



SVP-23-032

July 11, 2023

Illinois Emergency Management Agency and Office of Homeland Security
Division of Nuclear Safety
Bureau of Environmental Safety
1035 Outer Park Drive
Springfield, IL 62704

Subject: Submittal of Quad Cities Radionuclide Release Report Follow-up Report

Enclosed is the follow-up written report to the radionuclide release initial report submitted on July 3, 2023, as prescribed by section 35 Ill. Adm. Code 1010.204.

Should you have any questions concerning this letter, please contact Rachel Luebbe, Acting Regulatory Assurance Manager at (309) 227-2813.

Respectfully,

A handwritten signature in black ink, appearing to read "Brian Wake", written over a white background.

Brian Wake
Site Vice President
Quad Cities Nuclear Power Station

Attachment: Radionuclide Release Follow-up Report

**ATTACHMENT 2
RADIONUCLIDE RELEASE FOLLOW-UP REPORT ELECTRONIC AND
HARD COPY FORMAT
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**STATE OF ILLINOIS
NUCLEAR POWER PLANT
RADIONUCLIDE RELEASE REPORT**

FOLLOW-UP REPORT

The following information must be submitted electronically to the Illinois Environmental Protection Agency and to the Illinois Emergency Management Agency and Office of Homeland Security pursuant to 35 Ill. Adm. Code 1010.204 as a follow-up report to the reporting of a release of a radionuclide. Please attach additional sheets as needed.

This form can also be used as a follow-up report by a licensee that, pursuant to the last section of 35 Ill. Adm. Code 1010.104, reports a release of radionuclides that is not required to be reported under Section 13.6 of the Environmental Protection Act.

This follow-up report must be submitted electronically to both the Illinois EPA and IEMAOHS within 5 business days after the reporting of the release. Hard copies of the electronic report must be submitted to the Illinois EPA and IEMAOHS within 5 business days after the submission of the electronic report.

Initial Report Date/Time 07/03/23 / 1520

Follow-up Report Date 07/11/23

Nuclear Generation Station Name Quad Cities Nuclear Power Station

Address 22710 206th Ave North

City, State, Zip Cordova, IL 61242

Name of Principal Executive Officer Brian Wake

Telephone Number (309) 227-3600

Signature 

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If any of the information provided in the initial report for this release has changed, please provide an update of changed information.

No information has changed from the initial report.

Estimate of Quantity Released but not Recovered (Curies) Under investigation

Estimate of Volume Released but not Recovered Under investigation

Estimate of Concentration (pCi/L)

Released but not Recovered The highest tritium concentration detected to date in well QC-RW-1, an active remediation well, is 482,000 pCi/L.

Updated Description of Activities Taken in Response to the Release

Remediation continues via QC-RW-1 and QC-GP-18 as well as daily sampling. The Quad Cities investigation team identified underground piping and nearby components in the area to isolate and/or sample to assist in determining the source of elevated tritium concentrations. Isolation of several lines started on 7/4/2023 at 0400 and the team continues to methodically work through the realignment and isolation of identified lines and components as necessary. Further, the team is working to install two additional groundwater monitoring wells to aid in determining the source and extent of elevated tritium concentrations.

Additional Activities Planned in Response to the Release

The groundwater sampling program has been enhanced in the vicinity of the release to monitor tritium concentrations in groundwater. Remediation will continue. Based on the results of the investigation activities described above, additional actions will be taken to complete the investigation of elevated tritium concentrations and implement corrective actions as appropriate.

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Additional Information

Copies of laboratory analysis, plan views, locations of samples taken and analyzed, groundwater direction, groundwater contours, map of the boundary of the licensee controlled area and other surface features are included with this Follow-Up Report.

Attach copies of all laboratory analyses used to confirm the presence of, or conducted in response to, the release (if lab analyses have been conducted).

Also attach a plan view and, if available, geological cross-section maps, showing the location of the release, the locations of samples taken to confirm the release or taken in response to the release (if samples have been taken), the measured and modeled extent of the release (if known), the groundwater flow direction (if known), groundwater contours (if known), the boundary of the licensee controlled area, and structures, roads, and other surface features.

