MWG
Midwest Generation, LLC

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

January 28, 2022

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
CCR Surface Impoundment Annual Consolidated Report

Dear Sir or Madam:

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.

Sincerely,

William Naglosky
Plant Manager, Joliet Generating Station

Attachment

2021 ANNUAL CONSOLIDATED REPORT
JOLIET 9 GENERATING STATION

LINCOLN STONE QUARRY – W1970450046-01

ATTACHMENT A
2021 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 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. 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)

The Annual Report must be submitted as part of the annual consolidated report required by §845.550. This document represents the 2021 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, including those specific to the reporting period (October through December 2021) relevant to this Annual Report. 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. Loading of the moisture laden slag to be used as a beneficial material is also 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.

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.

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. 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 as needed 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 October through December 2021.

Owner Representative/Responsible Person Contact Information:

Mr. William Naglosky
Station 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, MWG's regional environmental 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.

No complaints were registered during this Annual Report's period of record covering October through December 2021.

5.0 Summary of Corrective Actions Taken

For the October through December 2021 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, either as a result of internally identified deficiencies or from resolution of citizen complaints.

QUARTERLY FUGITIVE DUST COMPLAINT REPORTS

MWG
Midwest Generation, LLC

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

January 14, 2022

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 2021 at Joliet 9 Generating Station. There were no complaints received from members of the public during the period October 1, 2021 through December 31, 2021.

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

Sincerely,

William Naglosky
Plant Manager, Joliet Generating Station

ATTACHMENT B
2021 ANNUAL INSPECTION REPORT

K P R G

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)

1st ANNUAL CCR SURFACE IMPOUNDMENT REPORT
YEAR ENDING DECEMBER 31ST, 2021

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

January 28, 2022

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Figures

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 has operated as a disposal facility for bottom ash and slag from two coal-fired generating stations (Joliet Stations #9 and #29) since 1962. The disposal facility consists of an inactive portion referred to as the West Filled Area (WFA) and the active ash/slag disposal area referred to as the Main Quarry. It is noted that both power generating stations were converted to natural gas firing in 2016. 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 first Annual Coal Combustion Residuals (CCR) Report for the Midwest Generation Lincoln Stone Quarry for calendar year 2021 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 15, 2021.

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, prepared by KPRG and currently in draft status, 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 15, 2021 marks the first 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 15, 2021 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 15, 2021 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 2021.

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 15, 2021 marks the first annual inspection since the April 21, 2021 effective date of the 35 IAC Part 845 regulation.

However, KPRG personnel have been performing weekly inspections of LSQ since April 1, 2020. No changes in the impounding structure have been identified during that time period.

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;

Although December 15, 2021 represented the first annual inspection, KPRG reviewed water level data back to January 1, 2021 through December 31, 2021, the minimum water level was 538.11 feet above mean sea level (amsl) on June 16, 2021 and the maximum water level was 542.53 feet amsl occurring on March 28, 2021. The average water level on the date of annual inspection, December 15, 2021, was 541.03 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 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 2021 water level of 540.85 feet above sea level were 575,716 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 15, 2021 marks the first annual inspection since the April 21, 2021 effective date of the 35 IAC Part 845 regulation. No actual or potential structural weaknesses were noted.

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 15, 2021 marks the first annual inspection since the April 21, 2021 effective date of the 35 IAC Part 845 regulation. No changes were been noted to the stability or operation of the impending 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 15, of the appropriate year.

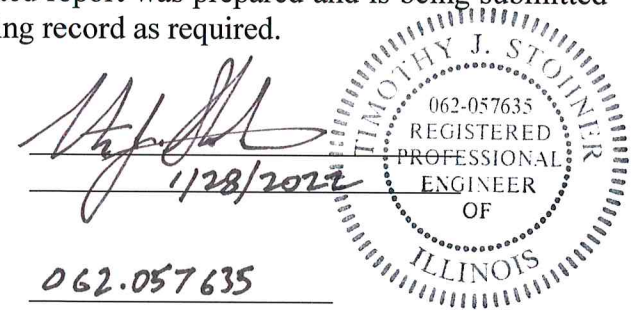
5) If a deficiency or release is identified during an inspection, the owner or operator must submit to the Agency documentation detailing proposed corrective measures and obtain any necessary permits from the Agency.

This inspection did not identify any deficiency or release.

3.0 PE CERTIFICATION

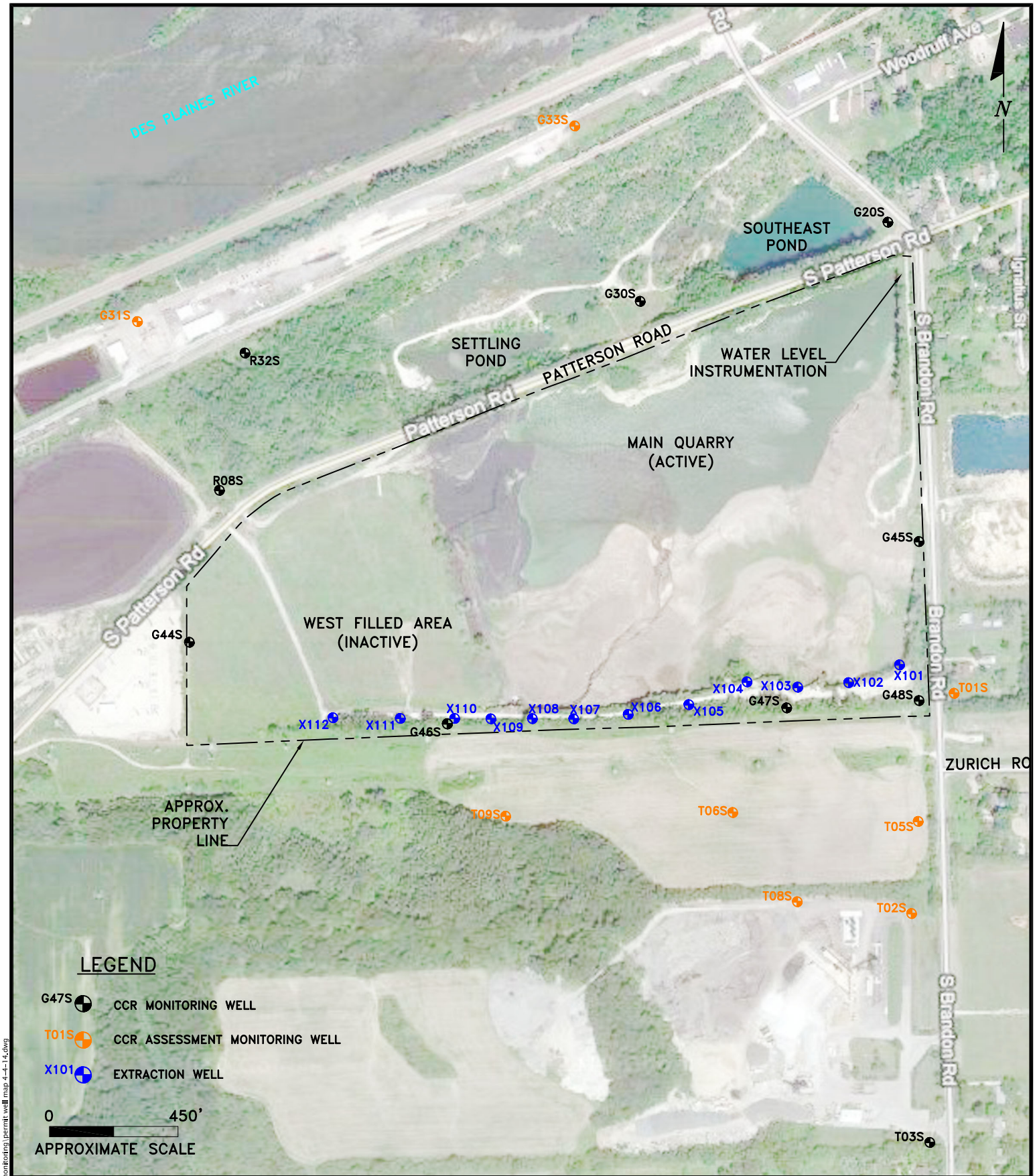
The owner or operator of the CCR surface impoundment must submit the annual consolidated report to the Agency in addition to placing the annual consolidated report in the facility's operating record as required by Section 845.800(d)(14).

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: 1/28/2022

Timothy J. Stohner, P.E.
Professional Engineer Registration No.: 062.057635
KPRG and Associates, Inc.



W:\projects\midwest generation\lincoln quarry gw monitoring\permit well map 4-4-14.dwg

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, inc.

14665 West Lisbon Road, Suite 1A Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

CCR MONITORING WELL SITE MAP

LINCOLN STONE QUARRY
JOLIET, ILLINOIS

Scale: 1" = 450' | Date: January 27, 2022

KPRG Project No. 19620.4 | FIGURE 1

ATTACHMENT B.1
2021 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
2021 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
2021 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
2021 ANNUAL INFLOW DESIGN FLOOD CONTROL SYSTEM PLAN CERTIFICATION

6. Analysis of Inflow Design Flow and Storage Capacity

The inflow design flow for the 25-year event was calculated based on runoff associated with the 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 2021 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 inflow design flood control system plan meets the requirements of 35 IAC Section 845.510 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.

Jesse P. Varsho, P.E.
Illinois Professional Engineer No. 062.059069
License Expires: November 30, 2021

ATTACHMENT C
2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

K P R G

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, Inc.

ILLINOIS CCR COMPLIANCE
ANNUAL GROUNDWATER MONITORING and CORRECTIVE ACTION REPORT - 2021

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 27, 2022

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TABLES

FIGURES

ATTACHMENTS

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 2021 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:

    - Boron – G20S, R32S, G47S and G48S (2nd through 4th quarters), R08S, G30S, G44S and G46S (2nd and 4th quarters) and T03S (3rd and 4th quarters).
    - Calcium – R08S (2nd through 4th quarters), R32S (2nd and 3rd quarters), G44S and G46S (4th quarter).
    - Fluoride – G20S, G30S, G47S and G48S (2nd through 4th quarter).
    - pH – R08S, G30S and G47S (2nd through 4th quarters), G20S (3rd and 4th quarters), G46S and G48S (3rd quarter).
    - Sulfate – R08S, G30S, R32S, G46S, G47S and G48S (2nd through 4th quarters).

- Arsenic – G45S, G46S, and G47S (2nd through 4th quarters), G48S (3rd and 4th quarters), G30S (3rd quarter).
- Lithium – R32S, G47S (2nd through 4th quarters), R08S and G46S (2nd and 4th quarters) and G20S (2nd quarter).
- Molybdenum – R08S, R32S, G44S, G46S, G47S, G48S and T03S (2nd through 4th quarters).
- Radium 226/228 Combined – G45S, G20S, G30S, R32S, G48S (2nd and 3rd quarters), G46S (2nd 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:

  - Boron – R32SG47S, G48S (2nd through 4th quarters), R08S, G46S (2nd and 4th quarters) and T03S (4th quarter).
  - Calcium – R08S (2nd through 4th quarters), R32S (2nd and 3rd quarters), G44S and G46S (4th quarter).
  - Sulfate – R08S, G30S, R32S, G46S, G47S and G48S (2nd through 4th quarters).
  - Arsenic – G46S and G47S (2nd through 4th quarters).
  - Lithium – R32S, G47S (2nd through 4th quarters), R08S and G46S (2nd and 4th quarters) and G20S (2nd quarter).
  - Molybdenum – R08S, R32S, G44S, G46S, G47S, G48S (2nd through 4th quarters) and T03S (3rd and 4th quarters).

