CCR COMPLIANCE
ASSESSMENT OF CORRECTIVE MEASURES
SOUTH SETTLING POND
HUNTLEY GENERATING STATION

Prepared for:

Huntley Power LLC
Huntley Generating Station
Tonawanda, New York

Prepared by:

Aptim Environmental & Infrastructure, LLC
St. Charles, Illinois

March 2021

Table of Contents

List of Tables

List of Figures

List of Appendices

List of Acronyms & Abbreviations

ACM	Assessment of Corrective Measures
APTIM	Aptim Environmental & Infrastructure, LLC
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
bgs	below ground surface
CCR	coal combustion residuals
CCR Rule or Rule	Disposal of Coal Combustion Residuals from Electric Utilities Final Rule
CFR	Code of Federal Regulations
COPC	constituent of potential concern
GWPS	groundwater protection standard (as defined in the CCR Rule)
GZA	GZA GeoEnvironmental of New York
Huntley	Huntley Power LLC
mg/L	milligrams per liter
MNA	Monitored Natural Attenuation
msl	mean sea level
MW	megawatt
NRG	NRG Energy, Inc.
NYSDEC	New York State Department of Environmental Conservation
pCi/L	picocuries per liter
Pond	South Settling Pond
PPE	personal protective equipment
PRB	Permeable Reactive Barrier
PVC	polyvinyl chloride
SPDES	State Pollutant Discharge Elimination System
SPLP	synthetic precipitation leaching procedure
SSL	statistically significant level (as defined in the CCR Rule)
Station	Huntley Generating Station

1.0 Introduction

Title 40 Code of Federal Regulations (CFR) mandates that existing Coal Combustion Residuals (CCR) landfills and surface impoundments, also known as CCR units, be subject to groundwater monitoring and corrective action requirements as further detailed in §257.91 through §257.98. These requirements are part of the overall CCR Rule (or Rule) which was published in the Federal Register on April 17, 2015, and became effective on October 19, 2015. The Huntley Generating Station's (Station) South Settling Pond (Pond), owned and maintained by Huntley Power LLC (Huntley), a subsidiary of NRG Energy, Inc. (NRG), is subject to the aforementioned groundwater monitoring and corrective action requirements. The Station ceased electric generating operations in February 2016, subsequent to the effective date of the Rule.

Specific obligations for groundwater Detection Monitoring and Assessment Monitoring are outlined in §257.94 and §257.95, respectively. The Pond was transitioned into the CCR Assessment Monitoring program in early-2018, and subsequent rounds of groundwater monitoring have since been conducted in May and October of 2018; January, May, and September of 2019; and March, April, and October of 2020. As documented in separate correspondence, October 2018 sampling results for downgradient well CCR-2 led to determination of arsenic being at a statistically significant level (SSL) above the corresponding Groundwater Protection Standard (GWPS). As required, an Assessment of Corrective Measures (ACM) was completed in August 2019 (Aptim Environmental & Infrastructure, LLC [APTIM]), with associated remedy selection currently pending.

More recently, the results from the March 2020 Assessment Monitoring event indicated concentrations of lithium in this same downgradient well CCR-2 to also represent an SSL above the corresponding GWPS. This determination triggered additional obligations pursuant to §257.95(g)(1-3) including providing notification that a groundwater protection standard had been exceeded, and performing necessary activities to characterize the nature and extent of the lithium impacts. In accordance with the Rule, the characterization activities must be sufficient to support a complete and accurate ACM to meet the requirements of §257.96, and further support the eventual selection of a remedy that meets the standards contained in §257.97(b)(1-5). Implementation of the selected remedy and determination of its successful completion must comply with the protocols specified in §257.98. Since the Pond is an unlined impoundment, the requirements of §257.101(a)(1) are also applicable, which mandate that placement of CCR and non-CCR materials and waste streams into the Pond must cease by April 11, 2021.

This report presents the results of the characterization activities with regard to field investigation of groundwater, surface water, and soils, and the ACM to satisfy the requirements of §257.96(a) and §257.96(c)(1-3). This report will be placed in the Huntley facility operating record per

§257.105(h)(10), noticed to the State Director per §257.106(h)(8), and posted to the publicly accessible website per §257.107(h)(8). A copy of this ACM will also be appended to the next annual CCR Groundwater Monitoring and Corrective Action Report (forthcoming by January 31, 2022) for the Huntley Station.

APTIM acknowledges that a portion of the Huntley Station referred to as the South Parcel (which encompasses the Pond) was enrolled in the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) in February 2019. As such, site characterization and potential remedy selection and implementation activities outside the governance of the CCR Rule are being performed on this portion of the Huntley property. As it potentially supports the ACM activities, relevant data from the ongoing BCP investigation has been referenced herein and will be further considered as part of the eventual CCR remedy selection process for the Pond.

As noted, the arsenic SSL in well CCR-2 necessitated the completion of the August 2019 ACM, specific to that constituent. The current ACM for lithium utilizes and builds upon the pertinent elements from the arsenic ACM, and is supplemented/enhanced by relevant and available data from the ongoing BCP investigation. Of similar note, it is again emphasized that ultimate remedy selection for the Pond will be a combined process to maintain compliance with the CCR Rule while also being cognizant of the requirements/objectives of the BCP and NYSDEC regulations. In the context of the CCR Rule, the current ACM has been developed to examine and incorporate technologies and remedial options that can possibly offer effective treatment/mitigation for both lithium and arsenic.

2.0 Facility Overview

2.1 Location and Setting

The Station is a former coal-fired power plant located in Tonawanda, New York, and is situated on a 93-acre tract located immediately north of Sheridan Drive, between River Road to the east and the Niagara River to the west. The 35-acre South Parcel (which includes the Pond), was historically used for coal staging, stormwater and process water management, and CCR management. At one time, the Erie Canal was located on the Station property adjacent to River Road. A right-of-way easement indicates that the historic Erie Canal traverses the site from north to south along the eastern site boundary. The former canal was completely backfilled with soil and fill materials to grade and is currently unrecognizable at the land surface.

Currently observable site features of the South Parcel include the following and are shown on Figure 1:

- Former Coal Pile (approximately 15 acres): The former electric power generation plant was fueled by coal which was stockpiled in the northwestern quadrant of the South Parcel. Following the cessation of electric generating operations, the coal has since been removed from the stockpile area. The perimeter of the former coal pile footprint is surrounded by a subsurface low-permeability slurry wall and drainage pumping system to prevent migration of leachate from the area within the slurry wall.

- South Settling Pond (approximately 3 acres): The Pond was constructed for control and capture/settling of CCR materials (principally ash) sluiced from the plant. The CCR materials were periodically dredged from the Pond and disposed of at Huntley's off-site ash landfill in Tonawanda, New York.

- Two Equalization Basins (approximately 3 acres): The two asphalt basins were constructed and used to manage stormwater and groundwater collected from the coal pile area. Water from the basins was conveyed to the on-site wastewater treatment plant prior to discharge to the Niagara River under a NYSDEC State Pollutant Discharge Elimination System (SPDES) permit.

- Soil Berm (approximately 1.7 acres): A berm is located along the eastern boundary of the site, oriented in the north-south direction. The berm was placed there to provide a visual barrier of the site from a nearby paved bike/walking trail that parallels River Road. The berm has two segments that are divided for site access in case of an emergency such as fire. The berm is grass covered and is approximately eight feet high.

  With NYSDEC's permission, the berm was constructed of soil with elevated levels of arsenic generated from excavation associated with a 2007 bag house construction at the Plant. The berm was covered with clean soil and seeded to form a complete grass cover per the Beneficial Use Determination issued by NYSDEC in 2007. The berm is located within the former Erie Canal right-of-way.

The remaining approximately 12 acres surrounding these features consists of site access roads and open vegetated covered space.

2.2 Generating Station Operating History

The Huntley Station was originally constructed in 1916 under the ownership of Buffalo General Electric Company. The Station was initially named River Station, but was renamed the Charles R. Huntley Station in 1926 upon the death of Buffalo General Electric Company's president. In 1929, the Huntley Station and all other generating stations serving Upstate New York joined together to form the Niagara Hudson Power Corporation. This corporation underwent internal reorganization in 1950 and became the Niagara Mohawk Power Company.

Upon opening in 1916, only the first 20-megawatt (MW) unit of several planned units was operational. However, additional units were added to the Station throughout its operational life. During World War II, the Station held the distinction of being the largest coal-fired generating facility in the world, and in 1958 the Station reached its maximum capacity of 1,150 MW. The capacity decreased in following years as several generating units were retired.

In the early 1980s, the Station was the host site for a prototype process to remove sulfur from the flue gas, with the end product being elemental sulfur. A wastewater treatment facility was constructed in 1984 that treated all coal pile runoff as well as boiler side washes before permitted discharge to the Niagara River. NRG acquired the facility in 1999 and in August 2015 submitted a plan to the New York Public Service Commission to retire the facility. The Station ceased operations on March 1, 2016.

2.3 Description of CCR Unit

The South Settling Pond was constructed to accept process water from the power plant that included CCR sluice water (associated with the bottom ash removal system) and other non-CCR water (derived from sumps, non-contact cooling water, stormwater, and other various sources). Based on a review of historical aerials and available facility design documents, the current configuration of the Pond dates back to approximately 1978. As of February 29, 2016, all CCR sluice water discharge into the Pond ceased as the power plant boilers were taken out of service. The Pond currently manages non-CCR streams including stormwater runoff and flows from various on-site sumps; however, these inflows will need to be terminated as of April 11, 2021 per the requirements of §257.101(a)(1).

There is an embankment located between the south end of the Pond and the Niagara River. The embankment includes an asphalt-paved access road over its top portion and riprap armor side slopes between the asphalt and the shorelines on both sides of the embankment. A corrugated metal pipe is present within the embankment that allows SPDES-permitted discharge from the

Pond (via Outfall 008) to the Niagara River. This corrugated metal pipe is oval shaped, with a pond-side invert elevation at approximately 569 feet mean sea level (msl) and a river-side invert elevation at approximately 568 feet msl. Although inflow rates varied based on operations, the surface water elevation within the Pond generally remained constant due to the invert elevation of the outlet pipe.

Dredging was completed roughly every 5 years during plant operations, or as necessary. The last comprehensive Pond dredging was completed in December 2008, whereupon approximately 20,000 cubic yards of material were removed and disposed at Huntley's CCR Landfill. In accordance with GZA GeoEnvironmental of New York's (GZA) Closure Plan (GZA, 2016), it is estimated that the maximum CCR inventory remaining at the bottom of the surface impoundment is 23,000 cubic yards. This represents material deposited between the last maintenance dredging in 2011 and the cessation of power plant operations in 2016.

2.4 South Parcel Known Environmental Conditions

2.4.1 Environmental Sampling

Ongoing groundwater sampling is performed at the South Parcel based on two regulatory programs:

- Coal Pile Groundwater Monitoring: Monitoring is performed as part of the SPDES requirements. Eight groundwater monitoring wells surrounding the former coal pile are sampled for eight specific metals and total dissolved solids.
- South Settling Pond CCR Rule Monitoring: Groundwater is sampled at four groundwater monitoring wells and analyzed for the CCR Appendix III and required Appendix IV constituents (discussed in Section 3.0).

In addition to groundwater sampling, limited site investigations have been completed to identify general environmental conditions. These programs and investigations have confirmed the following environmental conditions:

- Elevated levels of arsenic in the subsurface soils/fill materials, berm soils, and groundwater.
- Petroleum impacts in select areas of the former coal pile.
- Elevated levels of antimony, arsenic, boron, iron, lead, and manganese in wells sampled as part of the Coal Pile Monitoring Program.

2.4.2 South Parcel Enrollment in the Brownfield Cleanup Program

As previously mentioned, the Station's South Parcel was enrolled into the New York State BCP on February 22, 2019 by signing a Brownfield Cleanup Agreement (BCA) with the NYSDEC.

The purpose of the BCA is to proactively identify the nature and extent of potential environmental impacts (including those related to legacy operations) so that site remediation methods can be appropriately selected to restore the South Parcel to a condition suitable for redevelopment. A Remedial Investigation Work Plan, which outlines the proposed activities to characterize and investigate the South Parcel was finalized and submitted to the NYSDEC in July 2020. Actual field investigation activities commenced in October 2020, and will support preparation of a Remedial Investigation Summary Report targeted for submittal to NYSDEC in May 2021.

While the BCA is intended to address the entire South Parcel, this ACM report focuses only on total lithium impacts in groundwater associated with the Pond, pursuant to CCR Rule requirements. The Remedial Investigation Summary Report to support the BCA will not be complete by the time of the regulatory deadline for this ACM (March 9, 2021). However, and as previously noted, the relevant results of the investigation have been factored into this ACM and will be further considered during the CCR remedy selection process so that a cohesive and responsive remedial management strategy is developed across both programs.

