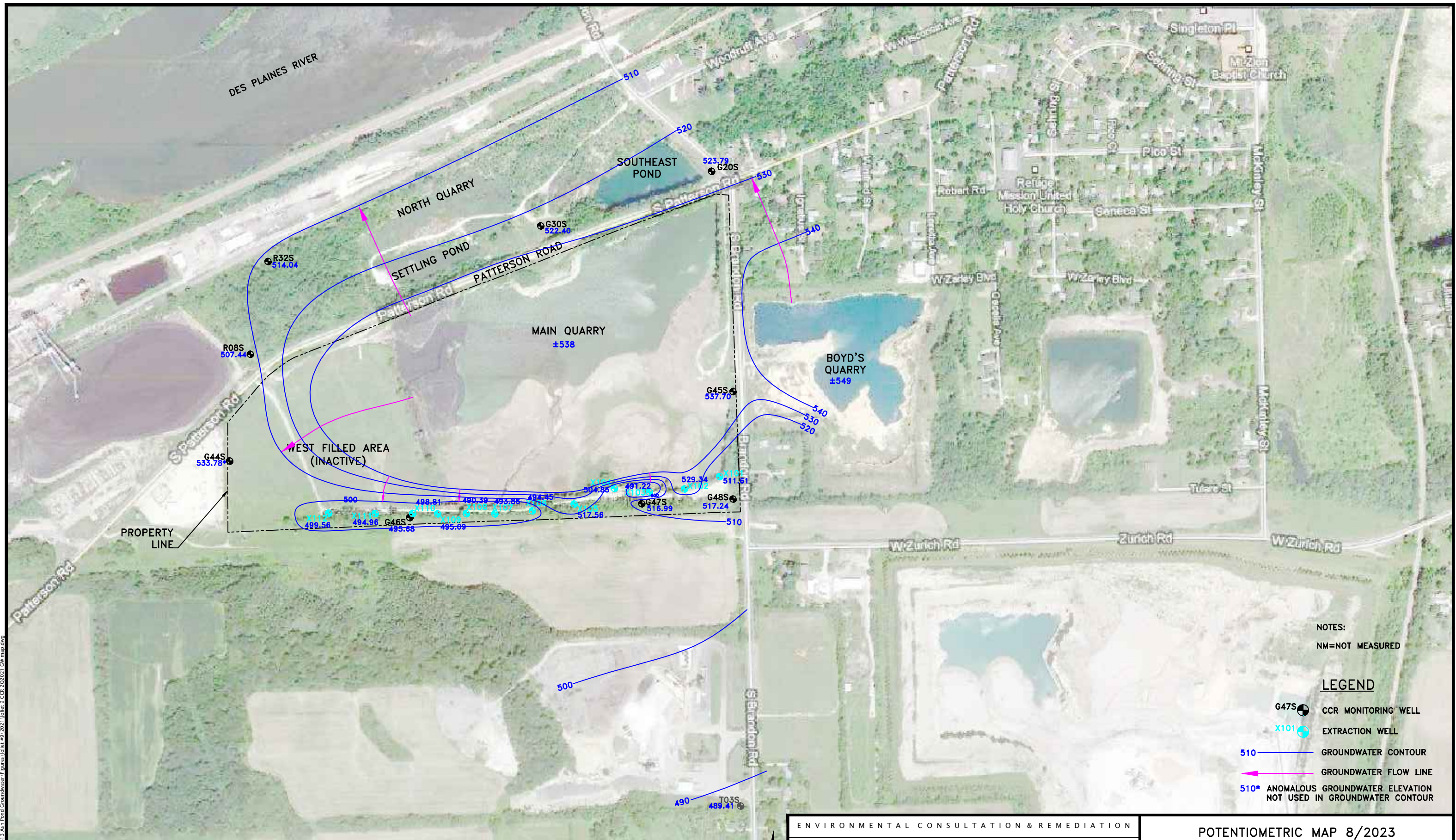


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POTENTIOMETRIC MAP 3Q2023	
LINCOLN STONE QUARRY JOLIET, ILLINOIS	
Scale: 1" = 450'	Date: January 17, 2024
KPRG Project No. 11306	ATTACHMENT 1



NOTES:
NM=NOT MEASURED

LEGEND

- G47S CCR MONITORING WELL
- X101 EXTRACTION WELL
- 510 GROUNDWATER CONTOUR
- GROUNDWATER FLOW LINE
- 510* ANOMALOUS GROUNDWATER ELEVATION NOT USED IN GROUNDWATER CONTOUR