  Wells G45S and T03S are background monitoring points.

- Section 845.610(e)(4)(E though H) – The LSQ is currently not in corrective action.

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))

2021 is the initial year of State CCR Rule implementation starting with the second quarter within which the Rule became effective. The following key actions have been completed:

- 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 facilities operating record in accordance with Section 845.610(b)(3)(D). It is noted that during this time, eight rounds of turbidity measurements were collected for the purposes of statistical background development in accordance with Section 845.650(b)(A).

- Water levels were recorded monthly for the specified CCR monitoring wells and pond water levels were concurrently recorded for the LSQ.

- An Application for Initial Operating Permit – Joliet #9 Generating Station was submitted on October 31, 2021 for Agency review in accordance with Section 845.230. As part of that permit application, proposed GWPSs were provided for review/approval. The application is currently under review by the Agency.

- Work has been initiated on the Application for Initial Construction Permit – Joliet #9 Generating Station during this reporting period. In accordance with Section 845.240, public meetings were held on December 8 and 9, 2021 presenting the results of the alternatives closure analysis and groundwater modeling completed in support of that analysis along with the proposed closure alternative. Public comment was received and is being assessed/considered as part of finalizing the Application for Initial Construction Permit which is due February 1, 2022.

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.

- Submittal of the Application for Construction Permit – Midwest Generation Joliet #9 Station.

- 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 2021) showing these wells and constituent concentrations is provided on Figure 2.

There were no monitoring wells installed or decommissioned during this reporting period.

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 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:

- Boron – G20S, R32S, G47S and G48S (2nd through 4th quarters), R08S, G30S, G44S and G46S (2nd and 4th quarters) and T03S (3rd and 4th quarters).
- Calcium – R08S (2nd through 4th quarters), R32S (2nd and 3rd quarters), G44S and G46S (4th quarter).
- Fluoride – G20S, G30S, G47S and G48S (2nd through 4th quarter).
- pH – R08S, G30S and G47S (2nd through 4th quarters), G20S (3rd and 4th quarters), G46S and G48S (3rd quarter).
- Sulfate – R08S, G30S, R32S, G46S, G47S and G48S (2nd through 4th quarters).
- Arsenic – G45S, G46S, and G47S (2nd through 4th quarters), G48S (3rd and 4th quarters), G30S (3rd quarter).
- Lithium – R32S, G47S (2nd through 4th quarters), R08S and G46S (2nd and 4th quarters) and G20S (2nd quarter).
- Molybdenum – R08S, R32S, G44S, G46S, G47S, G48S and T03S (2nd through 4th quarters).

Wells G45S and T03S are background monitoring points.