3.0 CCR Groundwater Sampling

3.1 Sampling Network

The originally established CCR groundwater monitoring network for the Pond is comprised of four wells, including well CCR-3 (upgradient) and wells A-2, CCR-1, and CCR-2 (downgradient). These well locations are shown on Figure 2. Wells CCR-1, CCR-2, and CCR-3 were installed in September 2015 to directly support groundwater monitoring under the CCR Rule. Existing well A-2 (installed in September 1983) was also selected to become part of the CCR groundwater monitoring network due to its downgradient position. The depth to groundwater in the uppermost aquifer is generally 10 to 15 feet below ground surface (bgs). The ground surface elevations in and around the area of the Pond range between approximately 575 and 580 feet msl. Installation details and boring logs for the wells are contained in Appendix A.1, with pertinent information summarized below.

Table 3.1-1: South Settling Pond—CCR Groundwater Monitoring Network Details

Monitoring Well No.	Hydraulic Position	Casing Diameter (inches/material)	Ground Surface Elevation (feet msl)	Top of PVC Casing Elevation (feet msl)	Well Total Depth (feet bgs)	Top/Bottom Elevations of Screened Interval (feet msl)
CCR-3	Upgradient	2-inch polyvinyl chloride (PVC)	578.80	581.86	17.0	566.80 / 561.80
A-2	Downgradient	1.5-inch PVC	575.59	578.70	64.1	516.29 / 511.49
CCR-1	Downgradient	2-inch PVC	573.67	576.05	15.7	562.97 / 557.97
CCR-2	Downgradient	2-inch PVC	574.94	577.01	17.5	562.44 / 557.44

3.2 Detection/Assessment Monitoring

As part of the routine CCR groundwater monitoring program, sampling data from the first round of Detection Monitoring (conducted in October 2017) were reviewed, and a subsequent determination made in January 2018 that each of the downgradient wells showed one or more Appendix III constituents at levels representing a statistically significant increase above corresponding background concentrations.

Accordingly, the Pond was transitioned into the CCR Assessment Monitoring Program in early-2018, wherein it has since remained. Required semiannual sampling events have subsequently been conducted throughout 2018, 2019, and 2020, with the previously noted SSL for arsenic (October 2018 monitoring event) arsenic resulting in preparation of the August 2019 ACM. As shown in Table 3.2-1, data from the more recent March 2020 monitoring event preliminarily

indicated lithium at a concentration [0.189 milligrams per liter (mg/L)] above the site-specific GWPS in downgradient well CCR-2 (the same well showing the confirmed arsenic SSL). The GWPS for lithium specific to the Pond is 0.05 mg/L, representing the statistically calculated background value in upgradient well CCR-3.

Table 3.2-1: CCR Assessment Monitoring Results
March 2020 Sampling Event

Parameter	Concentration (mg/L) unless noted			
	A-2	CCR-1	CCR-2	CCR-3
Appendix III				
pH (SU)	6.95	7.95	8.03	6.99
Boron	0.57	0.21	4.64	1.49
Calcium	602	87	110	451
Chloride	91	202	32	236
Fluoride	< 0.20	< 0.20	0.39	< 0.20
Total Dissolved Solids	2420	650	480	2590
Sulfate	1460	115	102	894
Appendix IV				
Antimony	< 0.0004	0.0007	< 0.0004	< 0.0004
Arsenic	0.006	0.007	0.030	< 0.005
Barium	0.04	0.16	0.07	0.06
Beryllium	< 0.005	< 0.005	< 0.005	< 0.005
Cadmium	< 0.001	< 0.001	< 0.001	< 0.001
Chromium	< 0.005	< 0.005	< 0.005	< 0.005
Cobalt	< 0.050	< 0.050	< 0.050	< 0.050
Fluoride	< 0.20	< 0.20	0.39	< 0.20
Lead	< 0.005	< 0.005	< 0.005	< 0.005
Lithium	< 0.05	< 0.05	0.189	< 0.05
Mercury	< 0.0000005	0.0000010	0.0000013	0.0000026
Molybdenum	< 0.010	< 0.010	<0.010	< 0.010
Selenium	< 0.005	< 0.005	< 0.005	< 0.005
Thallium	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Radium 226 + 228 (pCi/L)	1.19	0.93	0.55	0.65

3.3 Determination of Statistically Significant Levels Above Groundwater Protection Standards

The results from the March 2020 Assessment Monitoring event were further reviewed, and in July 2020, a determination was made that the lithium concentration in well CCR-2 did represent a SSL above the corresponding site-specific GWPS. Subsequent to this determination and in compliance with the CCR Rule, appropriate notification was made to the State Director that an SSL for lithium had been identified, with additional activities to be conducted as required. Further discussion of these activities is provided in Section 4.0.

4.0 Initial Actions Undertaken Following Determination of SSL

4.1 Notifications to State

In July 2020 and per the requirements of §257.106(h)(6), NRG notified the Division of Materials Management Director of the NYSDEC that the facility had identified an SSL. This notification was also placed into the facility operating record per §257.105(h)(8), and posted to the publicly accessible website per §257.107(h)(6). In October 2020, and in accordance with the specific provisions of §257.95(g)(5) and the associated requirements of §257.106(h)(7), NRG notified the Division of Materials Management Director of the NYSDEC that an ACM was being initiated. This notification was also placed into the operating record per §257.105(h)(9) and posted to the publicly accessible website in accordance with the requirements of §257.107(h)(7). Copies of the respective SSL and ACM Notifications to the State Director are provided in Appendix B.

4.2 Timeline Extension

Pursuant to §257.96(a), the ACM must be initiated within 90 days from determining that a GWPS has been exceeded, and then must be completed within 90 days from initiation unless additional time is needed. Because of the parallel timing considerations between the ACM and the BCA field investigation (both commencing in October 2020) and the desire to gather/review data from the BCA activities, APTIM's professional engineer certified that a 60-day extension was appropriate for completing the ACM. Based on the certification prepared on November 4, 2020, the ACM's required completion date was extended to March 9, 2021, and thus providing the additional time necessary to obtain and incorporate the relevant data from the BCA field efforts. A copy of the certification is provided in Appendix C.

5.0 Surface and Subsurface Evaluation

5.1 Historical Information and Features Review

The Huntley Station was in operation for approximately 100 years. Modifications to the South Parcel landscape were made during its operation that obviously affected near-surface and subsurface conditions. Although known to have occurred, many of these modifications are not well documented. A brief overview of this aspect is provided in the sections below based on limited available historical records and discussions with NRG personnel.

5.1.1 Historical Uncontrolled Fill

Historical uncontrolled (also known as random) fill was placed to raise the elevation of the site above the Niagara River to prevent against flooding and to provide a stable working surface for operations. The fill was comprised of many material types and was placed on top of native soils, and assumedly varies in thickness, age, and composition across the site. The South Settling Pond is founded within this uncontrolled fill.

5.1.2 Erie Canal

At one time, the Erie Canal was located on the Station property adjacent to River Road. A right-of-way easement indicates that the historic Erie Canal traverses the site from north to south along the eastern site boundary. The former canal was completely backfilled with soil and fill materials to grade and is currently unrecognizable at the land surface. Based on a review of available historic photographs of the site, it is estimated that the canal was backfilled in the late 1930s or 1940s. It is possible that the fill within the former Erie Canal is different than the uncontrolled fill used elsewhere within the South Parcel.

5.1.3 Coal Pile Slurry Wall

In 1984, a hydraulic control system was installed around and within the coal pile. The system included a subsurface earthen slurry wall and dewatering pumping stations to manage impacted groundwater.

5.1.4 Soil Berm

A berm is located along the eastern boundary of the South Parcel, oriented in the north-south direction. The berm was constructed to provide a visual barrier of the site from a nearby paved bike/walking trail that parallels River Road. The berm is grass covered and is approximately 8 feet high, and is divided into two segments by an access road.

With NYSDEC's permission, the berm was constructed utilizing soil with elevated levels of arsenic that were generated from excavation activities associated with a 2007 bag house

construction project at the power plant. The berm was covered with clean soil and seeded to form a complete grass cover pursuant to the Beneficial Use Determination issued by NYSDEC in 2007.

5.2 Review of Previous Field Investigations

5.2.1 Pond Embankment Evaluation

Previous investigations of the subsurface have been completed at the site, including one in 2014/2015 performed by GZA and documented in the "Pond Embankment Evaluation" report (GZA, 2015). This investigation was completed prior to the promulgation of the CCR Rule, but is included as part of the initial hazard assessment documentation for the Pond (posted to the public website), prepared in support of the requirements in §257.73 of the Rule.

Based on several borings installed in the embankment near the discharge of the Pond, the overburden conditions in this area are summarized in GZA's report as follows:

- Overburden Fill: The fill thickness varied between 10 and 12 feet. The materials were visually described as varying between sand, gravel, and slag in the upper portions of the fill to silt and fine sand in the lower portions. Lesser amounts of brick, metal, and wood fragments were observed throughout the fill material. The fill samples were predominantly coarse-grained and non-plastic and generally observed with relative densities ranging from very loose to very dense.
- Silt and Fine Sand: The silt and fine sand soil was 10 to 12 feet in depth below the fill layer. The recovered samples were described as generally a grey to dark grey silt and fine sand soil with relative densities ranging from very loose to loose.
- Sand: A sand layer including very fine to coarse sand was observed at depths ranging from about 17.5 to 19 feet bgs and its presence continued to the end of each boring. These sands were observed with trace amounts of silt and rounded gravel with relative densities ranging from very loose to dense.

5.2.2 2019 Subsurface Field Investigation

During June 2019 and in support of the previously completed arsenic ACM, seven soil borings were advanced throughout the South Parcel (including locations both upgradient and downgradient of the Pond) to depths ranging between 16 and 20 feet. Borings were advanced using a rotary drill rig and were sampled with a 2-foot split-spoon. Hollow-stem augers with 4.25-inch inner diameters were used in conjunction with the split-spoon samplers to reduce cave-in of loose soil and fill during sampling and to facilitate construction of groundwater monitoring wells.

Five of the borings encountered water-bearing units and were converted into permanent groundwater monitoring wells, designated as wells CCR-7, CCR-8, CCR-9, CCR-10, and CCR-11. The remaining two borings (CCR-12 and CCR-13), both of which were advanced hydraulically upgradient of the Pond, exhibited confining units and did not produce water

appropriate to support well development. The new monitoring wells intersect the groundwater table, and are constructed of 2-inch diameter, Schedule 40 PVC, with 5 feet of 0.010-slot PVC screen. The approximate locations of the borings and monitoring wells are shown on Figure 2. The boring logs and well construction details are provided in Appendix A.2.

Field logs indicate that the subsurface at six of the seven borings is predominantly fill. Location CCR-12 is the only boring that did not contain fill, and is situated on the upgradient (northeastern) side of the Pond. At each of the six boring locations with fill, portions of the fill were described to either be comprised of fly ash or contain ash or trace coal. This finding indicates that coal and/or CCR material is located outside of the boundary of the Pond and in areas spread across the South Parcel. A summary of the details and observations made during the advancement of the soil borings and installation of the monitoring wells is provided below in Table 5.2-1.

Table 5.2-1: Boring/Monitoring Well Summary—June 2019 Investigation

Boring/ Monitoring Well	Depth	Screened Interval	Fill Observations (See Boring Logs for Complete Description)
CCR-7	18	10-15'	Fly Ash Fill from 0-18' depth
CCR-8	16	10-15'	Sandy Silt Fill from 0-8'; Fly Ash Fill from 8-16' depth
CCR-9	16	10-15'	Fly Ash Fill with Sand from 0-14'; Poorly Graded Sand 14-16' depth
CCR-10	16	10-15'	Silty Sand Fill with Trace Coal 0-8' depth; Fly Ash Fill from 8-14' depth; Silty Sand 1-16' depth
CCR-11	16	10-15'	Silty Sand Fill with Trace Coal 0-12' depth; Silty Sand 12-16' depth
CCR-12	20	Not converted (no water-bearing unit)	Silty Clay 0-20' depth
CCR-13	20	Not converted (no water-bearing unit)	Silty Sand with Fly Ash Fill 0-8' depth; Silty Clay Fill 8-10' depth, Silty Clay 10-20' depth

Groundwater elevations were recorded at all newly installed groundwater monitoring wells and existing CCR wells. This information was then used to develop a potentiometric map to depict the groundwater flow direction. As shown on Figure 3, groundwater generally flows from northeast to southwest toward the Niagara River.