Submit electronically to:

IEPA at "EPA.RadRelease@illinois.gov"

IEMAOHS at "ema.npprelease@illinois.gov"

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Submit hard copies to the addresses below:

Illinois Environmental Protection Agency
Bureau of Water
Groundwater Section
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

Illinois Emergency Management Agency and Office of Homeland Security
Division of Nuclear Safety
Bureau of Environmental Safety
1035 Outer Park Drive
Springfield, IL 62704

Contacts for Further Information

Name Rachel Luebbe

Address 22710 206th Ave North

City, State, Zip Cordova, IL 61242

Telephone Number (309) 227-2813

Name _____

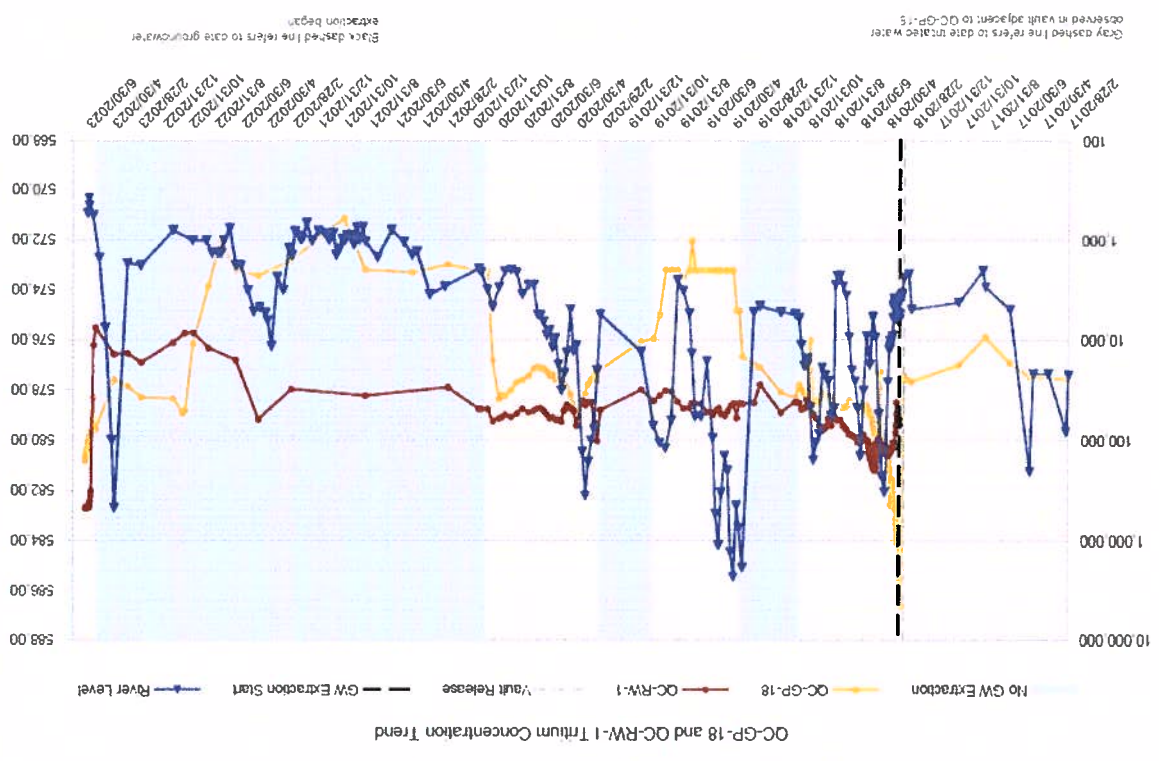
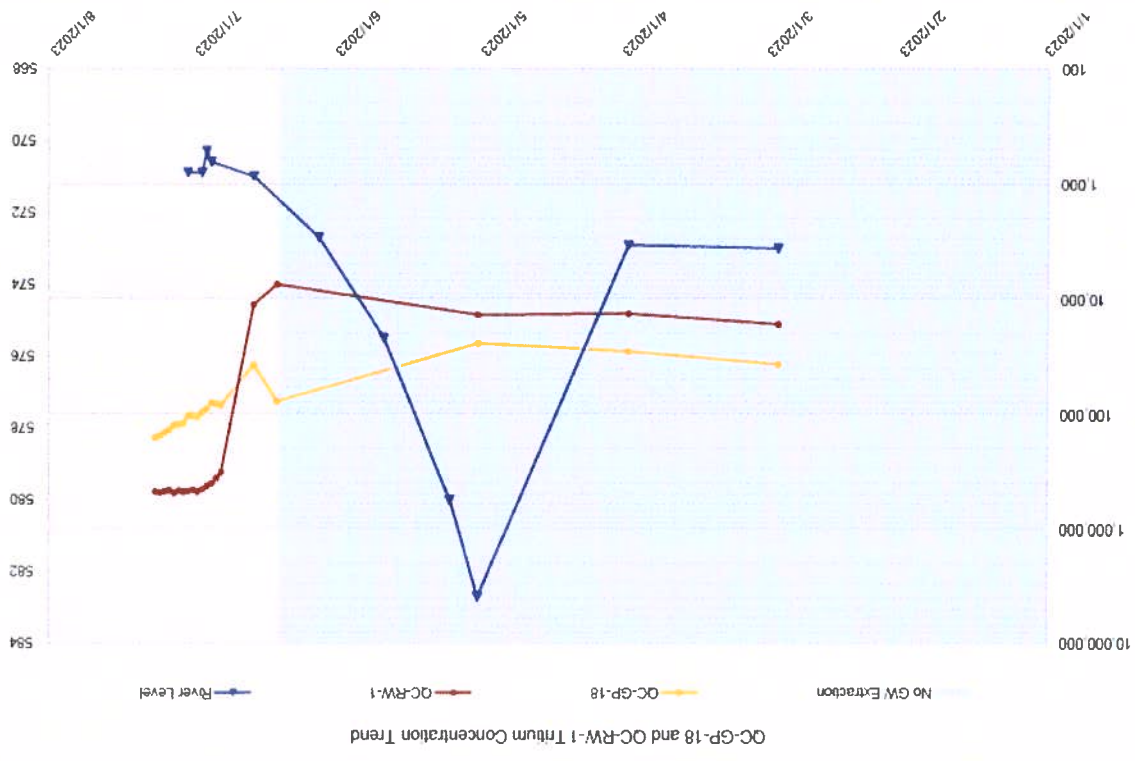
Address _____