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
G45S up-gradient	11/20/2015	0.81	120	180	0.35	7.20	360	810	< 0.003	0.0081	0.044	^< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.036	< 0.0002	0.0120	1.76	< 0.0025	< 0.002
	5/12/2016	0.68	110	140	0.34	7.37	230	860	< 0.003	0.0076	0.041	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.036	< 0.0002	0.0100	3.01	< 0.0025	< 0.002
	6/30/2016	0.48	87	110	0.34	7.50	170	670	< 0.003	0.0075	0.031	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.034	< 0.0002	0.008	2.05	< 0.0025	< 0.002
	8/25/2016	0.47	94	100	0.35	7.28	170	790	< 0.003	0.0076	0.036	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.031	< 0.0002	0.0086	1.91	< 0.0025	< 0.002
	11/16/2016	0.41	91	90	0.33	7.34	170	620	< 0.003	0.0079	0.033	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.028	< 0.0002	0.0094	2.04	< 0.0025	< 0.002
	2/14/2017	0.43	97	97	0.32	7.36	160	620	< 0.003	0.0093	0.037	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.029	< 0.0002	0.0083	1.85	< 0.0025	< 0.002
	5/23/2017	0.36	85	110	0.35	7.30	150	660	< 0.003	0.0082	0.033	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.027	< 0.0002	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	< 0.0002	0.007	1.88	< 0.0025	< 0.002
	9/26/2017	0.43	110	130	0.3	7.21	160	790	< 0.003	0.0096	0.04	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.029	< 0.0002	0.0079	2.14	< 0.0025	< 0.002
	11/21/2017	0.34	96	130	0.33	7.29	180	700	< 0.003	0.0094	0.038	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.028	< 0.0002	0.0072	8.45	< 0.0025	< 0.002
	3/9/2018	0.38	97	110	0.32	7.18	180	710	< 0.003	0.0093	0.036	^< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.028	^< 0.0002	0.008	1.89	< 0.0025	< 0.002
	5/21/2018	0.76	110	150	0.33	7.00	230	970	NA	0.0072	0.047	NA	NA	NA	< 0.001	< 0.0005	0.033	NA	0.013	2.37	< 0.0025	NA
	12/7/2018	0.46	91	120	0.33	7.02	100	740	NA	0.0090	0.034	NA	NA	NA	< 0.001	< 0.0005	0.031	NA	0.0100	1.910	< 0.0025	NA
	6/28/2019	0.39	96	130	0.33	7.51	120	720	NA	0.0100	0.039	NA	NA	NA	< 0.001	< 0.0005	0.032	NA	0.0087	1.99	< 0.0025	NA
	11/14/2019	0.48	110	170	0.33	7.33	170	830	NA	< 0.0100	0.042	NA	NA	NA	< 0.001	< 0.0005	0.034	NA	0.0100	2.89	< 0.010	NA
	6/26/2020	0.62	130	220	0.33	7.21	240	970	NA	0.011	0.049	NA	NA	NA	< 0.001	< 0.0005	0.039	NA	0.0088	3.1	< 0.0025	NA
	12/11/2020	0.70	120	180	0.38	7.16	220	760	NA	0.011	0.042	NA	NA	NA	< 0.001	^+< 0.0005	0.038	NA	0.012	1.88	< 0.0025	NA
	6/28/2021	0.44	91	110	0.35	7.20	150	680	< 3.0	0.01	0.034	< 1.0	< 0.50	< 5.00	< 0.001	< 0.0005	0.031	< 0.0002	0.0083	2.14	< 0.0025	< 2.0
	9/23/2021	0.39	85	110	0.35	7.43	140	690	< 0.003	0.01	0.36	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.030	< 0.0002	0.0076	2.77	< 0.0025	< 0.002
	12/16/2021	0.34	84	87	0.36	7.35	130	510	< 0.003	0.0092	0.037	< 0.001	< 0.001	< 0.01	< 0.001	< 0.0005	0.028	< 0.0002	0.0073	DNYA	< 0.0025	< 0.002
T03S up-gradient	11/19/2015	0.5	110	75	0.22	7.07	250	710	< 0.003	0.0019	0.063	^< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.019	< 0.0002	0.0260	1.101	< 0.0025	< 0.002
	5/5/2016	0.84	100	100	0.21	7.16	190	820	< 0.003	0.0013	0.081	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.018	< 0.0002	0.03	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	0.0011	< 0.0005	0.017	< 0.0002	0.037	1.18	< 0.0025	< 0.002
	8/25/2016	1.1	110	99	0.20	7.32	180	880	< 0.003	< 0.001	0.086	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.016	< 0.0002	0.043	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	0.0012	< 0.0005	0.022	< 0.0002	0.14	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	0.0013	< 0.0005	< 0.05	< 0.0002	0.12	0.938	< 0.0025	< 0.002
	5/22/2017	1.4	110	78	0.23	7.25	160	740	< 0.003	0.0017	B 0.088	^< 0.001	< 0.0005	< 0.005	0.0015	0.0023	0.019	< 0.0002	0.13	1.21	< 0.0025	< 0.002
	7/7/2017	1.1	100	F1 71	< 0.1	7.32	180	710	< 0.003	< 0.001	0.078	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.019	< 0.0002	0.099	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	0.0013	< 0.0005	0.018	< 0.0002	0.14	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	< 0.0002	0.20	1.59	< 0.0025	< 0.002
	3/7/2018	1.5	110	110	0.23	7.34	250	900	< 0.003	0.0023	0.093	< 0.001	< 0.0005	< 0.005	0.0013	< 0.0005	0.022	< 0.0002	0.26	1.30	< 0.0025	< 0.002
	5/17/2018	1.8	100	82	0.24	7.07	210	890	NA	0.001	0.087	NA	NA	NA	0.0013	< 0.0005	0.021	NA	0.240	1.25	< 0.0025	NA
	12/11/2018	1.8	100	140	0.23	6.96	160	890	NA	0.0014	0.095	NA	NA	NA	0.0012	< 0.0005	0.021	NA	0.270	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	0.0010	< 0.0005	0.027	NA	0.370	1.33	< 0.0025	NA
	10/28/2019	1.5	100	73	0.25	7.19	< 500	780	NA	< 0.0100	0.088	NA	NA	NA	0.0011	< 0.0050	0.026	NA	0.210	1.38	< 0.0100	NA
	6/23/2020	2.3	97	74	0.33	7.29	240	770	NA	0.0024	0.093	NA	NA	NA	< 0.001	< 0.0005	0.025	NA	0.23	1.65	< 0.0025	NA
	12/15/2020	1.4	140	F1 170	0.27	7.01	280	960	NA	0.0013	0.11	NA	NA	NA	0.0015	< 0.0005	0.031	NA	0.14	1.74	< 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 < 0.0002	0.071	1.34	< 0.0025	< 0.002
	9/20/2021	1.2	110	110	0.21	7.45	250	640	< 0.003	0.0014	0.083	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.029	< 0.0002	0.12	1.31	< 0.0025	< 0.002
	12/9/2021	2.4	130	110	0.23	7.48	F1 280	870	< 0.003	0.0011	0.085	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.026	< 0.0002	0.22	DNYA	< 0.0025	< 0.002
R08S down-gradient	11/23/2015	6.9	130	77	0.19	7.80	520	740	< 0.003	0.0019	0.052	^< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.14	< 0.0002	0.410	1.608	0.0061	< 0.002
	5/6/2016	6.1	120	80	0.19	7.70	380	820	< 0.003	0.0013	0.052	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.14	< 0.0002	0.390	1.08	0.0079	< 0.002
	6/28/2016	6.8	130	89	0.18	7.49	320	960	< 0.003	0.0019	0.056	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.14	< 0.0002	0.37	1.87	F1 0.0074	< 0.002
	8/25/2016	6.3	120	84	0.19	7.54	350	890	< 0.003	0.0015	0.053	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.13	< 0.0002	0.33	1.50	0.0032	< 0.002
	11/21/2016	6.4	120	86	0.17	7.53	280	790	< 0.003	0.0016	0.052	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.140	< 0.0002	0.36	2.13	0.0037	< 0.002
	2/14/2017	5.4	150	220	0.17	7.60	280	1,000	< 0.003	0.002	0.081	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.120	< 0.0002	0.3	2.71	0.0029	< 0.002
	5/25/2017	12	250	90	0.17	7.56	340	830	< 0.006	0.0028	0.092	^< 0.002	< 0.001	< 0.01	< 0.002	< 0.001	0.250	< 0.0002	0.64	0.821	0.021	< 0.004
	7/6/2017	6.3	140	87	0.17	7.62	350	830	< 0.003	0.002	0.052	< 0.001	< 0.0005	< 0.005	< 0.001	^< 0.0005	0.140	< 0.0002	0.35	1.15	0.0054	^< 0.002
	9/25/2017	7.3	140	81	0.15	7.57	390	840	< 0.003	0.002	0.048	< 0.001	< 0.0005	< 0.005	< 0.001	0.00067	0.130	< 0.0002	0.38	1.27	0.0079	< 0.002
	11/21/2017	7.3	130	89	0.15	8.05	380	800	< 0.003	0.0017	0.046	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.140	< 0.0002	0.34	1.09	0.015	< 0.002
	3/8/2018	7.4	150	83	0.14	8.62	420	850	< 0.003	0.0016	0.05	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.150	< 0.0002	0.37	1.55	0.012	< 0.002
	5/18/2018	7.7	140	82	0.14	8.25	320	920	NA	0.0013	0.046	NA	NA	NA	< 0.001	< 0.0005	0.150	NA	0.35	1.22	0.017	NA
	12/13/2018	7.7	140	79	0.15	8.11	240	800	NA	0.0012	0.046	NA	NA	NA	< 0.001	< 0.0005	0.150	NA	0.370	1.450	0.0170	NA
	6/19/2019	8.5	140	83	0.14	8.10	360	820	NA	0.0013	0.044	NA	NA	NA	< 0.001	< 0.0005	0.160	NA	0.370	1.5	0.0150	NA
	11/11/2019	6.4	140	84	0.15	7.91	360	730	NA	< 0.010	0.044	NA	NA	NA	< 0.001	< 0.0005	0.15	NA	0.340	1.31	0.0130	NA
	6/26/2020	7.9	140	83	0.15	8.32	370	750	NA	0.0011	0.043	NA	NA	NA	< 0.001	< 0.0005	0.14	NA	0.36	1.68	0.017	NA
	12/14/2020	8.0	130	88	0.18	8.15	400	700	NA	0.0015	0.040	NA	NA	NA	< 0.001	< 0.0005	0.14	NA	0.38	1.53	0.0081	NA
	6/23/2021	7.6	140	79	0.16	8.07	430	810	< 0.003	0.0011	0.042	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.15	H < 0.0002	0.37	1.46	0.011	< 0.002
	9/27/2021	0.41	150	80	0.15	8.27	430	740	< 0.003	0.0015	0.042	^+ < 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.0079	< 0.0002	0.40	1.23	0.013	< 0.002
	12/14/2021	7.8	150	77	0.15	8.37	410	830	< 0.003	< 0.001	0.042	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.14	< 0.0002	0.39	DNYA	0.012	< 0.002
G20S down-gradient	11/19/2015	1.2	59	12	0.82	7.73	110	410	< 0.003	< 0.001	0.049	^ < 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.036	< 0.0002	0.0068	2.078	< 0.0025	< 0.002
	5/11/2016	1.2	53	12	0.81	7.52	77	410	< 0.003	< 0.001	0.049	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.037	0.00027	0.011	2.52	< 0.0025	< 0.002
	6/29/2016	1.2	54	12	0.82	7.38	69	460	< 0.003	< 0.001	0.051	< 0.001	< 0.0005	< 0.005	0.0011	< 0.0005	0.04	< 0.0002	0.014	2.79	< 0.0025	< 0.002
	8/23/2016	1.3	56	13	0.81	7.41	67	420	< 0.003	< 0.001	0.047	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.039	< 0.0002	0.017	3.67	< 0.0025	< 0.002
	11/17/2016	1.3	59	11	0.74	7.44	55	420	< 0.003	< 0.001	0.056	< 0.001	< 0.0005	< 0.005	0.0018	< 0.0005	0.042	< 0.0002	0.019	1.98	< 0.0025	< 0.002
	2/13/2017	1.2	54	13	0.69	7.30	93	400	< 0.003	< 0.001	0.046	< 0.001	< 0.0005	< 0.005	< 0.0010	< 0.0005	0.04	< 0.0002	0.018	2.44	< 0.0025	< 0.002
	5/24/2017	1.3	55	12	0.81	7.45	66	430	< 0.003	< 0.001	0.046	^ < 0.001	< 0.0005	< 0.005	< 0.0010	< 0.0005	0.038	< 0.0002	0.017	2.15	< 0.0025	< 0.002
	7/5/2017	1.3	61	12	0.76	7.37	70	400	< 0.003	< 0.001	0.054	< 0.001	< 0.0005	< 0.005	0.0021	^ < 0.0005	0.04	< 0.0002	0.019	1.83	< 0.0025	^ < 0.002
	9/25/2017	1.3	60	12	0.78	7.30	76	440	< 0.003	< 0.001	0.051	< 0.001	< 0.0005	< 0.005	0.0015	< 0.0005	0.036	< 0.0002	0.022	2.19	< 0.0025	< 0.002
	11/20/2017	1.3	59	13	0.78	7.06	85	390	< 0.003	< 0.001	0.051	< 0.001	< 0.0005	< 0.005	0.0022	< 0.0005	0.041	< 0.0002	0.021	2.50	< 0.0025	< 0.002
	3/6/2018	1.4	63	12	0.76	7.32	88	460	< 0.003	< 0.001	0.049	^ < 0.001	< 0.0005	< 0.005	< 0.0010	< 0.0005	0.042	< 0.0002	0.021	2.83	< 0.0025	< 0.002
	5/16/2018	1.2	61	12	0.75	7.06	87	410	NA	< 0.001	0.049	NA	NA	NA	0.0024	^ < 0.0005	0.04	NA	0.019	2.12	< 0.0025	NA
	12/7/2018	1.2	58	12	0.76	7.41	65	480	NA	< 0.001	0.048	NA	NA	NA	0.0010	0.0048	0.042	NA	0.0230	2.26	< 0.0025	NA
	6/18/2019	1.3	62	13	0.75	7.18	65	440	NA	< 0.001	0.051	NA	NA	NA	0.0018	< 0.0005	0.041	NA	0.017	2.11	< 0.0025	NA
	11/5/2019	1.2	58	13	0.74	7.88	71	410	NA	< 0.010	0.050	NA	NA	NA	0.0023	< 0.0005	0.044	NA	0.021	1.74	< 0.0100	NA
	6/24/2020	1.3	58	13	0.79	7.81	63	360	NA	< 0.010	0.045	NA	NA	NA	< 0.001	< 0.0005	0.038	NA	0.019	2.07	< 0.0025	NA
	12/11/2020	1.4	61	14	0.89	7.41	69	390	NA	< 0.001	0.043	NA	NA	NA	< 0.001	^+< 0.0005	0.042	NA	0.022	2.16	< 0.0025	NA
	6/23/2021	1.3	60	14	0.77	7.46	70	390	< 0.003	< 0.001	0.047	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.047	H < 0.0002	0.022	2.06	< 0.0025	< 0.002
	9/23/2021	1.3	57	14	0.76	7.79	69	320	< 0.003	< 0.001	0.050	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.042	< 0.0002	0.024	1.97	< 0.0025	< 0.002
	12/10/2021	1.4	60	14	0.77	8.33	69	360	< 0.003	0.0019	0.045	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.041	< 0.0002	0.025	DNYA	< 0.0025	< 0.002
G30S down-gradient	11/20/2015	5.80	63	190	1.3	7.46	580	1,000	< 0.003	0.014	0.041	^ < 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.022	< 0.0002	0.33	1.484	< 0.0025	< 0.002
	5/10/2016	5.4	53	190	1.30	7.68	390	1,100	< 0.003	0.017	0.039	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.021	< 0.0002	0.3	1.41	< 0.0025	< 0.002
	6/30/2016	5.2	60	F1 180	1.30	7.73	410	990	< 0.003	0.013	0.04	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.023	< 0.0002	0.3	1.17	< 0.0025	< 0.002
	8/25/2016	5.7	59	F1 180	1.30	7.70	390	1,100	< 0.003	0.015	0.039	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.02	< 0.0002	0.31	1.87	< 0.0025	< 0.002
	11/18/2016	6.4	57	170	1.2	8.04	320	1,100	< 0.003	0.016	0.043	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.023	< 0.0002	0.33	2.36	< 0.0025	< 0.002
	2/14/2017	5.4	62	190	1.2	7.70	450	1,000	< 0.003	0.011	0.042	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.021	< 0.0002	0.24	1.84	< 0.0025	< 0.002
	5/25/2017	11	110	180	1.4	7.67	430	1,100	< 0.006	0.019	0.078	^ < 0.002	< 0.001	< 0.01	< 0.002	< 0.001	0.04	< 0.0002	0.45	1.76	< 0.005	< 0.004
	7/7/2017	6.6	54	190	1.3	7.48	410	1,100	< 0.003	0.011	0.039	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.021	< 0.0002	0.26	1.59	< 0.0025	< 0.002
	9/26/2017	6.7	62	190	1.3	8.07	460	1,100	< 0.003	0.011	0.041	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.021	< 0.0002	0.2	1.41	< 0.0025	< 0.002
	11/20/2017	6.1	52	210	1.3	7.77	440	1,100	< 0.003	0.01	0.04	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.019	< 0.0002	0.19	1.73	< 0.0025	< 0.002
	3/7/2018	5.1	56	200	1.3	7.97	470	1,100	< 0.003	0.011	0.043	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.019	< 0.0002	0.14	1.94	< 0.0025	< 0.002
	5/17/2018	5.7	55	210	1.2	7.77	540	1,100	NA	0.011	0.043	NA	NA	NA	< 0.001	< 0.0005	0.021	NA	0.13	1.57	F1 < 0.0025	NA
	12/15/2018	5.8	57	200	1.2	7.99	200	1,100	NA	0.0069	0.041	NA	NA	NA	< 0.001	< 0.0005	0.022	NA	0.065	2.04	< 0.0025	NA
	6/26/2019	5.4	57	220	1.1	7.98	350	1,100	NA	0.0074	0.041	NA	NA	NA	< 0.001	< 0.0005	0.018	NA	0.065	1.18	F1 < 0.0025	NA
	11/6/2019	4.5	58	210	1.1	7.99	350	1,100	NA	0.01	0.041	NA	NA	NA	< 0.001	< 0.0005	0.019	NA	0.013	1.620	0.01	NA
	6/25/2020	4.9	57	220	1.1	8.33	410	1,100	NA	0.0053	0.042	NA	NA	NA	< 0.001	< 0.0005	0.019	NA	0.02	2.19	< 0.0025	NA
	12/7/2020	5.3	57	220	1.2	7.83	450	1,100	NA	0.0044	0.043	NA	NA	NA	< 0.001	< 0.0005	0.024	NA	0.018	2.16	< 0.0025	NA
	6/30/2021	B 5.9	61	200	1.1	7.88	470	1,100	< 3.0	< 0.017	0.048	^1+ < 1.0	< 0.5	< 5.0	< 0.001	< 0.0005	0.024	< 0.0002	0.017	2.57	< 0.0025	< 2.0
	9/24/2021	0.26	60	210	0.99	8.16	460	1,100	< 0.003	0.0038	0.047	^+ < 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.024	< 0.0002	0.012	2.23	< 0.0025	< 0.002
	12/15/2021	5.1	63	200	1.0	7.95	450	1,200	< 0.003	0.0028	0.045	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.022	< 0.0002	0.01	DNYA	< 0.0025	< 0.002

Notes: All units are in mg/l except pH is in standard units and radium is in pCi/L.
B - Compound was found in the blank and sample.
H - Sample was prepped or analyzed beyond the specified holding time
NA - Not analyzed. No confirmation resample required.