5.3 2020 BCA Field Investigation

During the BCA investigation and as acknowledged by NYSDEC, various groundwater, surface water, and soil/sediment sampling locations were additionally sampled for lithium to assist in the development and preparation of this ACM. Sampling was generally conducted during October and November of 2020. As shown on Figure 4, groundwater sampling locations included existing

monitoring wells A-2, CCR-1, CCR-2, CCR-3, CCR-7, CCR-8, CCR-9, CCR-10, and CCR-11. Surface water sampling locations within the Pond included SW-1 through SW-4, also as shown on Figure 4. As depicted on Figure 5, soil sampling included probe locations SP-2, SP-4, SP-5, SP-6, SP-7, and test pit locations TP-14 through TP-25. Sediment samples were additionally collected from the Pond at locations designated as SED-1 through SED-4 (See Figure 5).

The groundwater sampling results provided below in Table 5.3-1 indicate that total lithium was reported in well CCR-2 at a concentration (0.125 mg/L) again exceeding the CCR GWPS and commensurate with the March 2020 sampling event. Additionally, total lithium was measured at elevated levels in downgradient wells CCR-7 (0.1994 mg/L), CCR-8 (0.2261 mg/L), CCR-9 (0.1110 mg/L), and CCR-10 (0.1188 mg/L). Wells CCR-7 and CCR-8 are located closer to the Pond and upgradient of wells CCR-2, CCR-9, and CCR-10, and have total lithium concentrations nearly doubling those at wells CCR-2, CCR-9, and CCR-10. This observation would tend to indicate that wells CCR-7 and CCR-8 are closer to the likely source for the lithium impacts, with further suggestion of a groundwater plume oriented in the southwesterly direction.

Table 5.3-1: Summary of Groundwater Analytical Results—2020 Investigation

Parameter	Sample Location								
	A-2	CCR-1	CCR-2	CCR-3	CCR-7	CCR-8	CCR-9	CCR-10	CCR-11
Lithium, Total (mg/L)	<0.05	0.0092	0.125	0.0134	0.1994	0.2261	0.1110	0.1188	0.0402

Surface water sampling results provided below in table 5.3-2 indicate lithium is present in the Pond, but at levels approximately an order of magnitude lower than in the downgradient groundwater. These concentrations, however, are on par with the groundwater in upgradient well CCR-3.

Table 5.3-2: Summary of Surface Water Analytical Results—2020 Investigation

Parameter	Sample Location			
	SW-1	SW-2	SW-3	SW-4
Lithium, Total (mg/L)	0.0138	0.0118	0.0114	0.0116

Soil sampling results provided below in Table 5.3-3 show sporadic detections and non-detections in areas upgradient, sidegradient, and downgradient of the Pond, at depths typically less than 20 feet bgs. It is postulated that the lithium concentrations in the soil are most likely associated with historical on-site fill activities.

Table 5.3-3: Summary of Soil Analytical Results—2020 Investigation									
Parameter	Sample Location and Depth (ft bgs)								
	SP-2 (15-20)	SP-4 (4-20)	SP-5 (16-32)	SP-6 (0.5-6)	SP-7 (4-14)	TP-14 (2-8)	TP-15 (1-11)	TP-16 (16-18)	TP-17 (6-6.5)
Lithium (mg/kg)	64.7	49.3	ND	19.5	28.9	27.6	25.3	ND	ND

Parameter	TP-18 (0.5-2)	TP-19 (6-8)	TP-20 (1-9)	TP-21 (15-18)	TP-22 (0.5-1.5)	TP-23 (4-10)	TP-24 (5-8)	TP-25 (3.5-7)
Lithium (mg/kg)	14.1	ND	23.5	ND	26.3	13.4	22.1	12.7

Sediment sampling results provided below in Table 5.3-4 indicate that the Pond sediments do not contain appreciable levels of lithium. The sediment samples were also subjected to evaluation via the Synthetic Precipitation Leaching Procedure (SPLP), which indicated lithium not to maintain a strong propensity for leaching under the testing conditions employed.

Table 5.3-4: Summary Sediment Analytical Results—2020 Investigation				
Parameter	Sample Location			
	SED-1	SED-2	SED-3	SED-4
Lithium (mg/kg)	<19.7	<26.5	<33.1	<27.5
Lithium, SPLP (mg/L)	<0.11	<0.11	<0.11	<0.11

With specific regard to groundwater and in consideration of the above, the widest potential extent of a lithium plume adjacent to the Niagara River is estimated at approximately 525 feet. From Figure 4, this width represents the distance between the existing slurry wall (associated with the former coal pile) adjacent to well CCR-10, and well CCR-11 which did not contain lithium at levels exceeding the CCR GWPS. It is noted that the widest potential extent of the predicted lithium plume would encompass the entire width of the arsenic plume (estimated at approximately 300 feet) cited in the August 2019 ACM.

5.4 Summary

From collective review of the information presented in Sections 5.1, 5.2, and 5.3, the following conclusions are noted:

1. CCR (fly ash) has been used as a fill material across much of the site and is present outside the limits of the Pond, as documented by boring logs and historic information.

2. Lithium is present in groundwater samples downgradient of the Pond, as represented by wells CCR-2, CCR-7, CCR-8, CCR-9, and CCR-10. The predicted existence of a lithium plume is generally bounded by well CCR-11 and the former coal pile slurry wall on the downgradient side adjacent to the Niagara River.

3. Lithium is present in the soils upgradient, sidegradient, and downgradient of the Pond and likely associated with historical on-site fill activities.

4. Lithium was not detected in any of the sediment samples collected from the Pond.

6.0 Characterization of Nature and Extent of Release

6.1 Overview

Groundwater near the Pond is monitored by a network consisting of four wells, including well CCR-3 (upgradient), and wells A-2, CCR-1, and CCR-2 (downgradient). This network is designed to provide early detection of possible releases to groundwater. The Pond was transitioned into the CCR Assessment Monitoring Program in March 2018 following the review of results from the October 2017 Detection Monitoring event. Since then, multiple rounds of Assessment Monitoring have been conducted, and the results for CCR Appendix IV constituents subjected to review and comparison against GWPSs established specific for the Pond. Results from the March 2020 Assessment Monitoring event revealed the presence of lithium at a concentration above the corresponding GWPS (0.05 mg/L) in downgradient well CCR-2. This finding was ultimately deemed as an SSL (July 2020 NYSDEC Notification), and thus triggered the CCR Rule obligation for investigation and assessment of potential corrective measures.

As documented herein, information/data derived from investigations completed in May/June 2019 (associated with the arsenic ACM) and October/November 2020 (associated with the BCA work) has been utilized in the preparation of this current ACM. Accordingly, groundwater impacts from lithium have been observed in downgradient monitoring wells CCR-2, CCR-7, CCR-8, CCR-9, and CCR-10. The impacts have been laterally characterized to the northeast by upgradient monitoring well CCR-3; to the southeast by wells CCR-1 and CCR-11; and to the west-northwest by the slurry wall limits around the former coal pile. Groundwater flow in areas proximate to the Pond is generally from northeast to southwest in the direction of the Niagara River.

6.2 Potential Risks to Human Health & Environment

Constituents of potential concern (COPC) found in groundwater include those CCR Appendix IV constituents that exceed health-based guidelines (Maximum Contaminant Levels, Regional Risk-Based Screening Levels, or site-specific background levels) as established per the provisions of the CCR Rule. For the Pond and in the context of the CCR Rule, those constituents are presently limited to lithium and arsenic.

6.2.1 Exposure Pathways

In order for COPCs to pose a risk to human health or the environment, complete exposure pathways must exist whereby receptors regularly come into contact with elevated concentrations of the COPCs. Potential exposure pathways include:

- Ingestion of impacted groundwater through wells
- Release of impacted groundwater to Niagara River surface water

Groundwater Ingestion. There are no potable water wells located on the Huntley Station property. The site resides within an area that has been used exclusively for industrial purposes for nearly the past 100 years, and the facility receives water from the Town of Tonawanda. Ingestion of impacted groundwater is, therefore, not a complete exposure pathway for receptors.

Niagara River. Impacted groundwater has been observed downgradient from the Pond at concentrations exceeding the total lithium GWPS in well CCR-2. Well CCR-2 is located approximately 50 feet from the Niagara River, and essentially on the Huntley Station property boundary. Groundwater data have not been collected between well CCR-2 and the Niagara River to affirm/negate the presence of lithium in this reach.

It is noted that while this exposure pathway may be considered potentially viable based on groundwater flow direction toward the Niagara River, the large degree of mixing and assimilative capacity of the Niagara River is very likely to result in total lithium concentrations that remain protective with regard to possible human and ecological receptors.

6.2.2 Comparison to CCR GWPS

Environmental samples were collected from groundwater and surface water as part of the 2020 BCA Investigation. A comparison of the analytical results generated during the investigation to the lithium GWPS is presented below.

Groundwater

Lithium results for groundwater samples collected from existing monitoring wells during the 2020 investigation are summarized in Table 6.2.2-1.

Table 6.2.2-1: Summary of Lithium Results in Groundwater—2020 Investigation

Well	Well Description	Analysis	Result (mg/L)	Groundwater Protection Standard[1] (mg/L)
A-2	Downgradient	Total Lithium	<0.05	0.05
CCR-1	Downgradient	Total Lithium	0.0092	0.05
CCR-2	Downgradient	Total Lithium	**0.125**	0.05
CCR-3	Upgradient	Total Lithium	0.0134	0.05
CCR-7	Downgradient	Total Lithium	**0.1994**	0.05
CCR-8	Downgradient	Total Lithium	**0.2261**	0.05
CCR-9	Downgradient	Total Lithium	**0.1110**	0.05
CCR-10	Downgradient	Total Lithium	**0.1188**	0.05
CCR-11	Downgradient	Total Lithium	0.0402	0.05

[1] Groundwater Protection Standard for lithium was derived through statistical evaluation of samples collected from upgradient well CCR-3.

As shown, total lithium was reported at concentrations exceeding the GWPS in five of the nine wells sampled. Total lithium was reported in well CCR-2 at a similar concentration (0.125 mg/L) to what was reported in March 2020 (0.189 mg/L), with both values representing an exceedance of the GWPS. Well CCR-11, situated approximately 300 feet east-southeast of well CCR-2 and screened within a similar interval, showed lithium levels below the GWPS. The lithium impacts in CCR-2 are laterally characterized to the west-northwest by the former coal pile slurry wall. Wells CCR-7, CCR-8, CCR-9, and CCR-10 (downgradient of the Pond) each showed total lithium concentrations above the GWPS.

Surface Water

Four surface water samples were collected for laboratory analysis of total lithium, with the results summarized in Table 6.2.2-2. As a point of comparison, no concentrations were reported at or above the GWPS.

Table 6.2.2-2: Summary of Lithium Results in Surface Water—2020 Investigation

Location	Analysis	Result (mg/L)	Groundwater Protection Standard[1] (mg/L)
SW-1	Total Lithium	0.0138	0.05
SW-2	Total Lithium	0.0118	0.05
SW-3	Total Lithium	0.0114	0.05
SW-4	Total Lithium	0.0116	0.05

[1] Groundwater Protection Standard for lithium was derived through statistical evaluation of samples collected from upgradient Well CCR-3.

7.0 Corrective Measures Assessment

7.1 Overview

The principal objective of this ACM is to identify potentially applicable and feasible remedial approaches to prevent an off-site release of lithium from the facility. Each potential corrective measure is evaluated in this section on the following criteria, in accordance with §257.96(c):

1. The performance, reliability, ease of implementation, and potential impacts of appropriate potential remedies, including safety impacts, cross-media impacts, and control of exposure to any residual contamination;

2. The time required to begin and complete the remedy; and

3. The institutional requirements, such as state or local permit requirements or other environmental or public health requirements that may substantially affect implementation of the remedy(s).

The corrective measures presented below in Sections 7.2 and 7.3 include methods to prevent future releases and to ensure that the current plume is either captured and removed or immobilized to prevent off-site migration. These include the following:

1. Source Control:

    a. Closure in Place: Install a low-permeability, synthetic cap that is graded to prevent ponding water to reduce infiltration of surface water to groundwater, thereby isolating the CCR material.

    b. Closure by Removal: Remove the remaining volume of CCR materials from the Pond.

2. Off-Site Migration Prevention:

    a. Monitored Natural Attenuation (MNA)

    b. Groundwater Extraction and Treatment

    c. Impermeable Barrier (Slurry Wall) Coupled with Upgradient Water Capture and Treatment

    d. Permeable Reactive Barrier (PRB)

    e. In-Situ Injection of a Reactive Compound

7.2 Source Control Corrective Measures

Source control measures would be implemented to prevent the further release of lithium from the Pond. It is noted, however, that these methods alone will not address the current lithium plume and should, therefore, be used in conjunction with the additional methods of plume management discussed in Section 7.3.

Per §257.102(a), a CCR surface impoundment must be closed either by leaving the CCR in place and installing a final cover system or through removal of the CCR and decontamination of the CCR unit. These methods are both identified as appropriate source control measures. Closure must be completed within 5 years of ceasing operations, in accordance with §257.102(f)(1)(ii), with a maximum time extension of 2 years (for impoundments less than 40 acres in size) per §257.102(f)(2)(ii).