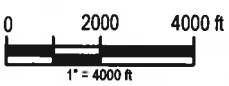
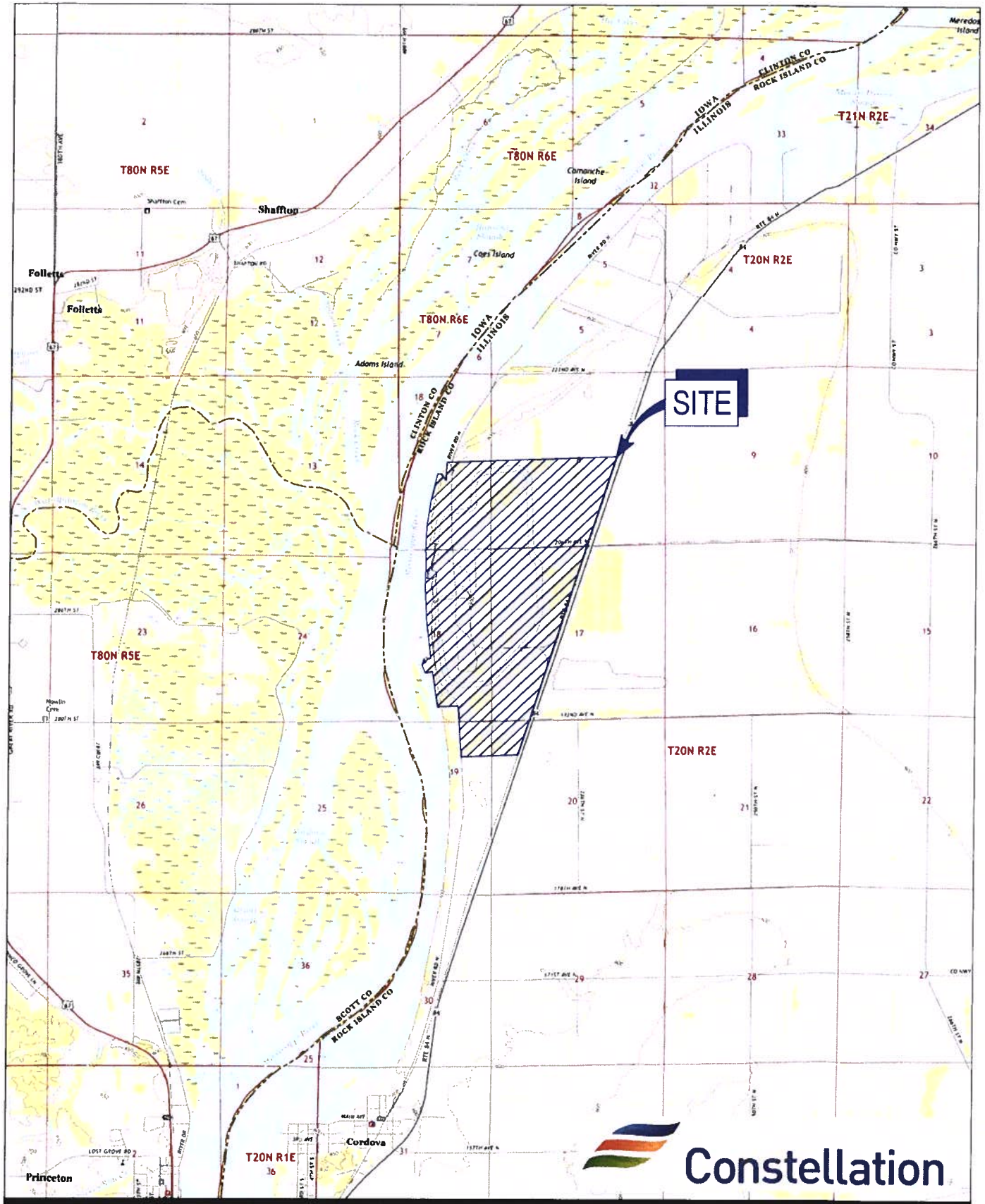
City, State, Zip _____