^ - Instrument related QC is outside acceptance limits.
* - LCS or LCSD is outside acceptance limits.
^1+ or ^+ - Initial or Continuing Calibration Verification limits is outside acceptable limits, high biased.
F1 - MS and/or MSD Recovery outside of limits.

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
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
	5/5/2016	1.9	100	140	0.32	7.38	210	810	< 0.003	0.0034	0.039	< 0.001	< 0.0005	< 0.005	< 0.001	0.0005	0.069	< 0.0002	0.29	2.26	< 0.0025	< 0.002
	6/29/2016	2.5	110	110	0.35	7.53	280	860	< 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	F1 4.0	120	99	0.34	7.39	340	830	< 0.003	0.002	0.039	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.064	< 0.0002	0.57	1.76	F1 < 0.0025	< 0.002
	5/25/2017	8.3	240	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	< 0.005	< 0.004
	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	78	0.36	7.29	290	870	< 0.003	0.003	0.044	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.086	< 0.0002	0.57	1.79	< 0.0025	< 0.002
	11/21/2017	5.7	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	0.32	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	1,000	NA	0.0024	0.04	NA	NA	NA	< 0.001	< 0.0005	0.1	NA	0.64	2.22	< 0.0025	NA
	12/13/2018	3.5	120	F1 72	0.26	7.43	280	880	NA	0.0019	0.043	NA	NA	NA	< 0.001	0.0017	0.080	NA	0.560	2.23	< 0.0025	NA
	6/27/2019	6.3	140	74	0.27	7.33	380	880	NA	0.0027	0.041	NA	NA	NA	< 0.001	< 0.0005	0.090	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	< 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	< 0.001	< 0.0005	0.11	NA	0.64	3.92	< 0.0025	NA
	12/16/2020	6.1	150	F1 66	0.34	7.43	430	840	NA	0.0025	0.038	NA	NA	NA	< 0.001	^+ < 0.0005	0.11	NA	0.75	3.22	F1 < 0.0025	NA
	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	< 2.0
	9/30/2021	6.0	160	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
	12/15/2021	4.9	150	59	0.32	7.42	490	930	< 0.003	0.0016	0.037	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.097	< 0.0002	0.75	DNYA	< 0.0025	< 0.002
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	0.1000	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
	6/30/2016	0.69	100	32	0.18	7.59	99	620	< 0.003	< 0.001	0.044	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.014	< 0.0002	0.025	0.879	< 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	620	< 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	31	0.19	7.08	95	600	< 0.003	< 0.001	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
	9/28/2017	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	0.0014	0.053	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.017	< 0.0002	0.049	1.31	< 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	< 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	< 0.001	< 0.0005	0.019	NA	0.14	0.454	< 0.0025	NA
	6/19/2019	1.3	130	59	0.19	7.02	140	720	NA	< 0.001	0.062	NA	NA	NA	< 0.001	< 0.0005	0.023	NA	0.13	0.841	< 0.0025	NA
	11/12/2019	1.3	140	53	0.21	7.22	160	670	NA	< 0.01	0.065	NA	NA	NA	< 0.001	< 0.0005	0.026	NA	0.20	1.01	< 0.01	NA
	6/29/2020	1.4	130	52	0.21	7.30	160	670	NA	< 0.001	0.06	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	< 0.001	< 0.0005	0.03	NA	0.28	1.18	< 0.0025	NA
	6/302021	B 1.9	120	65	0.21	7.00	170	730	< 3.0	< 0.001	0.058	^1+ < 1.0	< 0.5	< 5.0	< 0.001	< 0.0005	0.026	< 0.0002	0.22	1.29	< 0.0025	< 2.0
	9/27/2021	0.39	130	62	0.20	7.30	180	650	< 0.003	< 0.001	0.065	^+ < 0.001	< 0.0005	< 0.0005	< 0.001	< 0.0005	0.0056	< 0.0002	0.29	1.19	< 0.0025	< 0.002
	12/16/2021	1.9	140	62	0.20	7.21	170	690	< 0.003	< 0.001	0.066	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.027	< 0.0002	0.29	DNYA	< 0.0025	< 0.002
G46S down-gradient	11/23/2015	6.0	110	80	0.27	7.32	430	780	< 0.003	0.0033	0.064	^ < 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.073	< 0.0002	0.5	1.468	< 0.0025	< 0.002
	5/9/2016	7.7	100	100	0.28	7.77	360	940	< 0.003	0.0018	0.099	< 0.001	< 0.0005	< 0.005	< 0.001	0.0005	0.11	< 0.0002	0.7	1.85	< 0.0025	< 0.002
	6/30/2016	7.9	100	99	0.29	8.26	290	880	< 0.003	0.0014	0.098	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.13	< 0.0002	0.71	1.94	< 0.0025	< 0.002
	8/26/2016	7.2	100	120	0.35	7.48	350	1,000	< 0.003	0.0027	0.054	^ < 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.12	< 0.0002	1.2	1.17	< 0.0025	< 0.002
	11/18/2016	6.5	110	120	0.39	7.56	330	1,000	< 0.003	0.0025	0.051	< 0.001	< 0.0005	< 0.005	< 0.0010	< 0.0005	0.13	< 0.0002	1.8	< 0.601	< 0.0025	< 0.002
	2/16/2017	6.1	100	150	0.41	7.94	410	1,000	< 0.003	0.0024	0.053	< 0.001	< 0.0005	< 0.005	< 0.0010	< 0.0005	0.091	< 0.0002	1.4	1.07	< 0.0025	< 0.002
	5/22/2017	6.8	100	130	0.44	7.37	350	970	< 0.003	0.0033	B 0.046	^ < 0.001	< 0.0005	< 0.005	< 0.0010	< 0.0005	0.11	< 0.0002	1.4	0.683	< 0.0025	< 0.002
	7/6/2017	4.9	100	150	0.41	7.33	290	880	< 0.003	0.0034	0.044	< 0.001	< 0.0005	< 0.005	0.0010	^ < 0.0005	0.076	< 0.0002	0.92	0.709	< 0.0025	^ < 0.002
	9/27/2017	4.9	88	160	0.40	7.28	270	890	< 0.003	0.0043	0.031	< 0.001	< 0.0005	< 0.005	< 0.0010	< 0.0005	0.091	< 0.0002	0.63	0.754	< 0.0025	< 0.002
	11/21/2017	5.3	78	170	0.43	7.73	270	800	< 0.003	0.0055	0.032	< 0.001	< 0.0005	< 0.005	< 0.0010	< 0.0005	0.11	< 0.0002	0.68	0.776	< 0.0025	< 0.002
	3/8/2018	5.9	110	140	0.41	7.75	350	940	< 0.003	0.0039	0.049	< 0.001	< 0.0005	< 0.005	< 0.0010	0.00053	0.093	< 0.0002	0.82	1.29	< 0.0025	< 0.002
	5/18/2018	5.9	110	120	0.40	7.66	260	1,100	NA	0.0028	0.048	NA	NA	NA	< 0.0010	< 0.0005	0.073	NA	0.84	1.07	< 0.0025	NA
	12/11/2018	7.60	120	110	0.38	7.66	270	1,100	NA	0.0023	0.055	NA	NA	NA	< 0.001	< 0.0005	0.096	NA	1.20	1.22	< 0.0025	NA
	6/19/2019	13	89	69	0.33	7.64	440	1,000	NA	0.014	0.040	NA	NA	NA	< 0.001	< 0.0005	0.22	NA	1.80	1.37	< 0.0025	NA
	11/13/2019	10	120	68	0.37	7.68	470	1,000	NA	< 0.050	0.041	NA	NA	NA	< 0.001	< 0.0050	0.11	NA	1.60	1.3	< 0.0100	NA
	6/29/2020	13	96	74	0.34	8.06	510	980	NA	0.075	0.05	NA	NA	NA	< 0.001	< 0.0050	0.23	NA	1.7	2.780	< 0.0025	NA
	12/15/2020	10	120	73	0.35	7.74	540	1,000	NA	0.27	0.075	NA	NA	NA	< 0.001	< 0.00085	0.21	NA	1.5	2.16	< 0.0025	NA
	6/30/2021	B 15	120	67	0.30	7.40	590	1,000	< 3.0	0.044	0.05	^1+ < 1.0	< 0.5	< 5.0	< 0.001	< 0.0005	0.21	< 0.0002	1.6	2.17	< 0.0025	< 2.0
	9/27/2021	0.24	130	66	0.25	7.80	560	1,000	< 0.003	0.046	0.043	^+ < 0.001	< 0.0005	< 0.005	< 0.0010	< 0.0005	0.0042	< 0.0002	1.6	1.54	< 0.0025	< 0.002
	12/15/2021	11	140	66	0.27	7.53	500	990	< 0.003	0.18	0.067	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.16	< 0.0002	1.4	DNYA	< 0.0025	< 0.002
G47S down-gradient	11/23/2015	4.6	11	160	0.45	9.22	480	700	< 0.003	0.018	0.018	^ < 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.036	< 0.0002	0.32	0.898	0.003	< 0.002
	5/6/2016	5.0	7.8	140	0.72	9.86	410	910	< 0.003	0.034	0.017	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.033	< 0.0002	0.41	0.736	0.0033	< 0.002
	7/1/2016	6.4	8.4	150	0.68	9.32	340	860	< 0.003	0.022	0.019	< 0.001	^ < 0.0005	< 0.005	< 0.001	< 0.0005	0.038	< 0.0002	0.53	1.01	< 0.0025	< 0.002
	8/24/2016	9.3	9.2	140	0.67	9.19	300	830	< 0.003	0.017	0.023	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.028	< 0.0002	0.41	1.06	< 0.0025	< 0.002
	11/16/2016	15	1.3	F1 150	1.8	10.08	620	1,700	< 0.003	0.14	0.0091	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.015	< 0.0002	1.4	< 1.38	0.0038	< 0.002
	2/15/2017	7.6	4.4	160	1.1	9.26	540	1,200	< 0.003	0.059	0.016	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	< 0.05	< 0.0002	0.57	0.716	0.0035	< 0.002
	5/23/2017	18	0.93	160	2.2	10.03	720	1,800	< 0.003	0.18	0.0081	^ < 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.013	< 0.0002	1.3	< 0.361	0.0025	< 0.002
	7/10/2017	18	1.2	150	2.1	10.06	780	1,800	< 0.003	0.17	0.0085	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.013	< 0.0002	1.2	0.733	< 0.0025	< 0.002
	9/27/2017	18	1.1	150	2.0	10.15	750	1,900	< 0.003	0.21	0.0085	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.014	< 0.0002	1.3	0.836	0.0027	< 0.002
	11/22/2017	21	1.1	150	2.1	10.56	710	1,800	< 0.003	0.23	0.009	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.012	< 0.0002	1.5	0.692	0.0044	< 0.002
	3/8/2018	18	1.1	170	2.1	10.67	780	1,900	< 0.003	0.25	0.009	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.014	< 0.0002	1.4	0.790	0.0042	< 0.002
	5/18/2018	3.7	1.1	160	1.7	7.79	570	1,800	NA	0.23	0.0087	NA	NA	NA	< 0.001	< 0.0005	0.015	NA	1.5	1.01	0.0039	NA
	12/11/2018	13	2.8	140	1.1	10.14	440	1,300	NA	0.140	0.0110	NA	NA	NA	< 0.001	< 0.0005	0.023	NA	1.10	0.597	0.0031	NA
	6/28/2019	13	2.9	130	1.3	9.95	450	1,400	NA	0.13	0.0120	NA	NA	NA	< 0.001	< 0.0005	0.028	NA	1.00	0.566	< 0.0025	NA
	11/7/2019	4.3	15	140	0.55	8.39	410	1,100	NA	0.029	0.0170	NA	NA	NA	< 0.001	< 0.0050	0.053	NA	0.38	1.02	< 0.0100	NA
	6/30/2020	5.2	16	120	0.59	9.04	F1 440	1,000	NA	0.037	0.015	NA	NA	NA	< 0.001	< 0.0050	0.052	NA	0.46	1.240	0.004	NA
	12/7/2020	7.6	11	120	1.1	9.13	500	1,100	NA	0.066	0.012	NA	NA	NA	< 0.001	< 0.0005	0.047	NA	0.62	< 0.466	< 0.003	NA
	6/24/2021	B 6.1	12	110	0.66	8.68	470	1,000	< 0.003	0.04	0.013	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.05	H < 0.0002	0.48	0.871	0.0027	< 0.002
	9/22/2021	6.5	11	100	0.62	8.83	440	910	< 0.003	0.041	0.014	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.053	< 0.0002	0.52	0.764	0.0030	< 0.002
	12/16/2021	6.7	11	98	0.65	8.63	440	900	< 0.003	0.039	0.014	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.046	< 0.0002	0.54	DNYA	0.0031	< 0.002
G48S down-gradient	11/20/2015	11.00	6.9	120	1.5	9.08	760	1,100	< 0.003	0.03	0.015	^ < 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.015	< 0.0002	1.4	0.8512	< 0.0025	< 0.002
	5/5/2016	9.30	5.9	120	1.5	9.53	560	1,200	< 0.003	0.046	0.014	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.016	< 0.0002	1.2	0.800	< 0.0025	< 0.002
	7/1/2016	9.50	4.2	120	1.4	9.60	480	1,100	< 0.003	0.038	0.011	< 0.001	^ < 0.0005	< 0.005	< 0.001	< 0.0005	0.013	< 0.0002	1.2	1.01	< 0.0025	< 0.002
	8/24/2016	10.00	5.5	120	1.4	9.31	420	1,100	< 0.003	0.032	0.014	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.012	< 0.0002	1.1	1.16	< 0.0025	< 0.002
	11/16/2016	9.80	10	110	1.4	9.61	340	1,100	< 0.003	0.03	0.018	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.016	< 0.0002	1.1	1.65	< 0.0025	< 0.002
	2/15/2017	8.40	8.3	120	1.2	9.63	490	1,100	< 0.003	0.038	0.015	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.014	< 0.0002	0.79	0.824	< 0.0025	< 0.002
	5/23/2017	9.20	8.1	120	1.3	9.49	470	1,100	< 0.003	0.03	0.014	^ < 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.016	< 0.0002	0.95	0.661	< 0.0025	< 0.002
	7/10/2017	7.80	11	110	1.2	8.77	460	1,000	< 0.003	0.022	0.017	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.016	< 0.0002	0.84	1.39	< 0.0025	< 0.002
	9/27/2017	7.60	18	100	1.1	8.94	480	1,100	< 0.003	0.024	0.019	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.019	< 0.0002	0.72	1.32	< 0.0025	< 0.002
	11/22/2017	8.60	12	120	1.2	9.42	450	1,000	< 0.003	0.027	0.015	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.016	< 0.0002	0.77	1.27	< 0.0025	< 0.002
	3/8/2018	5.30	62	100	0.85	8.13	450	1,000	< 0.003	0.017	0.031	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.023	< 0.0002	0.51	2.30	< 0.0025	< 0.002
	5/18/2018	5.90	53	100	0.92	7.79	370	1,100	NA	0.022	0.023	NA	NA	NA	< 0.001	< 0.0005	0.023	NA	0.49	0.962	< 0.0025	NA
	12/11/2018	7.30	23	110	1.1	8.42	310	1,000	NA	0.023	0.016	NA	NA	NA	< 0.001	0.0049	0.019	NA	0.79	0.921	< 0.0025	NA
	6/25/2019	7.10	28	110	1.0	8.07	390	1,000	NA	0.022	0.018	NA	NA	NA	< 0.001	< 0.0005	0.022	NA	0.73	1.33	< 0.0025	NA
	11/7/2019	5.80	18	100	0.89	7.83	380	1,000	NA	0.012	0.027	NA	NA	NA	< 0.001	< 0.005	0.019	NA	0.59	1.24	< 0.01	NA
	6/26/2020	7.10	16	110	1.0	9.20	400	940	NA	0.022	0.017	NA	NA	NA	< 0.001	< 0.005	0.021	NA	0.54	0.971	< 0.0025	NA
	12/7/2020	6.00	29	110	1.1	8.4	410	890	NA	0.016	0.02	NA	NA	NA	< 0.001	< 0.0005	0.026	NA	0.41	2.00	< 0.0025	NA
	6/24/2021	B 4.30	96	96	0.71	7.27	480	1,100	< 0.003	0.0026	0.035	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.032	H < 0.0002	0.26	3.89	< 0.0025	< 0.002
	9/22/2021	5.40	45	100	0.74	7.68	440	1,000	< 0.003	0.0061	0.027	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.030	< 0.0002	0.46	2.15	< 0.0025	< 0.002
	12/16/2021	6.00	46	99	0.91	7.02	430	880	< 0.003	0.0076	0.023	< 0.001	< 0.0005	< 0.005	< 0.001	< 0.0005	0.024	< 0.0002	0.52	DNYA	< 0.0025	< 0.002