7.2.1 Closure in Place

Overview

The existing Closure Plan (GZA, 2016) for the Pond calls for closure in place. The intent of in-place closure is to reduce the amount of precipitation and surface waters infiltrating into the unit, thereby reducing the amount of leachate created that could potentially impact site groundwater. The existing Closure Plan identifies a final cover that meets all requirements of the CCR Rule and the NYSDEC. The final cover includes:

- Eighteen inches of earthen material with a permeability no greater than $1x10^{-5}$ centimeters per second, and
- Six inches of vegetated topsoil.

If this remedy were selected, modifications to the current final cover design would be contemplated to enhance performance, including:

- Increasing the thickness of the earthen layers to decrease infiltration rates
- Specifying lower permeabilities to decrease infiltration rates
- Incorporating geosynthetics as an additional barrier layer, such as polyethylene geomembranes (high density polyethylene or linear low density polyethylene) or geosynthetic clay liners.

The most significant feature of closure-in-place involves the regrading of the unit to prevent standing water. For this surface impoundment, it is likely that clean structural fill will be imported from off site and placed in the Pond until positive drainage is achieved. This regrading will eliminate surface water contact with the CCR and shed the water to other areas of the site.

Once the final cover is installed, post-closure care activities will be required including groundwater monitoring, maintenance, and inspections until groundwater conditions meet the regulatory requirements with no exceedances of the applicable CCR GWPSs.

Performance

The placement of clean fill within the Pond will direct rain and surface water away from the CCR, which will be buried at depth. Installing the low-permeability final cover across the Pond will reduce infiltration in this area. This method is likely to decrease or eliminate future impacts from the CCR within the Pond. Design modifications such as the incorporation of geosynthetics are likely to increase the performance and effectiveness of the remedy.

Reliability

Once installed, the capped and closed area is a passive system that will minimize contact with the buried CCR. While it will not be actively managed, the final cover will require post-closure inspections and routine maintenance including mowing and erosion control to ensure that it continues to meet design specifications.

Ease of Implementation

A Closure Plan has already been developed that details closure-in-place. As such, major design considerations, timelines, and implementation strategies have already been vetted. Prior to commencing closure construction, permit-level design drawings, technical specifications, and quality assurance/quality control plan documents would need to be finalized.

Standard construction methods will be employed to construct the final cover, using readily available equipment. Implementation of this remedy is deemed relatively easy.

Safety Impact

This alternative will provide a low safety impact to the site workers, as CCR will not be removed, minimizing exposure. All construction activities will be completed in a safe manner and site workers will use the appropriate personal protective equipment (PPE).

Cross-Media Impacts

The existing Closure Plan specifies that the Pond and CCR should be dewatered prior to the placement of fill. As a precaution against cross-media impact, surface water and/or sediment sampling should be considered to determine appropriate water management methods as it is extracted. It is noted that lithium was present (at concentrations below the corresponding CCR GWPS) in the surface water samples collected during the 2020 BCA investigation. No other impacts to site soils, groundwater, ambient air, or the Niagara River are likely during or after cap installation.

Control of Exposure to Residual Contamination

Due to the CCR burial-in-place utilized in this method, exposure to residual contamination is unlikely.

Time Required to Initiate and Complete

This alternative can be implemented during one construction season once final design and construction documents are completed.

Institutional Requirements

The design and construction of a cap will require notification to NYSDEC, documentation of construction activities, and posting of documentation as required by the CCR Rule.

7.2.2 Closure by Removal

Overview

Closure by removal would include the removal of all CCR material from the Pond. This closure method would provide the greatest environmental protection due to the fact that no CCR material would remain within the Pond. The material would be disposed of at Huntley's CCR Landfill in Tonawanda, New York. The resulting area after excavation could remain as open water or be regraded at the discretion of the owner.

Once the CCR is removed, post-closure care activities will be required including groundwater monitoring, maintenance, and inspections until groundwater conditions meet the regulatory requirements with no exceedances of the applicable CCR GWPSs.

Performance

Closure by removal would remove all potential for future CCR-caused groundwater impacts from the Pond.

Reliability

The method provides high reliability because future groundwater impacts stemming from CCR cannot occur without source material.

Ease of Implementation

The existing Closure Plan would be required to be updated to include closure by removal. Major design considerations, timelines, and implementation strategies would need to be updated and certified by a professional engineer licensed in the State of New York. The closure plan would need to be posted to NRG's publicly accessible website.

Closure construction activities would require long-arm excavators or other appropriate dredging equipment. Construction would be fairly easy to implement.

Safety Impact

This alternative would provide a moderate safety risk to site workers. Site workers would be exposed to CCR material, and there would be an increased chance for a material release due to excavation activities. All construction activities would be completed in a safe manner and site workers will use appropriate PPE.

Cross-Media Impacts

Cross-media impacts are unlikely. In the event that dewatered CCR becomes too dry, it may become airborne. No other additional impacts to site soils, groundwater, ambient air, or the Niagara River are expected during or after CCR removal.

Control of Exposure to Residual Contamination

Closure by removal is intended to remove the CCR source materials, and thus exposure to residual contamination will essentially be eliminated.

Time Required to Initiate and Complete

It is assumed that preparation of an updated Closure Plan and associated design and construction documents can be completed within six months. Closure by removal can be completed in one construction season.

Institutional Requirements

This remedy will require notification to NYSDEC, documentation of construction activities, and posting of documentation as required by the CCR Rule.

7.3 Off-Site Migration Prevention

This section evaluates methods to prevent lithium from moving off site. It is recognized that the plume has been detected within approximately 50 feet of the Niagara River in well CCR-2. Potential methods for preventing off-site migration generally involve immobilization of lithium or treatment of captured groundwater to remove the lithium.

7.3.1 Monitored Natural Attenuation

Overview

MNA relies on natural processes to sequester contaminants of concern in soil and groundwater, including:

- Microbial biodegradation: microbial action that breaks down a contaminant into a different and safe chemical makeup
- Sorption: adherence of a contaminant in soils, rendering it immobile
- Dilution: concentrations are diluted to safe levels

- Evaporation: phase changes from liquids to gases
- Chemical reactions: reactions with natural substances in the soil may convert contaminants into less harmful forms
- Other: dispersion, volatilization, radioactive decay, chemical or biological stabilization, transformation

In the appropriate setting, MNA can be a preferred remedy due to its limited disturbance, low cost of implementation, and lack of required ongoing maintenance. MNA is selected when any contaminant source has been removed and only low concentrations of contaminants remain in soil or groundwater. Additionally, MNA can work well when there are relatively long flow paths prior to reaching a receptor. Groundwater quality is monitored while natural attenuation occurs to determine treatment effectiveness.

It is noted that lithium is an inorganic constituent. Because inorganic constituents typically do not degrade, some of the above listed natural attenuation processes are not effective. Methods that are successful in controlling the mobility of subsurface lithium include sorption, precipitation, and dissolution processes that are related to redox reactions with iron and sulfur species within the soil.

Performance

The performance of MNA is dependent on the concentration of contaminants and the ability of a substance to degrade over a long flow path. Due to the proximity of the plume to the Niagara River, it is unlikely that sorption, precipitation, and dissolution processes can successfully manage the lithium plume within such a short flow path.

Reliability

While MNA can be a reliable method of reducing contaminants in many situations, it is unlikely that natural processes will be able to reduce the contaminant plume to acceptable concentrations over the short flow path to the Niagara River. Therefore, MNA is considered unreliable in this circumstance.

Ease of Implementation

MNA is one of the easiest methods of contaminant management due to the fact that no technologies need to be installed. MNA is inexpensive, with costs associated with monitoring groundwater quality to ensure effectiveness.

Safety Impact

Invasive work in the impacted area is not required, reducing exposure risk to workers over other methods.

Cross-Media Impacts

Due to the lack of invasive construction activities, cross-media impacts are unlikely to occur.

Control of Exposure to Residual Contamination

Safe work practices would be defined and implemented to reduce the risk of injury or exposure to contaminated groundwater.

Time Required to Initiate and Complete

Implementation of an MNA system and associated groundwater monitoring would happen relatively quickly, but completion time is anticipated to be lengthy to achieve applicable CCR GWPSs.

Institutional Requirements

Due to the known lithium impact, this remedial strategy would need to be approved as part of the BCA. It is unlikely that it would be approved due to the known location of the plume at the site boundary and the short flow path to the Niagara River.

7.3.2 Groundwater Extraction and Treatment

Overview

Extraction wells and/or a groundwater collection trench could be installed to capture contaminated groundwater, which would then be pumped into a treatment system. The Station currently maintains an on-site wastewater treatment plant, which may be able to accommodate treatment of the lithium-impacted groundwater. The extraction wells would act as a hydraulic containment system, which would prevent impacted groundwater from reaching the Niagara River. Following treatment to acceptable standards, the treated effluent would be discharged presumably to the Niagara River.

Performance

Groundwater extraction and treatment is a relatively common method of handling impacted groundwater and is effective with proper installation, operation, and maintenance. However, due to the proximity of the leading edge of the plume to the Niagara River, pumping is likely to draw in a significant amount of river water, requiring extensive pumping efforts to ensure that on-site groundwater is not released. The installation of a groundwater extraction system is unlikely to perform successfully without additional measures to control the flow of river water into the extraction network.

Reliability

Generally, pump and treat systems are considered a reliable method of containing and treating contaminated groundwater with correct installation and maintenance. However, as previously stated, it is likely that a pump and treat system, unless coupled with a gradient control method to

prevent river water from entering the system, will be unreliable. In the event that it can be appropriately sized, proper installation, operation, and maintenance are necessary for the long-term success of a pump and treat system. The long-term reliability of the pumps and extraction wells is dependent upon routine inspection and maintenance.

Ease of Implementation

Site conditions will require evaluation in the area of the extraction well/trench network to provide detailed information regarding lithology and the behavior of water-bearing units. Of particular interest will be determining the hydraulic conductivity (also referred to as permeability) of the water-bearing units to determine pump sizes necessary to exceed capacity of the in-situ conditions. Groundwater and river levels will need to be evaluated to determine seasonal variation, and groundwater flow modeling may also be required to assist with the design of the system. The existing wastewater treatment plant will need to be evaluated to ensure that it is able to remove lithium from the water at the extraction flow rates. Permitting may be required. Groundwater wells will be installed using standard techniques. Routine inspection and maintenance will be necessary in order to ensure that the equipment is kept in proper working order.

Safety Impact

Safety issues to be considered during construction will be exposure to lithium-contaminated groundwater, electrical work, and accidental release of contaminated groundwater, in addition to general construction safety concerns. Safe work practices will be defined and implemented to reduce the risk of injury or exposure and prevent release of contaminated groundwater.

Cross-Media Impacts

With proper installation, it is not expected that there will be significant or long-term cross-media impacts.

Control of Exposure to Residual Contamination

Residual contamination is unlikely.

Time Required to Initiate and Complete

After design and installation of the extraction well/trench network and possible modification of the existing wastewater treatment plant, the length of time expected to reach attainment is dependent on the management of the source material (see Section 7.2), the hydraulic conductivity of the water-bearing units, and the concentration of lithium in the groundwater.

Institutional Requirements

The on-site wastewater treatment facility may need operating and/or treatment permits from local authorities.

7.3.3 Impermeable Barrier (Slurry Wall or Sheet Pile Wall) Coupled with Upgradient Water Capture and Treatment

With this remedial approach, an impermeable barrier (such as a slurry wall) would be placed proximate to the Niagara River along the downgradient width of the plume, generally spanning between the former coal pile slurry wall and monitoring well CCR-11. The impermeable barrier would be keyed into competent bedrock to effectively restrict groundwater flowing beneath the site from exiting at this location. In order to prevent groundwater from flowing around the wall, groundwater extraction wells or a trench will be installed on the upgradient side of the impermeable barrier, as described in Section 7.3.2. Water will be pumped to the existing on-site wastewater treatment plant (to be modified if necessary), and the treated effluent discharged in accordance with regulatory requirements.

Performance

This approach will improve the pump and treat solution because it will provide an impermeable barrier that restricts on-site groundwater from flowing into the Niagara River, and also inhibits the Niagara River from recharging the wells and increasing the required pump rates. Similar to the pump and treat system without an impermeable barrier, the system will require long-term management until applicable CCR GWPSs are achieved.

Reliability

A slurry wall has already been installed around the coal pile with demonstrated success. Therefore, the impermeable barrier, if installed correctly, is likely to be reliable. Proper installation, operation, and maintenance are necessary for the long-term success of an impermeable barrier with a pump and treat system. The long-term reliability of the pumps and extraction wells is dependent upon routine inspection and maintenance, as previously described.