Telephone Number _____

Radwaste Vault Area Groundwater Sampling Results

Date / Time	QC-GP-18 Tritium pCi/L	QC-RW-1 Tritium pCi/L	MW-QC-3 Tritium pCi/L	MW-QC-103I Tritium pCi/L	QC-GP-1 Tritium pCi/L
6/14/23	78,100	7,510			
6/19/23	37,500	11,200			
6/26/23	84,100	323,000			
6/27/23	81,900	361,000			
6/28/23	80,400	401,000	2,280	<2,000	2,830
6/29/23	90,200	423,000	<2,000	<2,000	2,830
6/30/23	97,000	453,000	<2,000	<2,000	2,580
7/1/23	107,000	473,000			
7/2/23	104,000	457,000			
7/3/23	105,000	470,000	2,180	<2,000	2,650
7/4/23	121,000	475,000			
7/5/23	124,000	465,000			
7/6/23	126,000	482,000			
7/7/23	138,000	461,000			
7/8/23	146,000	470,000			
7/9/23	155,000	482,000			
7/10/23	161,000	473,000	3,980	<2,000	<2,000



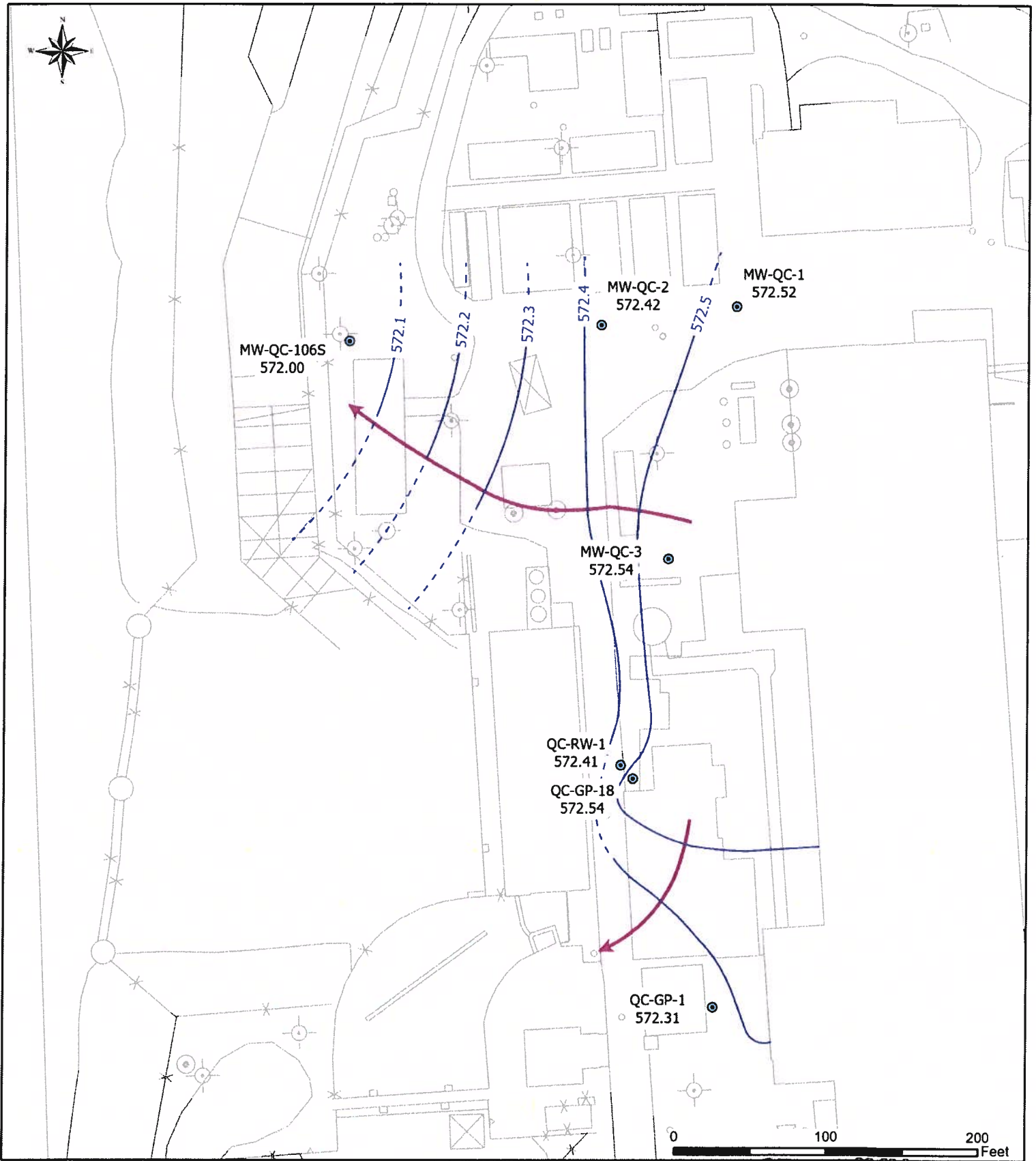


CONSTELLATION ENERGY GENERATION
 QUAD CITIES GENERATING STATION
 CORDOVA, ILLINOIS

Project No. 12572325
 Date October 2022

STATION LOCATION MAP

FIGURE 1.1



Explanation:

- 3rd Qtr. 2022 RGPP Shallow Aquifer Monitoring Location
- 3rd Qtr. 2022 RGPP Shallow Aquifer Groundwater Elevation Contours
- Groundwater Elevation Contour
- - - Inferred Groundwater Elevation Contour
- ➔ Estimated Groundwater Flow Direction

Figure 2a
 3rd Quarter 2022 (August) RGPP
 Groundwater Elevations and
 Groundwater Elevation Contours
 Shallow Aquifer - QC-GP-18 and QC-RW-1 Area
 Constellation Energy Corporation
 Quad Cities Generating Station