Notes: All units are in mg/l except pH is in standard units and radium is in pCi/L.

B - Compound was found in the blank and sample.

H - Sample was prepped or analyzed beyond the specified holding time

NA - Not analyzed. No confirmation resample required.

^ - Instrument related QC is outside acceptance limits.

* - LCS or LCSD is outside acceptance limits.

^1+ or ^+ - Initial or Continuing Calibration Verification limits is outside acceptable limits, high biased.

F1 - MS and/or MSD Recovery outside of limits.

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

Well ID	Date	Turbidity (NTU)
G45S	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
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
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
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
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

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
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
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
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
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

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[1]	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	578.65	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-2022	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
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
G30S	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
R32S	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

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	507.28
	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
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-2022	603.90	66.28	537.62
	Dec-2022	603.90	66.15	537.75
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	97.50	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
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	93.50	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

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)
G48S	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	102.31	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
T03S	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

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

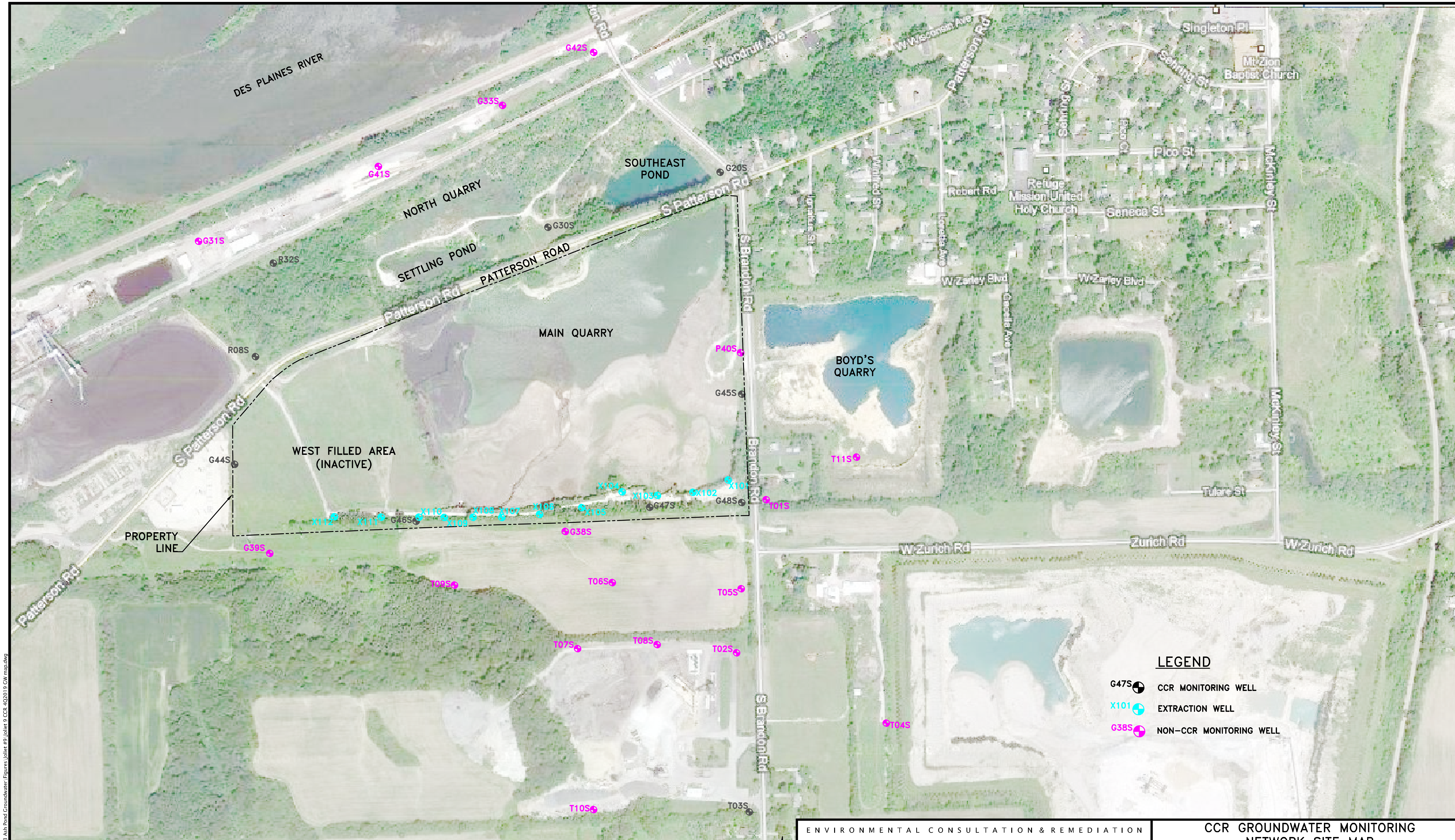
DATE	Natural Groundwater Flow Direction	K_{avg} (ft/sec)*	Average Hydraulic Gradient (ft/ft)	Porosity (unitless)**	Estimated Seepage Velocity (ft/day)
5/2021	Northerly and Westerly	1.38E-05	0.0634	0.05	1.51
6/2021	Northerly and Westerly	1.38E-05	0.0711	0.05	1.70
7/2021	Northerly and Westerly	1.38E-05	0.0662	0.05	1.58
8/2021	Northerly and Westerly	1.38E-05	0.0544	0.05	1.30
9/2021	Northerly and Westerly	1.38E-05	0.0550	0.05	1.31
10/2021	Northerly and Westerly	1.38E-05	0.0573	0.05	1.37
11/2021	Northerly and Westerly	1.38E-05	0.0515	0.05	1.23
12/2021	Northerly and Westerly	1.38E-05	0.0568	0.05	1.35