Ease of Implementation

The installation of an impermeable barrier is invasive and will require excavation activities to accommodate placement of the barrier. A detailed design will be required to be developed, which will include bentonite/concrete mixture and tie-ins to the bedrock and existing slurry wall. Permitting may be required. Once the impermeable barrier is installed, groundwater flow will be altered. Therefore, groundwater monitoring wells will need to be installed to quantify the revised groundwater flow pattern to ensure that the extraction wells are appropriately located and spaced apart.

Safety Impact

The installation of an impermeable barrier will present exposure risks to both the lithium-impacted groundwater and to powdered bentonite (a slurry wall construction material). Additional safety issues to be considered during construction will include excavation, electrical work, and accidental release of contaminated groundwater, in addition to general construction safety concerns. Safe

work practices will be defined and implemented to reduce the risk of injury or exposure and prevent release of contaminated groundwater.

Cross-Media Impacts

During installation of the slurry wall, bentonite dust may become airborne. No impacts to site soils, groundwater, or the Niagara River are expected once the wall is installed.

Control of Exposure to Residual Contamination

No residual contamination is anticipated.

Time Required to Initiate and Complete

Design and installation will be a lengthy process in comparison to the other options presented. A field investigation will be required prior to installation to delineate the bedrock along the riverfront. Permitting with the Army Corps of Engineers may be required prior to construction depending on the location of the wall. Evaluation of the wastewater treatment plant capabilities will be required to determine whether lithium removal is achievable at the plant.

Institutional Requirements

Permits may be required from the Army Corps of Engineers to construct the impermeable barrier and the pump and treat system. Due to the known lithium impact, this remedial strategy will need to be approved as part of the BCA. Additional land use restrictions may apply to the area after the system has been installed and implemented.

7.3.4 Permeable Reactive Barrier

A permeable reactive barrier (PRB) is a subsurface barrier wall constructed with a reactive material to treat organic and/or inorganic constituents as they flow through the barrier. A PRB would be installed adjacent to the Niagara River spanning between the former coal pile slurry wall and monitoring well CCR-11. Impacted groundwater would flow through the PRB, and the lithium would be absorbed by the reactive material. The intent is to lower the concentration of lithium in groundwater on the downgradient side of the PRB to levels below the applicable CCR GWPSs. A PRB comprised of apatite (phosphate) may be effective for the treatment of lithium. However, a PRB comprised of FerroBlack-FE^{+} would potentially offer treatment for both lithium and arsenic. Site-specific testing would be conducted prior to installation to ensure that the PRB would effectively treat the impacted groundwater.

Despite a higher cost for installation due to the necessity for PRB reagents, a PRB is likely to cost less than a slurry wall with groundwater treatment due to the negated cost of well installation and ongoing treatment costs. A further cost savings could be achieved through the design of a PRB using a funnel and gate system. This would channel impacted groundwater into a single gate containing the PRB reagents, thus reducing the need for reagents across a fully-spanning PRB.

Performance

A well-designed PRB can be effectively used to passively treat groundwater and prevent the potential migration of impacted groundwater to the Niagara River. Site-specific testing will be required to determine the optimal composition and properties of the PRB for treatment of lithium (and also for arsenic), and assess its predicted efficacy. Additional monitoring after installation will be conducted as necessary to confirm the PRB is performing as appropriate.

Reliability

A PRB is a very reliable option if properly designed and installed to account for fluctuations over time in the groundwater flow directions and levels. It will not require electricity to operate and is, therefore, more reliable during a power outage than other alternatives. Depending on the time duration required to achieve applicable CCR GWPSs, the reactive constituents may need to be replenished to maintain effectiveness.

Ease of Implementation

Site-specific testing will be required to determine the appropriate composition and dosing of the PRB. Once determined, a detailed PRB design will need to be developed and permitted/incorporated into the BCA. Construction of a PRB is similar to construction of a slurry wall, and typically includes the excavation of a trench that extends into the flow path of the contaminated plume. Installation of the PRB will include backfilling of the designed reactive material in the trench. The material will be placed with a high permeability to ensure flow through the structure is not impeded.

Similar to the slurry wall, construction may be challenging based on the required excavation area being close to the Niagara River. It should be noted that specialized equipment is available for concurrent excavation and backfilling in locations where conventional trenching is not reasonable. Other construction methods can also be implemented, including funneling the groundwater toward the impermeable walls to the PRB for treatment.

Safety Impact

Construction and operation/maintenance of a PRB will expose workers to the impacted groundwater during trench excavation and PRB constituents during barrier development. All construction activities will be completed in a safe manner and site workers will use the appropriate PPE.

Cross-Media Impacts

During installation of the reactive barrier, the reagents used within the PRB may become airborne. No impacts to site soils, groundwater, or the Niagara River are expected once the barrier is installed.

Control of Exposure to Residual Contamination

No residual contamination is anticipated.

Time Required to Initiate and Complete

The duration of PRB construction is estimated to be somewhat shorter that of a slurry wall because the groundwater flow patterns will not be modified and need to be studied, nor will groundwater extraction wells/trenches need to be installed. The engineering design of a PRB will require site-specific testing to ensure the barrier will effectively treat the lithium. The time required to achieve Groundwater Protection Standards will be based on the reagents selected for the PRB. Long-term monitoring and maintenance will be required to ensure effective performance of the PRB.

Institutional Requirements

Permits may be required from the Army Corps of Engineers to construct the PRB. Due to the known lithium impact, this remedial strategy will need to be approved as part of the BCA. Additional land use restrictions may apply to the area after the system has been installed and until applicable CCR GWPSs are achieved.

7.3.5 In-Situ Injection of a Reactive Compound

Overview

Similar to a PRB, in-situ injection consists of injecting a chemical material such as FerroBlack-FE^{+} into the subsurface for purposes of stabilizing/immobilizing the target contaminant. The current maximum plume width is estimated to be approximately 525 feet, which represents the distance between the former coal pile slurry wall and monitoring well CCR-11. In the event that additional monitoring wells were installed between these two points, it is likely that the actual plume width could be refined and reduced. In-situ injection may be a preferred option due to the speed and ease of installation, the minimization of invasive work (e.g., trenching), and the ability to add additional injections as necessary. This approach will require additional site subsurface investigation to ensure proper injection spacing and depth.

Performance

In-situ injection may significantly reduce the mobility of the lithium in the groundwater. Staggered injections will be used to apply the reagent to ensure that contaminated groundwater cannot flow around the injection sites. When monitoring wells are installed to refine the plume width, additional testing and logging should be performed to refine the understanding of the hydrogeologic setting. Hydraulic conductivity of the overburden fill should be quantified as part of this effort.

Reliability

This alternative has the potential to be very reliable. An added benefit to injection is that additional reagents can be added at a later date to maintain effectiveness. A feasibility study will need to be

completed to determine if the site conditions are conducive for this alternative and which chemical(s) are sufficient to support immobilization of the lithium (and arsenic). Additional testing and modeling will need to be completed to determine the injection spacing, depth, and length of time this alternative may be effective.

Ease of Implementation

In-situ injection will be one of the easiest and fastest remedial activities to complete and can typically be completed using a Geoprobe rig, which are readily available and cost effective. A pilot-scale study is recommended to assess the effectiveness of this approach on a site-wide scale.

Safety Impact

In-situ application of chemicals at the site will be a moderately safe alternative with few risks. All treatment activities will be completed in a safe manner and site workers will use appropriate PPE.

Cross-Media Impacts

No impacts to site soils, groundwater, ambient air, or the Niagara River are expected during or after treatment.

Control of Exposure to Residual Contamination

No residual contamination is anticipated.

Time Required to Initiate and Complete

This alternative will require an initial hydrogeologic investigation and bench study that may take one to three months to complete. Injection wells can thereafter be installed relatively quickly. Groundwater monitoring will be required to ensure the injections are effective in immobilizing the lithium. Additional periodic injections may be required.

Institutional Requirements

The in-situ injections will require permitting and design documentation with the appropriate state and local agencies and incorporation into the BCA.

8.0 Path Forward

8.1 Selection of Remedy

Following the completion and submittal of this ACM Report, and as soon as feasible, a remedy for the Pond is to be selected in accordance with the provisions of §257.97 and which meets the minimum standards contained in §257.97(b)(1-5), as follows:

- Be protective of human health and the environment;
- Attain the Groundwater Protection Standard as specific pursuant to §257.95(h);
- Control the source(s) of releases so as to reduce or eliminate, to the maximum extent feasible, further releases of constituents in Appendix IV to this part into the environment;
- Remove from the environment as much of the contaminated material that was released from the CCR unit as is feasible, taking into account factors such as avoiding inappropriate disturbance of sensitive ecosystems; and
- Comply with standards for management of wastes as specified in §257.98(d).

The information presented in Section 7.0, along with findings from the BCA investigation (see Section 8.1.1) and input and considerations from the public (see Section 8.1.2), will assist in the remedy selection.

8.1.1 Coordination with Brownfield Program Findings and State of New York Guidance

As noted in prior sections of this report, a portion of the Huntley Station referred to as the South Parcel (which also includes the Pond) has been enrolled in the NYSDEC BCP. This parcel is presently subject to a dedicated investigation in accordance with an approved Remedial Investigation Work Plan (GZA, July 2020). The investigation is being performed per the protocols contained in the NYSDEC publication entitled, "DER-10, Technical Guidance for Site Investigation and Remediation (May 2010)." Within this guidance document and similar to the CCR Rule, specific objectives for remedy selection are outlined to address impacted media, including groundwater. Accordingly, it is recognized that a close level of coordination will be required between the activities performed to support the CCR Rule and the BCP in order to arrive at a remedy that is responsive and compliant with the objectives of both programs. As the work and investigative activities for each program are on individualized timelines, this aspect of the coordination must also be considered.

8.1.2 Public Meeting Prior to Remedy Selection

With regard to the CCR Rule and per §257.96(e), a public meeting must be held 30 days prior to remedy selection in order to inform interested/affected parties and stakeholders of the results of the ACM and to allow the opportunity for public comment/input. Published advertisement of the meeting in the local newspaper will provide appropriate advance notice to the public. Per §257.105(h)(11), documentation of the completed meeting will be placed into the Huntley Station operating record.

8.1.3 CCR Progress Reporting

Until the final remedy is selected and designed, semiannual progress reports must be prepared in accordance with §257.97(a). These reports must be placed in the Huntley Station operating record per §257.105(h)(12), noticed to the State Director per §257.106(h)(9), and posted to the publicly accessible website per §257.107(h)(9). Upon selection of the final remedy, a dedicated report must be prepared (and certified by a qualified professional engineer) to summarize the remedy and its ability to satisfy the standards contained in §257.97(b)(1-5) through evaluation of the factors listed in §257.97(c)(1-4). The remedy selection summary report will also be placed in the facility operating record, noticed to the State Director, and posted to the public website per §257.105(h)(12), §257.106(h)(9), and §257.107(h)(9), respectively.

8.2 Implementation of Remedy

The selected remedy will be implemented in accordance with the requirements of §257.98, which further mandate that remedial activities begin within 90 days of remedy selection. Specific requirements under §257.98(a)(1-3) address significant aspects of remedy implementation including the need to establish an effective groundwater monitoring program and the enactment of potential interim measures to mitigate immediate risks to human health and/or the environment. Consideration of the factors listed in §257.98(a)(3)(i-vii) will be utilized to determine the possible need for interim measures, which if undertaken, would need to be generally consistent with the objectives and elements of the overall selected remedy.

8.2.1 Timeline

As noted above, activities supporting the implementation of the remedy (likely beginning with remedial design) must be initiated within 90 days of remedy selection. Per §257.97(d), the overall projected schedule for remedy implementation must show completion within a reasonable period of time and must be documented in the remedy selection summary report discussed in Section 8.1.3. Development of the schedule will take into account the factors listed in §257.97(d)(1-6), including considerations such as nature and extent of contamination, anticipated achievement of applicable CCR GWPSs, and ongoing risks to receptors, among other relevant aspects. For the Pond, schedule development will also need to consider the timing and availability

of additional information from the BCA investigation, which may aid in remedy refinement and design. As previously mentioned, information from the BCA investigation likely will play a role in the efforts leading up to actual remedy selection for the Pond.

8.2.2 Determination of Success

Within the context of the CCR Rule, §257.98(c)(1-3) sets forth the criteria that must be met to demonstrate that the remedy can be deemed complete. These criteria are principally focused on achievement of the applicable CCR GWPSs specific to the Pond and verified completion of all other elements of the selected remedy. To comply with §257.98(e), documentation of remedy completion must be prepared and certified by a qualified professional engineer and placed into the Huntley Station operating record per §257.105(h)(13). This documentation will also be noticed to the State Director per §257.106(h)(10) and posted to the publicly accessible website per §257.107(h)(10).

9.0 Qualified Professional Engineer Certification

Name of Professional Engineer:	Richard Southorn, P.E., P.G.
Company:	Aptim Environmental & Infrastructure, LLC
New York PE Registration Number:	97551

Professional Engineer Seal:

10.0 References

APTIM Environmental & Infrastructure, LLC, January 2021. CCR Compliance Groundwater Monitoring and Corrective Action Annual Report, Huntley Landfill and South Settling Pond.