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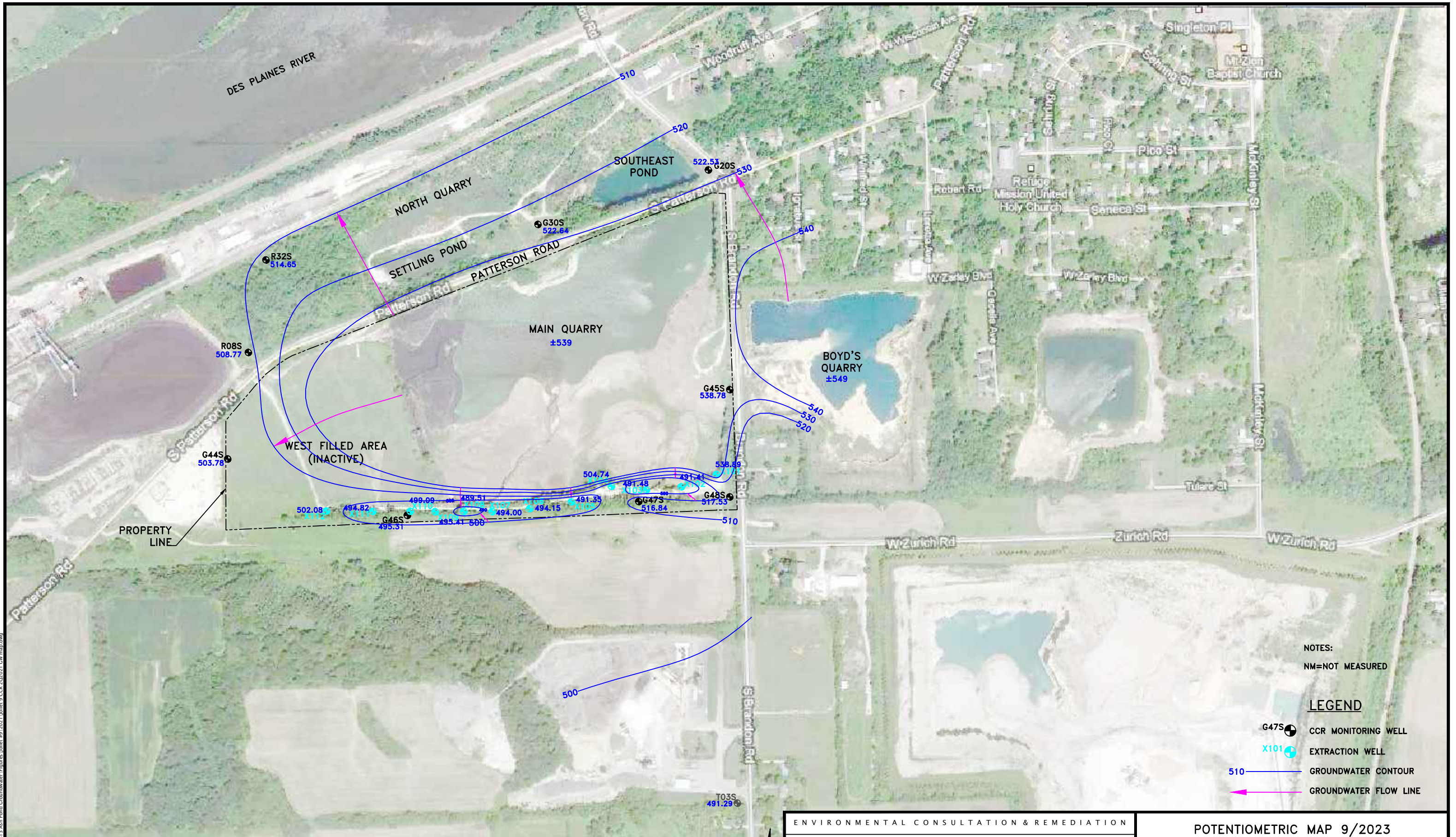
POTENTIOMETRIC MAP 8/2023

LINCOLN STONE QUARRY
JOLIET, ILLINOIS

Scale: 1" = 450' | Date: January 17, 2024

KPRG Project No. 11306 | ATTACHMENT 1

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NOTES:
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LEGEND