* K_{avg} - 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 2021 - Joliet #9 Lincoln Stone Quarry

Well ID	Number of Groundwater Sampling Events	Dates of Groundwater Sampling Events
G45S (Upgradient)	3	6/28/2021
		9/23/2021
		12/16/2021
T03S (Upgradient)	3	6/22/2021
		9/20/2021
		12/9/2021
R08S (Downgradient)	3	6/23/2021
		9/27/2021
		12/14/2021
G20S (Downgradient)	3	6/23/2021
		9/23/2021
		12/10/2021
G30S (Downgradient)	3	6/30/2021
		9/24/2021
		12/15/2021
R32S (Downgradient)	3	6/28/2021
		9/30/2021
		12/15/2021
G44S (Downgradient)	3	6/30/2021
		9/27/2021
		12/16/2021
G46S (Downgradient)	3	6/30/2021
		9/27/2021
		12/15/2021
G47S (Downgradient)	3	6/24/2021
		9/22/2021
		12/16/2021
G48S (Downgradient)	3	6/24/2021
		9/22/2021
		12/16/2021

FIGURES



0 450'

APPROXIMATE SCALE

N

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG

KPRG and Associates, inc.

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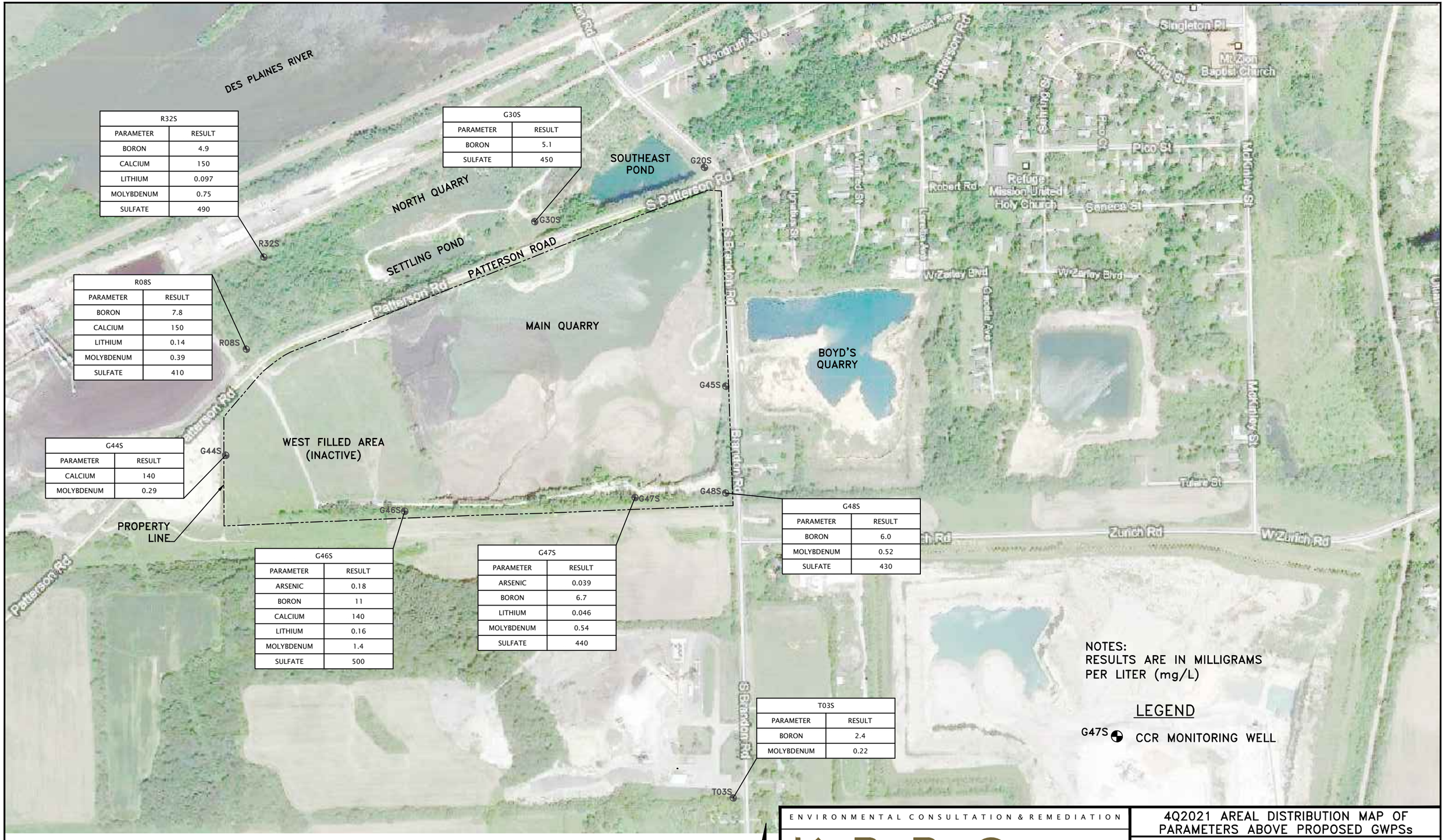
414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

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



R32S	
PARAMETER	RESULT
BORON	4.9
CALCIUM	150
LITHIUM	0.097
MOLYBDENUM	0.75
SULFATE	490

G30S	
PARAMETER	RESULT
BORON	5.1
SULFATE	450

R08S	
PARAMETER	RESULT
BORON	7.8
CALCIUM	150
LITHIUM	0.14
MOLYBDENUM	0.39
SULFATE	410

G44S	
PARAMETER	RESULT
CALCIUM	140
MOLYBDENUM	0.29

G46S	
PARAMETER	RESULT
ARSENIC	0.18
BORON	11
CALCIUM	140
LITHIUM	0.16
MOLYBDENUM	1.4
SULFATE	500

G47S	
PARAMETER	RESULT
ARSENIC	0.039
BORON	6.7
LITHIUM	0.046
MOLYBDENUM	0.54
SULFATE	440

G48S	
PARAMETER	RESULT
BORON	6.0
MOLYBDENUM	0.52
SULFATE	430

T03S	
PARAMETER	RESULT
BORON	2.4
MOLYBDENUM	0.22

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

LEGEND

G47S CCR MONITORING WELL

0 450'
APPROXIMATE SCALE

N

ENVIRONMENTAL CONSULTATION & REMEDIATION

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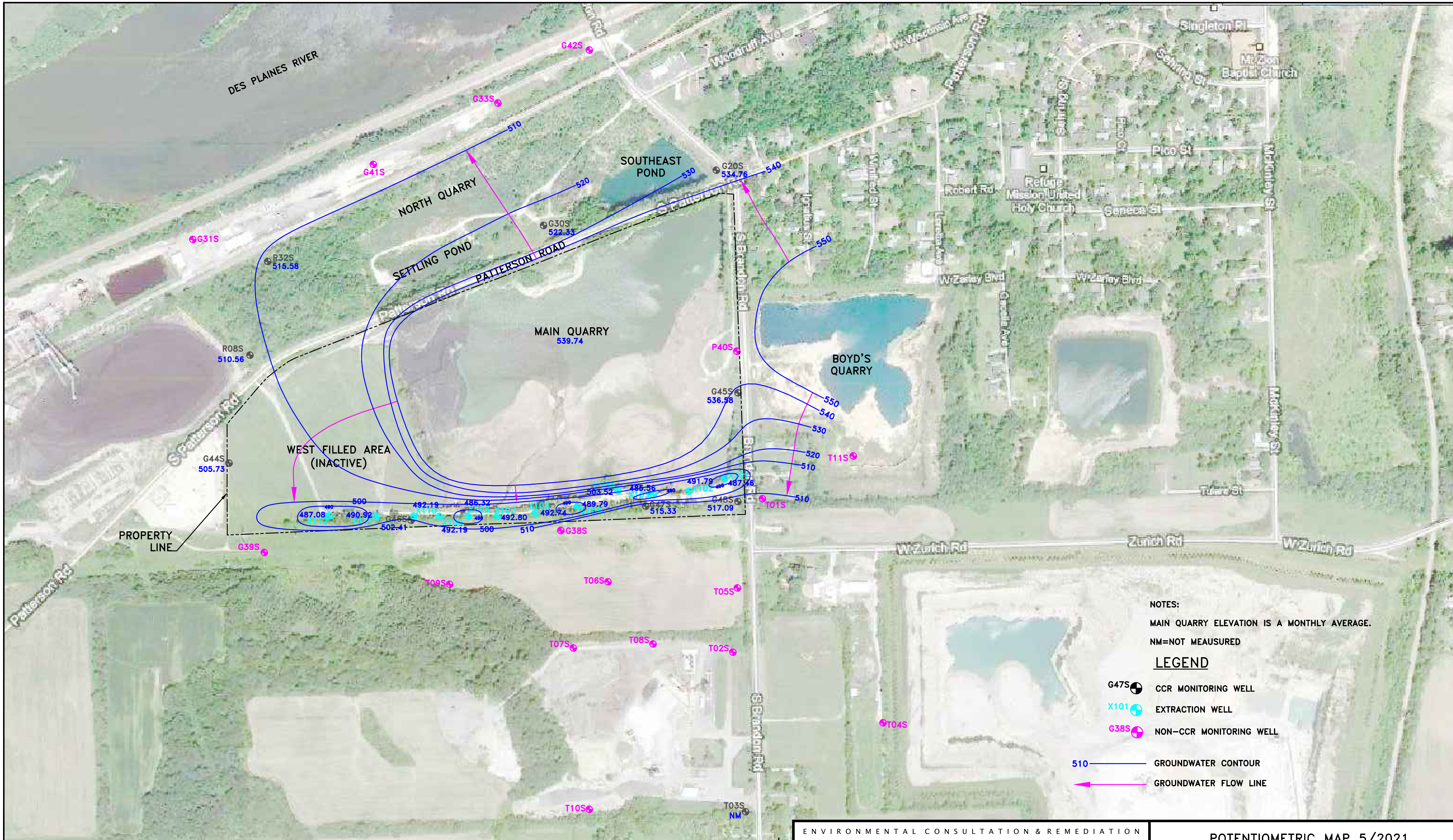
4Q2021 AREAL DISTRIBUTION MAP OF PARAMETERS ABOVE PROPOSED GWPSs