APTIM Environmental & Infrastructure, LLC, August 2019. CCR Compliance Assessment of Corrective Measures, South Settling Pond, Huntley Generating Station.

Code of Federal Regulations, Part 40 §257.90 - §257.98.

Frontier Technical Associates Inc., October 11, 2017. CCR Groundwater Monitoring Network Evaluation. C.R. Huntley Station South Ash Pond.

GZA GeoEnvironmental of New York, February 20, 2015. Pond Embankment Evaluation, Huntley Generating Plant.

GZA GeoEnvironmental of New York, October 14, 2016. CCR Surface Impoundment Design Criteria, Huntley Generating Station.

GZA GeoEnvironmental of New York, October 14, 2016. Existing CCR Surface Impoundment Closure Plan, Huntley Generating Station South Settling Pond.

GZA GeoEnvironmental of New York, July 29, 2020. Remedial Investigation Work Plan, Huntley Power South Parcel Site (C915337).

Figures

LEGEND:

EASEMENT OF FORMER ERIE CANAL

APPROXIMATE SLURRY WALL LOCATION

REFERENCE:

GOOGLE AERIAL PHOTOGRAPH, DATED 10/2016.

SCALE

0 150 300 FEET

APTIM

500 Penn Center Boulevard,
Suite 900
Pittsburgh, Pennsylvania 15235

HUNTLEY POWER LLC

FIGURE 1

SOUTH PARCEL SITE FEATURES

HUNTLEY GENERATING STATION
TONAWANDA, NEW YORK

DRAWING NUMBER	APPROVED BY	CHECKED BY	DRAWN BY	DESIGNED BY	DATE	OFFICE
--	--	--	--	--	8/14/19	Pittsburgh, PA

File: T:\AutoCAD\Projects\NRG\Huntley\Figures\~01-Site Features.dwg
Plot Date/Time: Aug 15, 2019 - 2:16pm
Plotted By: nicholas.villanueva
Xref:
Image: photo 3.jpg

T:\AutoCAD\Projects\NRG\Huntley\Figures\~01-Site Features.dwg

LEGEND:

- CCR-1 — EXISTING CCR GROUNDWATER MONITORING WELL
- CCR-12 — 2019 SOIL BORING LOCATION
- CCR-7 — 2019 CCR GROUNDWATER INVESTIGATION MONITORING WELL

REFERENCE:

GOOGLE AERIAL PHOTOGRAPH, DATED 10/2016.

SCALE

0 150 300 FEET

APTIM
500 Penn Center Boulevard,
Suite 900
Pittsburgh, Pennsylvania 15235

HUNTLEY POWER LLC

FIGURE 2

SOIL BORING & MONITORING WELL LOCATIONS

HUNTLEY GENERATING STATION
TONAWANDA, NEW YORK

OFFICE	DATE	DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
Pittsburgh, PA	8/14/19	---	---	---	---	---

File: T:\AutoCAD\Projects\NRG\Huntley\Figures\~02-Well Locations.dwg
Plot Date/Time: Aug 15, 2019 - 2:16pm Xref:
Plotted By: nicholas.villanueva Image: photo 3.jpg

T:\AutoCAD\Projects\NRG\Huntley\Figures\~02-Well Locations.dwg

LEGEND:

- CCR-1 — EXISTING CCR GROUNDWATER MONITORING WELL
- CCR-12 — 2019 SOIL BORING LOCATION
- CCR-1 — 2019 CCR GROUNDWATER INVESTIGATION MONITORING WELL WITH GROUNDWATER ELEVATION MEASURED ON JUNE 21, 2019
- 567 — GROUNDWATER ELEVATION CONTOURS
- GROUNDWATER FLOW DIRECTION

NOTE:

EXISTING MONITORING WELL A-2 WAS EXCLUDED FROM THE POTENTIOMETRIC MAP BECAUSE IT IS A DEEP WELL SCREENED IN A DIFFERENT UNIT.

REFERENCE:

GOOGLE AERIAL PHOTOGRAPH, DATED 10/2016.

SCALE

0 150 300 FEET

APTIM
500 Penn Center Boulevard,
Suite 900
Pittsburgh, Pennsylvania 15235

HUNTLEY POWER LLC

FIGURE 3

GROUNDWATER POTENTIOMETRIC MAP JUNE 21, 2019

HUNTLEY GENERATING STATION
TONAWANDA, NEW YORK

OFFICE	DATE	DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
Pittsburgh, PA	8/14/19	---	---	---	---	---

File: T:\AutoCAD\Projects\NRG\Huntley\Figures\~03-Potentiometric Surface.dwg
Plot Date/Time: Aug 15, 2019 - 2:16pm
Plotted By: nicholas.villanueva
Xref:
Image: photo 3.jpg

T:\AutoCAD\Projects\NRG\Huntley\Figures\~03-Potentiometric Surface.dwg

LEGEND:

- CCR-1 — CCR GROUNDWATER MONITORING WELL
- SW-1 — SURFACE WATER SAMPLE
- 0.0138 — LITHIUM (<0.05 mg/L)
- 0.2261 — LITHIUM EXCEEDANCE (>0.05 mg/L)

REFERENCE:

GOOGLE AERIAL PHOTOGRAPH, DATED 10/2016.

SCALE

0 150 300 FEET

APTIM

500 Penn Center Boulevard,
Suite 900
Pittsburgh, Pennsylvania 15235

HUNTLEY POWER LLC

FIGURE 4
LITHIUM GROUNDWATER / SURFACE WATER CONCENTRATION MAP
HUNTLEY GENERATING STATION
TONAWANDA, NEW YORK

DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
---	---	---	---	--

OFFICE	DATE
Pittsburgh, PA	2/11/21

File: T:\AutoCAD\Projects\NRG\Huntley\Figures\2021-02\Figure 04 - Lithium GW-rev.dwg
Plot Date/Time: Feb 11, 2021 - 9:57am
Plotted By: nicholas.villanueva
Xref: photo 3.jpg
Image:

LEGEND:

- SED-3 — SEDIMENT SAMPLE
- SP-5 — SOIL PROBE
- TP-18 — TEST PIT
- 25.3 — LITHIUM CONCENTRATION (mg/kg)
- <0.11 — LITHIUM SPLP CONCENTRATION (mg/L)

REFERENCE:

GOOGLE AERIAL PHOTOGRAPH, DATED 10/2016.

SCALE

0 150 300 FEET

APTIM
500 Penn Center Boulevard,
Suite 900
Pittsburgh, Pennsylvania 15235

HUNTLEY POWER LLC

FIGURE 5

LITHIUM SOIL AND SEDIMENT CONCENTRATION MAP

HUNTLEY GENERATING STATION
TONAWANDA, NEW YORK

DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
---	---	---	---	---

OFFICE	DATE
Pittsburgh, PA	2/11/21

File: T:\AutoCAD\Projects\NRG\Huntley\Figures\2021-02\Figure 05 - Lithium Soil and Sed-rev.dwg
Plot Date/Time: Feb 19, 2021 - 9:43am
Plotted By: nicholas.villanueva
Xref: Image: photo 3.jpg

Appendix A

Boring Logs and Well Construction Details

A.1—CCR Monitoring Network for South Settling Pond

DATE
START 9/13/2015
FINISH 9/13/2015
SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. CCR-1
SURF. ELEV
G.W. DEPTH See Notes

PROJECT: CRR WELLS AT HUNLEY PLANT
PROJ. NO.: BD-15-143
LOCATION: RIVER ROAD
TONAWANDA, NY

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	4	7			Brown Clayey SILT, little f-c Sand, little fine Gravel,	
		10	12		17	tr.organics (moist, FILL)	
	2	17	22			Brown f-c SAND, some f-c Gravel, tr.silt	
		24	26		46	(moist, FILL)	
5	3	12	8			Brown Clayey SILT, some f-c Sand, little fine Gravel,	
		7	11		15	little Organics (moist, FILL)	
	4	11	20			Brown-Black SAND, some Brick, little f-c Gravel,	
		26	17		46	tr.organics (moist, FILL)	
	5	12	12			Brown-Red SAND and Brick, little f-c Gravel	
10		10	9		22	(moist-wet, FILL)	
	6	5	5			Black SAND, little Clayey Silt, little f-c Gravel	
		1	1		6	(wet, FILL)	
	7	3	5			Becomes Brown-Black	
		4	6		9	Contains little Brick	
15	8	4	1			Gray SAND, some Silty Clay, tr.organics	
		2	3		3	(moist, v.loose, SC)	
						Boring Complete at 16.0'	Free Standing Water recorded at 8.0' at Boring Completion
20							
							Monitoring Well installed at 15.7' after Boring Completion
25							
30							
35							
40							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

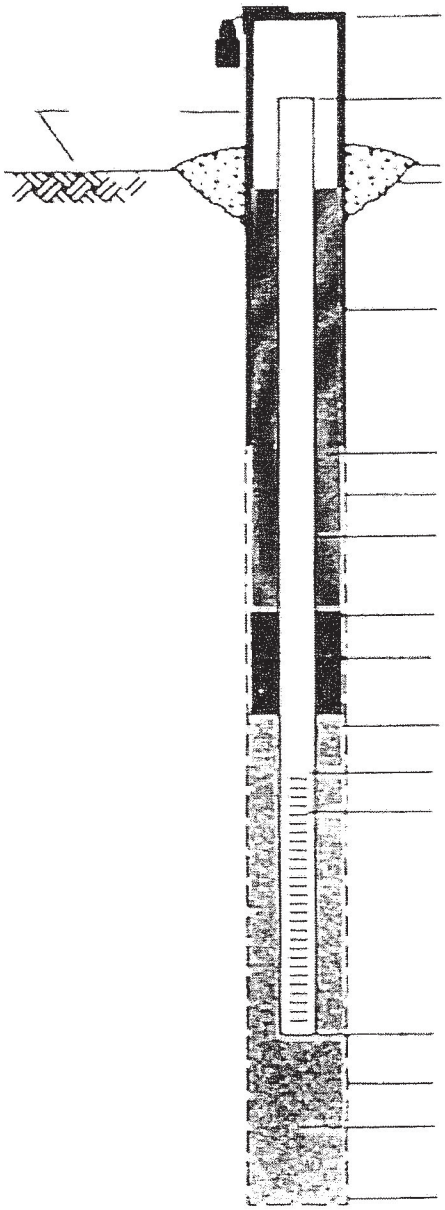
DRILLER: S. WOLKIEWICZ

DRILL RIG TYPE : CME-550X

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

MONITORING WELL COMPLETION RECORD

WELL NUMBER: CCR-1	
PROJECT: CCR WELL - HUNTLEY PLANT	**DRILLING METHOD:** HOLLOW STEM AUGER
PROJECT NUMBER: BD-15-143	**GEOLOGIST:** N/A
DRILLER: S. WOLKIEWICZ	**INSTALLATION DATE(S):** 9/15/2015



ELEVATIONS/ TOP OF SURFACE CASING:	
STICK- UP/ TOP OF SURFACE CASING:	
ELEVATION/ TOP OF RISER PIPE:	
STICK- UP/ TOP OF RISER PIPE:	
TYPE OF SURFACE SEAL:	CONCRETE
I.D. OF SURFACE CASING:	4"
TYPE OF SURFACE CASING:	STEEL
TYPE OF BACKFILL:	CEMENT / BENTONITE GROUT
BOREHOLE DIAMETER:	NOMIAL 8"
I.D. OF RISER PIPE:	2.0"
TYPE OF RISER PIPE:	SCHEDULE 40 PVC
DEPTH OF SEAL:	5.1'
TYPE OF SEAL:	BENTONITE CHIPS
DEPTH OF SAND PACK:	8.1'
DEPTH TOP OF SCREEN:	10.7'
TYPE OF SCREEN:	SCHEDULE 40 PVC
SLOT SIZE X LENGTH:	0.010" x 5'
I.D. OF SCREEN:	2.0"
TYPE OF SAND PACK:	#1 SILICA SAND AND #00 SILICA SAND
DEPTH BOTTOM OF SCREEN:	15.7'
DEPTH BOTTOM OF SAND PACK:	15.7'
TYPE OF BACKFILL BELOW OBSERVATION WELL:	#00 SILICA SAND
ELEVATION/ DEPTH OF HOLE:	16.0'

DATE
START 9/16/2015
FINISH 9/16/2015
SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. CCR-2
SURF. ELEV
G.W. DEPTH See Notes