- G47S CCR MONITORING WELL
- X101 EXTRACTION WELL
- 510 GROUNDWATER CONTOUR
- GROUNDWATER FLOW LINE



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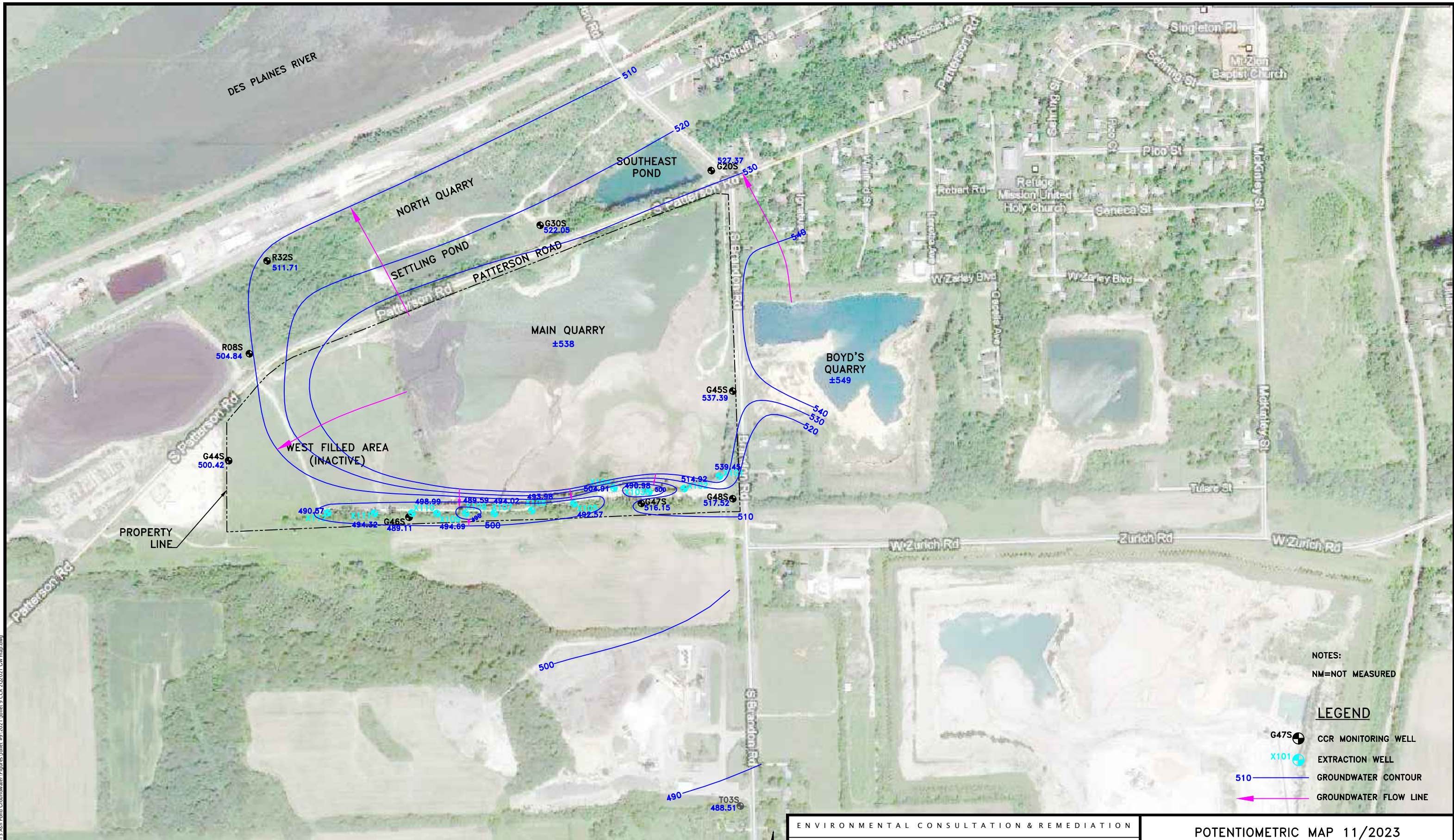
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POTENTIOMETRIC MAP 9/2023	
LINCOLN STONE QUARRY JOLIET, ILLINOIS	
Scale: 1" = 450'	Date: January 17, 2024
KPRG Project No. 11306	ATTACHMENT 1