LINCOLN STONE QUARRY
JOLIET, ILLINOIS

Scale: 1" = 450' | Date: January 13, 2022

KPRG Project No. 11306 | FIGURE 2

ATTACHMENT 1
Monthly Potentiometric Maps



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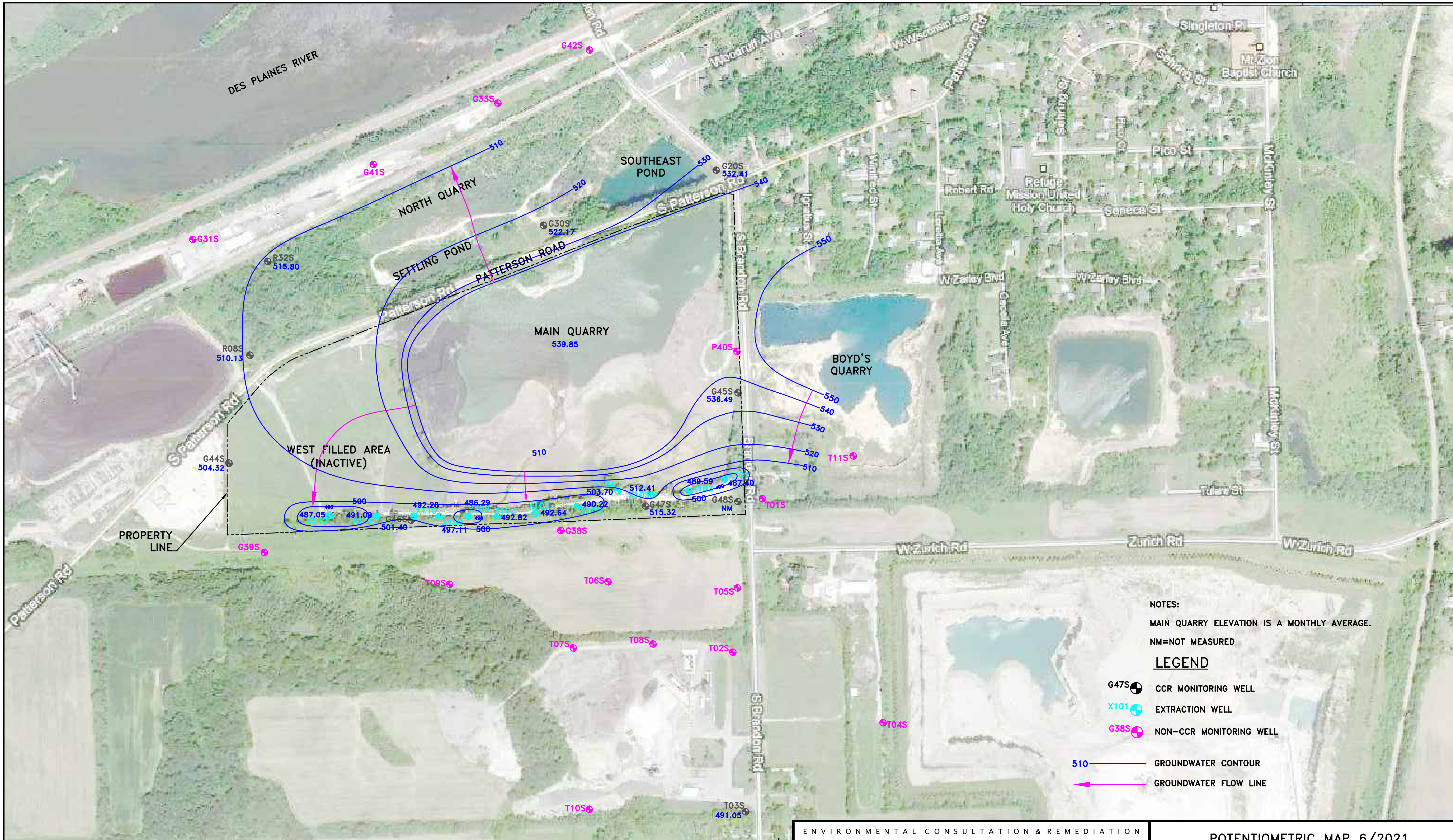
POTENTIOMETRIC MAP 5/2021	
LINCOLN STONE QUARRY JOLIET, ILLINOIS	
Scale: 1" = 450'	Date: January 20, 2022
KPRG Project No. 11306	ATTACHMENT 1



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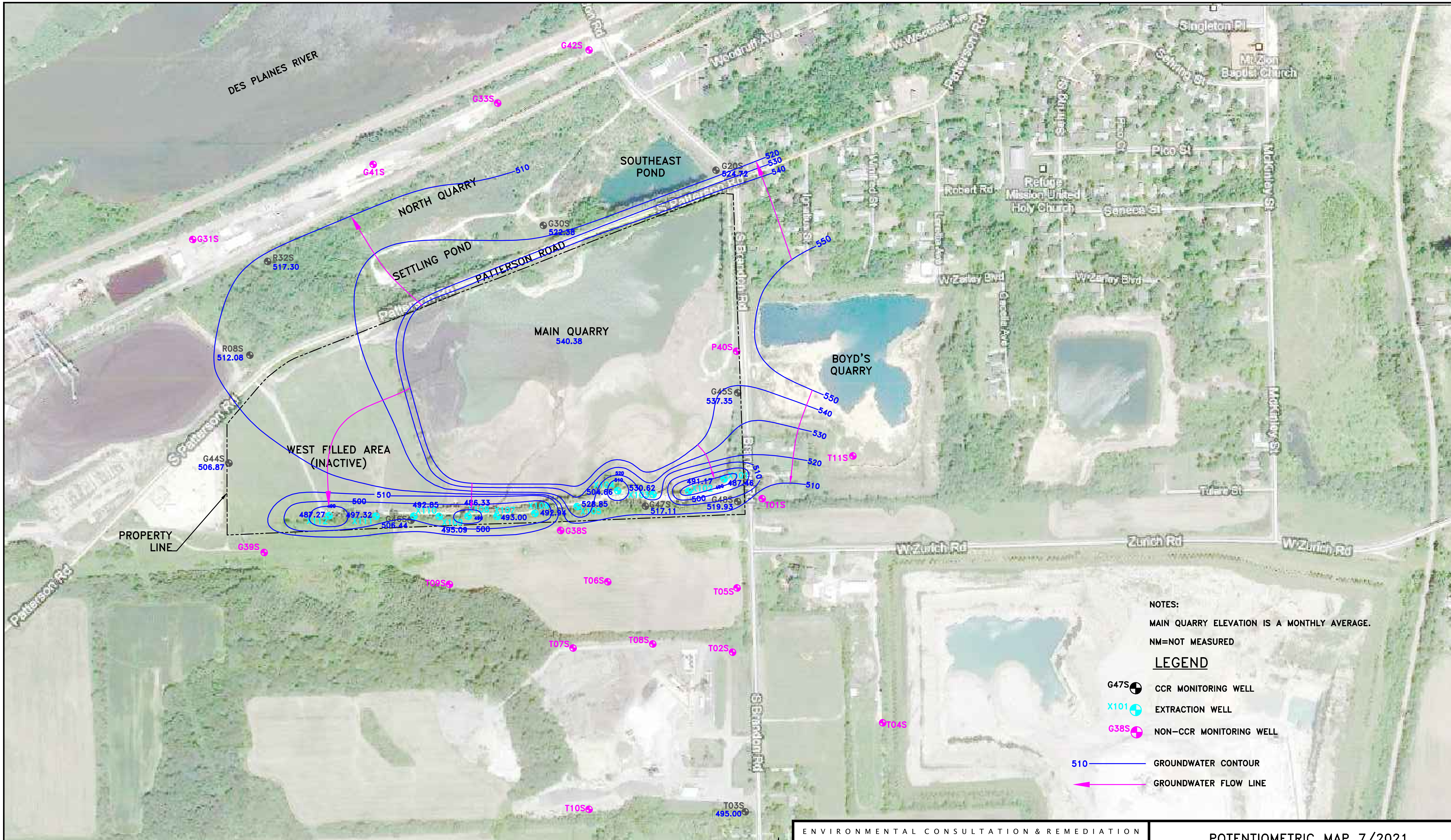
POTENTIOMETRIC MAP 6/2021

LINCOLN STONE QUARRY
JOLIET, ILLINOIS

Scale: 1" = 450'	Date: January 24, 2022
KPRG Project No. 11306	ATTACHMENT 1



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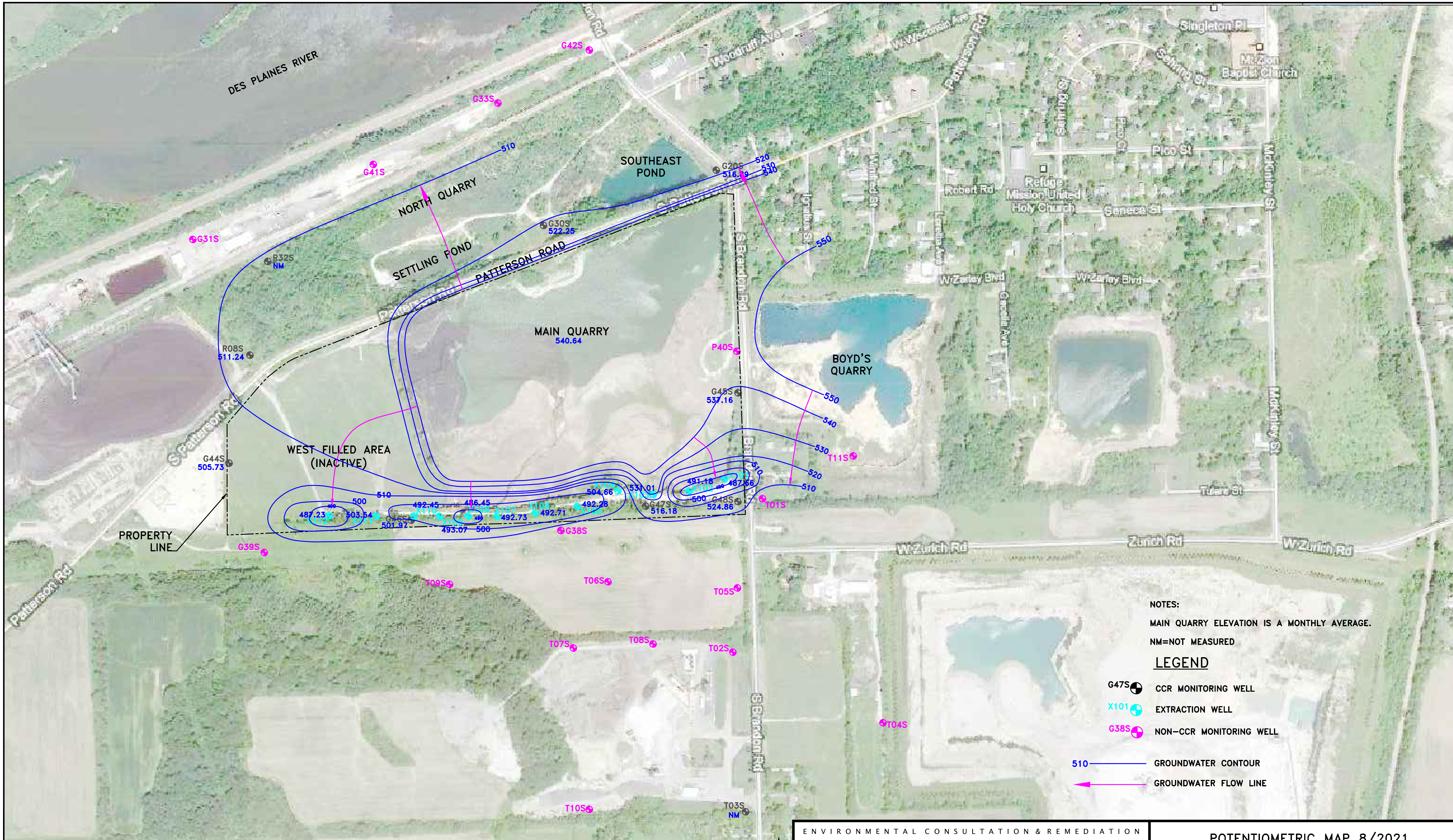
POTENTIOMETRIC MAP 7/2021	
LINCOLN STONE QUARRY JOLIET, ILLINOIS	
Scale: 1" = 450'	Date: January 24, 2022
KPRG Project No. 11306	ATTACHMENT 1