PROJECT: CRR WELLS AT HUNLEY PLANT
PROJ. NO.: BD-15-143
LOCATION: RIVER ROAD
TONAWANDA, NY

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
5	1	10	3			Brown Clayey SILT, little f-c Sand, tr.brick, tr.organics (moist, FILL)	
		3	4		6		
	2	3	10				REF = Sample Spoon Refusal
		50/0.2			REF	Contains "and" Brick, little fine Gravel	
	3	5	5			Brown GRAVEL, some Silty Clay, little f-c Sand (moist, FILL)	
10		4	4		9		
	4	4	6			Black and Red SAND, little Brick, little f-c Gravel, tr.silt (moist-wet, FILL)	
		10	12		16		
	5	3	6			Contains tr.organics	
		5	12		11		
15	6	5	3			Becomes Black (wet)	
		1	1		4		
20						Boring Complete at 17.5'	Free Standing Water recorded at 8.5' at Boring Completion
							Monitoring Well installed at Boring Completion
25							
30							
35							
40							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

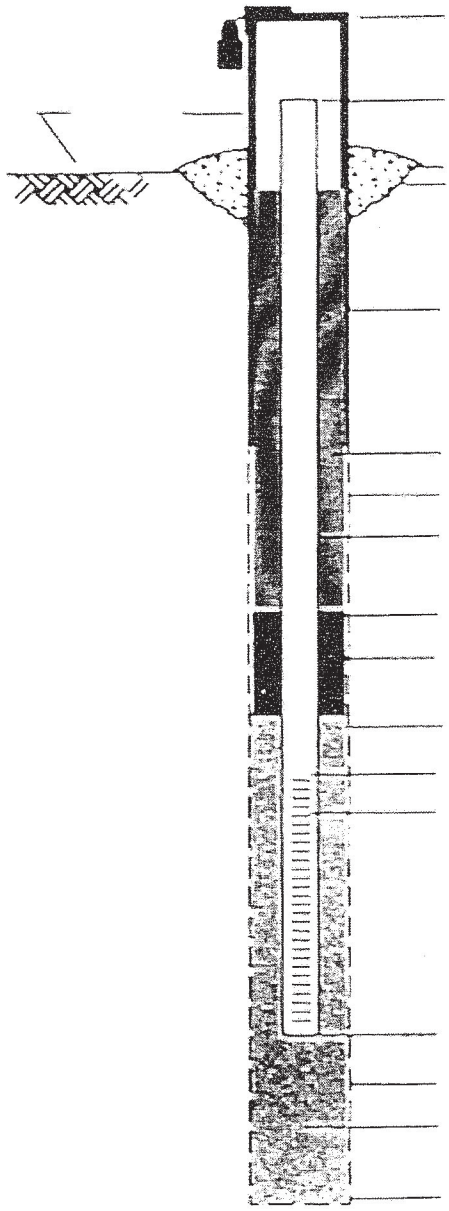
DRILLER: S. WOLKIEWICZ

DRILL RIG TYPE : CME-550X

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

MONITORING WELL COMPLETION RECORD

WELL NUMBER: MW-3-15	
PROJECT: CCR WELL - HUNTLEY PLANT	**DRILLING METHOD:** HOLLOW STEM AUGER
PROJECT NUMBER: BD-15-143	**GEOLOGIST:** N/A
DRILLER: S. WOLKIEWICZ	**INSTALLATION DATE(S):** 9/16/2015



ELEVATIONS/ TOP OF SURFACE CASING:	
STICK- UP/ TOP OF SURFACE CASING:	
ELEVATION/ TOP OF RISER PIPE:	
STICK- UP/ TOP OF RISER PIPE:	
TYPE OF SURFACE SEAL:	CONCRETE
I.D. OF SURFACE CASING:	4"
TYPE OF SURFACE CASING:	STEEL
TYPE OF BACKFILL:	#00 SILICA SAND AND CEMENT / BENTONITE GROUT
BOREHOLE DIAMETER:	NOMIAL 8"
I.D. OF RISER PIPE:	2.0"
TYPE OF RISER PIPE:	SCHEDULE 40 PVC
DEPTH OF SEAL:	7.0'
TYPE OF SEAL:	BENTONITE CHIPS
DEPTH OF SAND PACK:	10.5'
DEPTH TOP OF SCREEN:	12.5'
TYPE OF SCREEN:	SCHEDULE 40 PVC
SLOT SIZE X LENGTH:	0.010" x 5'
I.D. OF SCREEN:	2.0"
TYPE OF SAND PACK:	#1 SILICA SAND AND #00 SILICA SAND
DEPTH BOTTOM OF SCREEN:	17.5'
DEPTH BOTTOM OF SAND PACK:	17.5'
TYPE OF BACKFILL BELOW OBSERVATION WELL:	#1 SILICA SAND
ELEVATION/ DEPTH OF HOLE:	17.5'

DATE
START 9/18/2015
FINISH 9/18/2015
SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. CCR-3
SURF. ELEV
G.W. DEPTH See Notes

PROJECT: CRR WELLS AT HUNLEY PLANT
PROJ. NO.: BD-15-143
LOCATION: RIVER ROAD
TONAWANDA, NY

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
5	1	12	14			Brown SAND, some f-c Gravel, tr.silt (moist, FILL)	
		15	17		29		
10	2	5	7			Brown Silty CLAY, tr.sand (moist, stiff, CL)	
		6	8		13		
15	3	2	4				No Recovery Sample #3
		6	9		10		
	4	18	14			(v.stiff)	
		15	18		29		
20						Boring Complete at 18.0'	No Free Standing Water encountered at Boring Completion
25							
30							
35							
40							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

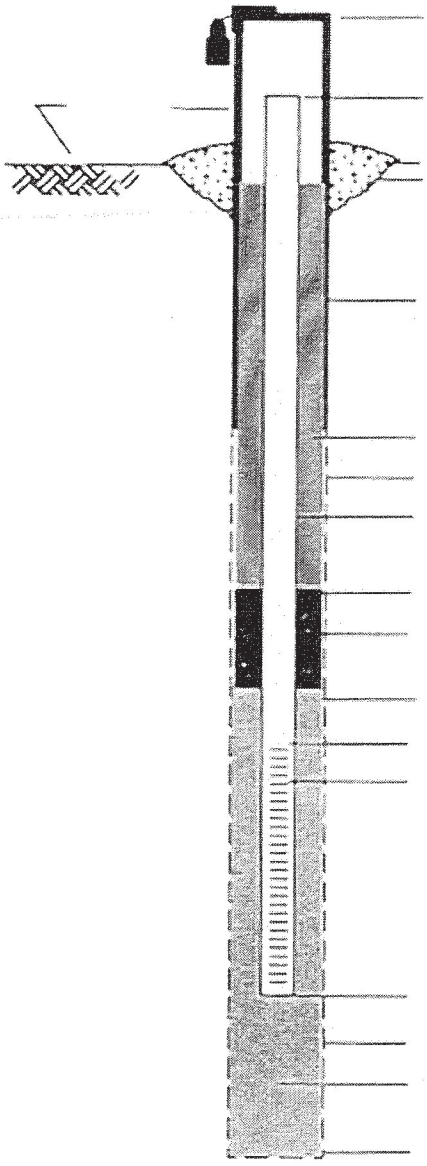
DRILLER: S. WOLKIEWICZ

DRILL RIG TYPE : CME-550X

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

MONITORING WELL COMPLETION RECORD

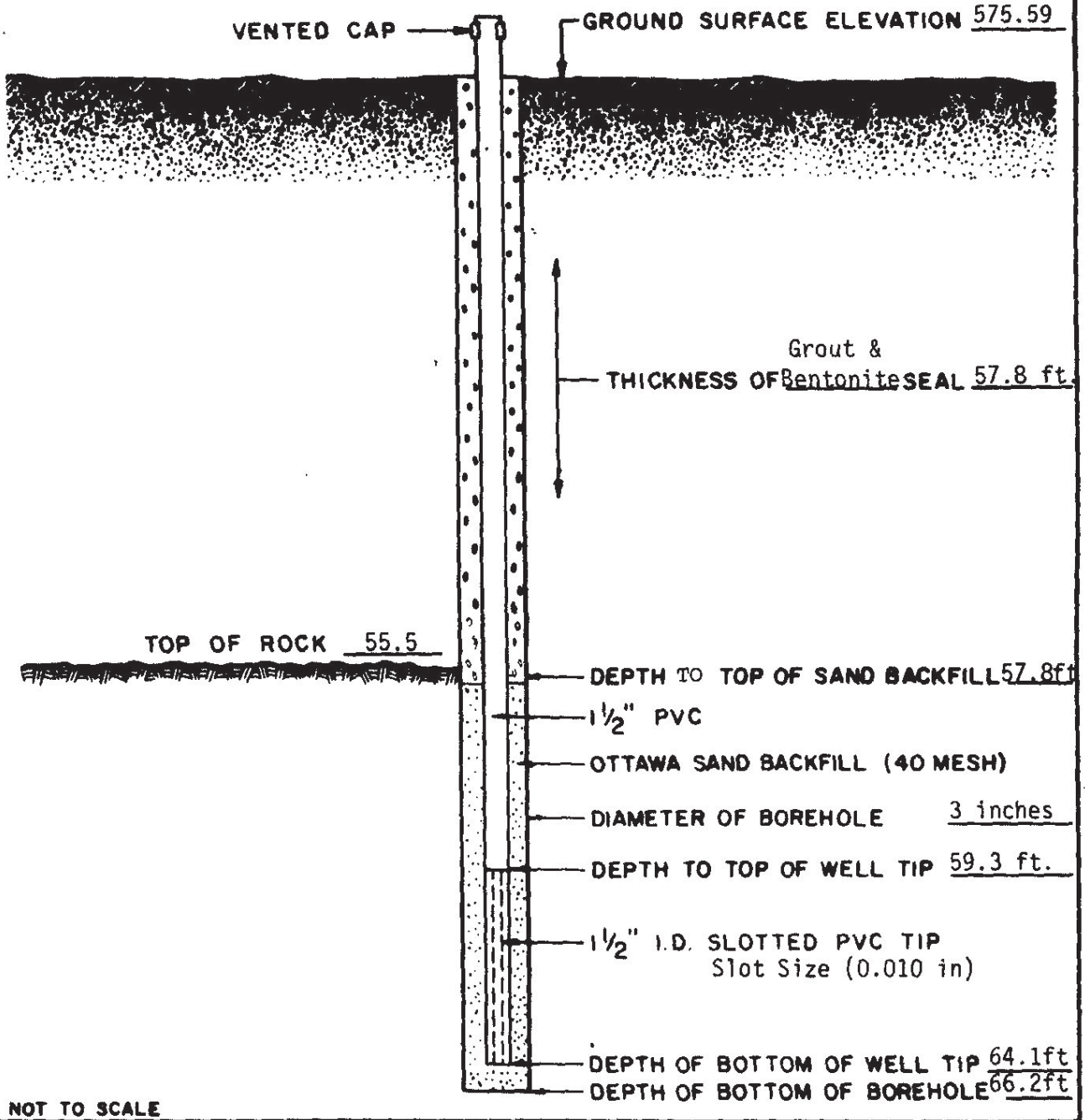
WELL NUMBER: CCR-3	
PROJECT: CCR WELL - HUNTLEY PLANT	**DRILLING METHOD:** HOLLOW STEM AUGER
PROJECT NUMBER: BD-15-143	**GEOLOGIST:** N/A
DRILLER: S. WOLKIEWICZ	**INSTALLATION DATE(S):** 9/18/2015



ELEVATIONS/ TOP OF SURFACE CASING:	
STICK- UP/ TOP OF SURFACE CASING:	
ELEVATION/ TOP OF RISER PIPE:	
STICK- UP/ TOP OF RISER PIPE:	
TYPE OF SURFACE SEAL:	CONCRETE
I.D. OF SURFACE CASING:	4"
TYPE OF SURFACE CASING:	STEEL
TYPE OF BACKFILL:	CEMENT / BENTONITE GROUT
BOREHOLE DIAMETER:	NOMIAL 8"
I.D. OF RISER PIPE:	2.0"
TYPE OF RISER PIPE:	SCHEDULE 40 PVC
DEPTH OF SEAL:	6.4'
TYPE OF SEAL:	BENTONITE CHIPS
DEPTH OF SAND PACK:	9.4'
DEPTH TOP OF SCREEN:	12.0'
TYPE OF SCREEN:	SCHEDULE 40 PVC
SLOT SIZE X LENGTH:	0.010" x 5'
I.D. OF SCREEN:	2.0"
TYPE OF SAND PACK:	#1 SILICA SAND AND #00 SILICA SAND
DEPTH BOTTOM OF SCREEN:	17.0'
DEPTH BOTTOM OF SAND PACK:	17.0'
TYPE OF BACKFILL BELOW OBSERVATION WELL:	#00 SILICA SAND
ELEVATION/ DEPTH OF HOLE:	18.0'

PIEZOMETER INSTALLATION REPORT

PIEZOMETER NUMBER A-2



SUMMARY OF SUBSURFACE CONDITIONS

NOTE: NOT TO SCALE

FILE No. 5610.3

PROJECT NMPC: Huntley Steam Plant

LOCATION Tonawanda, New York

CONTRACTOR Paratt-Wolff, Inc.