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NOTES:
 NM=NOT MEASURED

LEGEND

- G47S ● CCR MONITORING WELL
- X101 ● EXTRACTION WELL
- 510 — GROUNDWATER CONTOUR
- ← GROUNDWATER FLOW LINE



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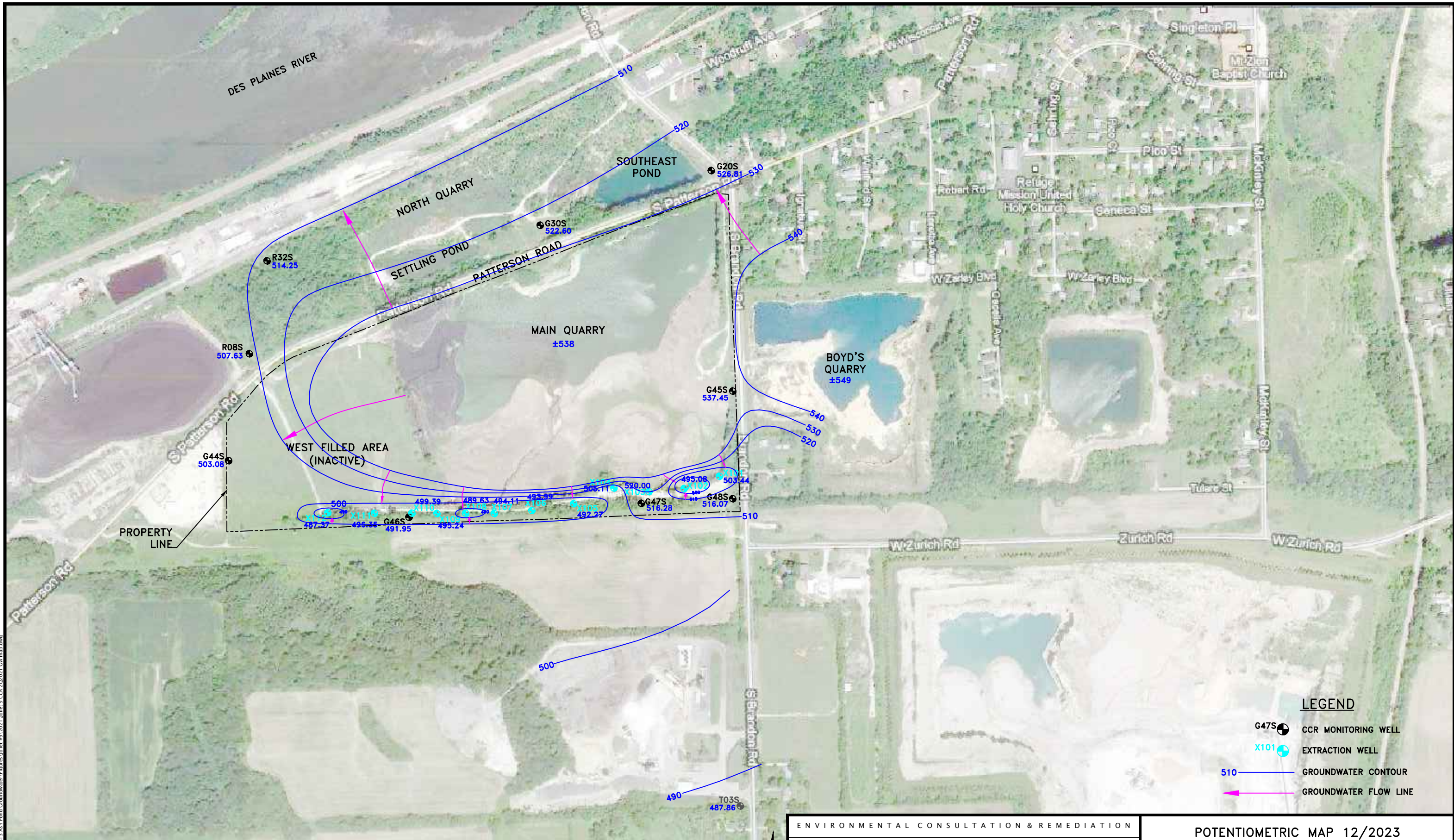
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POTENTIOMETRIC MAP 11/2023	
LINCOLN STONE QUARRY JOLIET, ILLINOIS	
Scale: 1" = 450'	Date: January 17, 2024
KPRG Project No. 11306	ATTACHMENT 1

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LEGEND

- G47S ● CCR MONITORING WELL
- X101 ● EXTRACTION WELL
- 510 — GROUNDWATER CONTOUR
- GROUNDWATER FLOW LINE



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POTENTIOMETRIC MAP 12/2023	
LINCOLN STONE QUARRY JOLIET, ILLINOIS	
Scale: 1" = 450'	Date: January 17, 2024
KPRG Project No. 11306	ATTACHMENT 1

ATTACHMENT D
MONTHLY SURFACE IMPOUNDMENT
WATER ELEVATIONS

Monthly Surface Impoundment Water Elevations
Midwest Generation, LLC - Lincoln Stone Quarry/Joliet #9 Station, Joliet, IL

Well ID	Date	Water Surface Elevation (ft above MSL)
Lincoln Stone Quarry	January	539.96
	February	539.89
	March	540.08
	April	538.70
	May	537.84
	June	537.96
	July	537.32
	August	538.82
	September	539.11
	October	539.33
	November	538.00*
	December	538.30

Note:

Water service elevation based on a monthly average of the daily values

*Value estimated from November groundwater flow map