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POTENTIOMETRIC MAP 8/2021

LINCOLN STONE QUARRY
JOLIET, ILLINOIS

Scale: 1" = 450' | Date: January 25, 2022

KPRG Project No. 11306 | ATTACHMENT 1

DES PLAINES RIVER

NORTH QUARRY

SETTLING POND

SOUTHEAST POND

MAIN QUARRY
540.55

BOYD'S QUARRY

WEST FILLED AREA
(INACTIVE)

PROPERTY LINE

PATTERSON ROAD

S Patterson Rd

S Brandon Rd

Woodruff Ave

W Wisconsin Ave

Robert Rd

Pico St

Seneca St

W Zuzley Blvd

Tulare St

W Zurich Rd

Zurich Rd

Singleton Pl

Mt Zion Baptist Church

Refuge Mission United Holy Church

G42S
G33S
G41S
G31S
R32S 515.81
G30S 522.05
G20S 508.16*
R08S 511.47
P40S
G45S 537.03
G44S 505.63
G46S 502.34
G47S 515.59
G48S 515.59
G39S
G38S
T11S
T01S
T09S
T06S
T05S
T07S
T08S
T02S
T04S
T10S
T03S 490.20

530 540 520 510 550 500 490 480

487.21 505.73 502 492.03 486.12 492.78 492.50 493.83 504.10 532.58 526.93 491.61 487.87

NOTES:

MAIN QUARRY ELEVATION IS A MONTHLY AVERAGE.

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

0 450'
APPROXIMATE SCALE

N

ENVIRONMENTAL CONSULTATION & REMEDIATION

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POTENTIOMETRIC MAP 9/2021

LINCOLN STONE QUARRY
JOLIET, ILLINOIS

Scale: 1" = 450'	Date: January 25, 2022
KPRG Project No. 11306	ATTACHMENT 1

DES PLAINES RIVER

NORTH QUARRY

SETTLING POND

SOUTHEAST POND

MAIN QUARRY
540.59

BOYD'S QUARRY

WEST FILLED AREA
(INACTIVE)

PATTERSON ROAD

PROPERTY LINE

G41S
G42S
G33S
G31S
R32S
516.08
G30S
522.27
G20S
501.92*
R08S
510.57
P40S
G44S
509.02
G48S
536.96
T11S
T01S
G47S
515.26
514.46
G46S
G38S
G39S
T09S
T06S
T05S
T07S
T08S
T02S
T04S
T10S
T03S
488.41

510 520 530 540 550

500 487.20 506.93 491.83 509.81 503.93 533.41 491.10 487.64 526.57 492.82 492.41 501.07 499.49

Woodruff Ave
W. Wisconsin Ave
Patterson Rd
S. Patterson Rd
S. Brandon Rd
Singleton Pl
Mt. Zion Baptist Church
Sanford St
Pico Ct
Pico St
Seneca St
McKinley St
Robert Rd
Refuge Mission United Holy Church
Lorella St
Lucille Ave
Oscelia Ave
W. Zaney Blvd
Tulare St
W. Zurich Rd
Zurich Rd

NOTES:

MAIN QUARRY ELEVATION IS A MONTHLY AVERAGE.

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

0 450'
APPROXIMATE SCALE

N

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POTENTIOMETRIC MAP 10/2021

LINCOLN STONE QUARRY
JOLIET, ILLINOIS

Scale: 1" = 450' | Date: January 25, 2022

KPRG Project No. 11306 | ATTACHMENT 1

DES PLAINES RIVER

NORTH QUARRY

SETTLING POND

SOUTHEAST POND

MAIN QUARRY
541.03

BOYD'S QUARRY

WEST FILLED AREA
(INACTIVE)

PATTERSON ROAD

PROPERTY LINE

G41S
G42S
G33S
G31S
G30S
522.50
G20S
503.37*
R32S
517.82
R08S
512.44
P40S
G45S
537.62
G44S
520.25
G47S
516.61
G48S
516.87
G38S
G39S
T01S
T09S
T06S
T05S
T07S
T08S
T02S
T04S
T10S
T03S
491.87

487.33
502.58
506.21
500.65
506.42
512.27
492.89
492.59
504.50
525.70
490.26
491.27
488.03

Woodruff Ave
W Wisconsin Ave
Patterson Rd
Singleton Pl
Mt Zion Baptist Church
Sterling St
Seneca St
Pico Ct
Pico St
McKinley St
Refuge Mission United Holy Church
Robert Rd
Seneca St
W Zaring Blvd
Lorella Ave
Oscelia Ave
S Brandon Rd
Tulip St
W Zurich Rd
Zurich Rd

NOTES:

MAIN QUARRY ELEVATION IS A MONTHLY AVERAGE.

NM=NOT MEASURED

LEGEND

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

0 450'
APPROXIMATE SCALE

N

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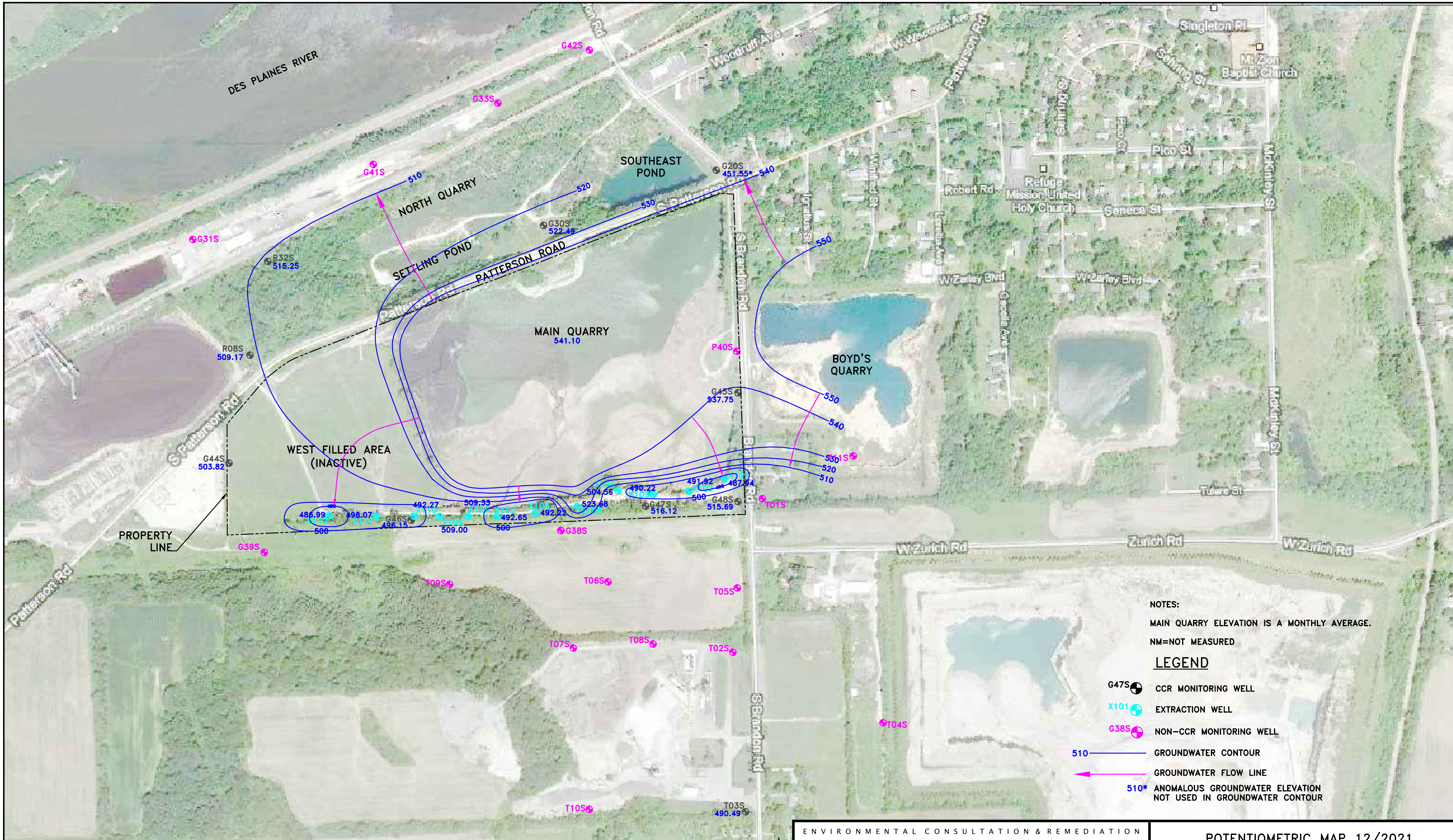
POTENTIOMETRIC MAP 11/2021

LINCOLN STONE QUARRY
JOLIET, ILLINOIS

Scale: 1" = 450' | Date: January 25, 2022

KPRG Project No. 11306 | ATTACHMENT 1



0 450'

APPROXIMATE SCALE

N

ENVIRONMENTAL CONSULTATION & REMEDIATION

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POTENTIOMETRIC MAP 12/2021

LINCOLN STONE QUARRY
JOLIET, ILLINOIS

Scale: 1" = 450'	Date: January 25, 2022
KPRG Project No. 11306	ATTACHMENT 1