INSPECTOR R. Laport

DATE INSTALLED 9/28/83

GZA

A.2—2019 Field Investigation

BORING LOG NO. CCR-7

PROJECT: Huntley Station

CLIENT: Frontier Technical Associates Inc
Williamsville, NY

SITE: 3500 River Road
Tonawanda, NY

LOCATION See Exhibit A-2

Latitude: 42.9678° Longitude: -78.927°

GRAPHIC LOG	DEPTH	INSTALLATION DETAILS	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	PID (PPM)
	FILL - FLYASH, black	Lockable Protective Casing; 2" PVC Riser; Cement/Bentonite Grout; Bentonite Chips; "0" Filter Sand; 10 Slot Screen	5				Auger	
							8-12-9-9 N=21	0.4
			10				Auger	
							4-3-2-2 N=5	0.6
							2-2-2-2 N=4	1.5
			15				2-1-WOH-1 N - 1	1.3
							3-2-2-3 N=4	1.3
	18.0							
	Boring Terminated at 18 Feet							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
4.25 inch ID Hollow Stem Augers and 2 Inch OD Split Barrel Sampler

Abandonment Method:
2" PVC Well installed at completion

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:
WOH = Weight of Hammer and Rods

WATER LEVEL OBSERVATIONS

Terracon
461 Tonawanda St
Buffalo, NY

Boring Started: 05-29-2019 | Boring Completed: 05-29-2019
Drill Rig: Diedrich D-50 | Driller: J. Tojdowski
Project No.: BU195011 | Exhibit: A-1

BORING LOG NO. CCR-8

PROJECT: Huntley Station

CLIENT: Frontier Technical Associates Inc
Williamsville, NY

SITE: 3500 River Road
Tonawanda, NY

LOCATION See Exhibit A-2

Latitude: 42.9669° Longitude: -78.9261°

DEPTH	GRAPHIC LOG	INSTALLATION DETAILS	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	PID (PPM)
		Lockable Protective Casing						
	FILL - SANDY SILT, gray and black, saturated	2" PVC Riser; Cement/Bentonite Grout; Bentonite Chips					Auger	
			5				1-1-WOH/1.0' N = 1	0.6
8.0	**FILL - FLYASH**, black, saturated						Auger	
			10				WOH-2-1-1 N = 3	1.1
		"0" Filter Sand; 10 Slot Screen					2-1-2-1 N=3	1.3
			15				WOH/1.5' - 1 N = WOH	0.1
16.0	***Boring Terminated at 16 Feet***							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
4.25 inch ID Hollow Stem Augers and 2 Inch OD Split Barrel Sampler

Abandonment Method:
2" PVC Well installed at completion

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:
WOH = Weight of Hammer and Rods

WATER LEVEL OBSERVATIONS

Terracon
461 Tonawanda St
Buffalo, NY

Boring Started: 05-29-2019 | Boring Completed: 05-29-2019
Drill Rig: Diedrich D-50 | Driller: J. Tojdowski
Project No.: BU195011 | Exhibit: A-2

BORING LOG NO. CCR-9

PROJECT: Huntley Station

CLIENT: Frontier Technical Associates Inc
Williamsville, NY

SITE: 3500 River Road
Tonawanda, NY

LOCATION See Exhibit A-2

Latitude: 42.966° Longitude: -78.927°

GRAPHIC LOG	DEPTH		INSTALLATION DETAILS	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	PID (PPM)
		FILL - FLYASH WITH SAND, trace brick, trace concrete, black and gray	Lockable Protective Casing; 2" PVC Riser; Cement/Bentonite Grout					Auger	
			Bentonite Chips	5			12	2-2-4-2 N=6	1.6
								Auger	
		saturated		10			13	2-1-4-11 N=5	1.4
			"0" Filter Sand; 10 Slot Screen				24	10-7-8-7 N=15	1.8
	14.0			15			2	3-4-4-2 N=8	0
	16.0	**POORLY GRADED SAND (SP)**, trace silt, trace brick fragments, fine grained, brown, (Possible former shoreline - native soils)							
		Boring Terminated at 16 Feet							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
4.25 inch ID Hollow Stem Augers and 2 Inch OD Split Barrel Sampler

Abandonment Method:
2" PVC Well installed at completion

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

Terracon
461 Tonawanda St
Buffalo, NY

Boring Started: 05-30-2019 | Boring Completed: 05-30-2019

Drill Rig: Diedrich D-50 | Driller: J. Tojdowski

Project No.: BU195011 | Exhibit: A-3

BORING LOG NO. CCR-10

PROJECT: Huntley Station

CLIENT: Frontier Technical Associates Inc
Williamsville, NY

SITE: 3500 River Road
Tonawanda, NY

LOCATION See Exhibit A-2

Latitude: 42.9666° Longitude: -78.9275°

DEPTH	GRAPHIC LOG	INSTALLATION DETAILS	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	PID (PPM)
		Lockable Protective Casing						
	FILL - SILTY SAND, trace brick, trace coal fragments, trace concrete, black	2" PVC Riser; Cement/Bentonite Grout					Auger	
			5			12	3-11-19-9 N=30	0.6
8.0		Bentonite Chips						
	FILL - FLYASH, black						Auger	
			10				9-9-6-13 N=15	1.5
		"0" Filter Sand				0	8-3-3-3 N=6	
14.0		10 Slot Screen						
	SILTY SAND (SM), trace organic matter, gray with black		15			19	2-3-3-3 N=6	0.7
16.0								
	Boring Terminated at 16 Feet							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
4.25 inch ID Hollow Stem Augers and 2 Inch OD Split Barrel Sampler

Abandonment Method:
2" PVC Well installed at completion

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

Terracon
461 Tonawanda St
Buffalo, NY

Boring Started: 05-30-2019 | Boring Completed: 05-30-2019

Drill Rig: Diedrich D-50 | Driller: J. Tojdowski

Project No.: BU195011 | Exhibit: A-4

BORING LOG NO. CCR-11

PROJECT: Huntley Station

CLIENT: Frontier Technical Associates Inc
Williamsville, NY

SITE: 3500 River Road
Tonawanda, NY

LOCATION See Exhibit A-2

Latitude: 42.9656° Longitude: -78.9263°

DEPTH	GRAPHIC LOG	INSTALLATION DETAILS	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	PID (PPM)
		Lockable Protective Casing						
		2" PVC Riser					AUGER	
		Cement/Bentonite Grout	5			20	5-8-18-7 N=26	2.6
		Bentonite Chips					AUGER	
			10			0	6-5-3-3 N=8	
		"0" Filter Sand				16	6-5-3-3 N=8	0.2
		10 Slot Screen						
			15				3-2-1-2 N=3	0.5

FILL - SILTY SAND, trace concrete, trace brick, trace coal fragments, brown and black

12.0

SILTY SAND (SM), trace organic matter, fine grained, brown, saturated

16.0

Boring Terminated at 16 Feet

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
4.25 inch ID Hollow Stem Augers and 2 Inch OD Split Barrel Sampler

Abandonment Method:
2" PVC Well installed at completion

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

Terracon
461 Tonawanda St
Buffalo, NY

Boring Started: 05-30-2019 | Boring Completed: 05-30-2019

Drill Rig: Diedrich D-50 | Driller: J. Tojdowski

Project No.: BU195011 | Exhibit: A-5

BORING LOG NO. CCR-12

PROJECT: Huntley Station

CLIENT: Frontier Technical Associates Inc
Williamsville, NY

SITE: 3500 River Road
Tonawanda, NY

LOCATION See Exhibit A-2

Latitude: 42.9667° Longitude: -78.9244°

GRAPHIC LOG	DEPTH	INSTALLATION DETAILS	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	PID (PPM)
	SILTY CLAY, trace sand, red brown and black, medium stiff to stiff						AUGER	
			5			12	4-3-4-6 N=7	0.7
							AUGER	
			10			6	8-3-4-5 N=7	1.9
						7	5-5-6-6 N=11	1.5
			15			24	3-4-6-7 N=10	3.7
						24	7-7-8-8 N=15	1.9
	20.0					24	2-3-4-6 N=7	5.1
	Boring Terminated at 20 Feet		20					

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
4.25 inch ID Hollow Stem Augers and 2 Inch OD Split Barrel Sampler

Abandonment Method:
Boring backfilled with bentonite upon completion.

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:
No Monitoring Well installed at completion of drilling.

WATER LEVEL OBSERVATIONS

Terracon
461 Tonawanda St
Buffalo, NY

Boring Started: 05-31-2019 | Boring Completed: 05-31-2019
Drill Rig: Diedrich D-50 | Driller: J. Tojdowski
Project No.: BU195011 | Exhibit: A-6

BORING LOG NO. CCR-13

PROJECT: Huntley Station

CLIENT: Frontier Technical Associates Inc
Williamsville, NY

SITE: 3500 River Road
Tonawanda, NY

LOCATION See Exhibit A-2

Latitude: 42.9685° Longitude: -78.926°

DEPTH	GRAPHIC LOG		INSTALLATION DETAILS	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	PID (PPM)
		FILL - SILTY SAND WITH FLYASH, trace brick, trace concrete, black and gray						AUGER	
				5			15	15-18-11-12 N=29	0
8.0									
		FILL - SILTY CLAY, trace sand, trace brick, trace concrete, red brown						AUGER	
10.0				10					
		SILTY CLAY (CL-ML), trace sand, red brown, medium stiff					15	3-4-5-5 N=9	0.1
							20	5-5-5-6 N=10	0.6
				15				AUGER	
							23	3-2-5-6 N=7	0.3
20.0				20					
		Boring Terminated at 20 Feet							

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
4.25 inch ID Hollow Stem Augers and 2 Inch OD Split Barrel Sampler

Abandonment Method:
Boring backfilled with bentonite upon completion.

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:
No Monitoring Well installed at completion of sampling

WATER LEVEL OBSERVATIONS

Terracon
461 Tonawanda St
Buffalo, NY

Boring Started: 05-31-2019	Boring Completed: 05-31-2019
Drill Rig: Diedrich D-50	Driller: J. Tojdowski
Project No.: BU195011	Exhibit: A-7

Appendix B

State Notifications

NRG Huntley Power, LLC
3500 River Road
Tonawanda, NY 14150

July 2020

Mr. David Vitale
New York State Department of Environmental Conservation
Division of Materials Management Director
625 Broadway
Albany, NY 12233-7250

RE: CCR Rule Notice

Dear Mr. Vitale:

Pursuant to the EPA's CCR Rule and sections 40 CFR Parts §257.105 - §257.107, Huntley Power LLC is notifying the New York State Department of Environmental Conservation per the Recordkeeping, Notification and Internet Requirements regarding the following operations for the Huntley Power LLC Generating Station.

In accordance with the requirements of Title 40 CFR §257.95, the station commenced and established an Assessment Monitoring Program in 2018 for the CCR impoundment and the CCR landfill. Based on the results, the facility has determined one or more SSL's (the second one) above the corresponding groundwater protection standard has occurred around the CCR impoundment. Notice of this determination is required to be entered into the facility operating record per §257.105(h)(8), noticed to the State Director per §257.106(h)(6) and posted to the publicly accessible website per §257.107(h)(6).

Additionally, this determination carries obligations to characterize the nature and extent of the SSL impacts per §257.95(g)(1)(i-iv),and to conduct an Assessment of Corrective Measures per §257.95(g)(3)(i) and §257.96(a) which will be initiated as required.

Information as required has or will be provided to public website http://www.nrg.com/legal/coal-combustion-residuals/ within the timelines determined by the rule.

Should you require additional information, please contact George Streit at (716) 200-2797 or George.Streit@NRG.com.

Sincerely,

George T. Streit
Environmental Coordinator

cc: Peter Grasso, P.E., 270 Michigan Ave., Buffalo, NY 14203

Huntley Power LLC
3500 River Road
Tonawanda, NY 14150

October 9, 2020

Mr. David Vitale
New York State Department of Environmental Conservation
Division of Materials Management Director
625 Broadway
Albany, NY 12233-7250

RE: CCR Rule Notice
Huntley Power LLC

Dear Mr. Vitale:

Pursuant to the EPA's CCR Rule (40 CFR Part 257) and in accordance with the specific provisions of §257.95(g)(5) and the associated requirements of §257.106(h)(7), Huntley Power LLC is providing notification to the New York State Department of Environmental Conservation (NYSDEC) that an Assessment of Corrective Measures (ACM) is being initiated for the Huntley South Settling Pond (SPDES Permit NY0001023) at the Huntley Generating Station. This activity is in response to the previous notification (provided to the NYSDEC on July 9, 2020) that an Appendix IV constituent (Lithium) had been detected at a Statistically Significant Level (SSL) above an established Groundwater Protection Standard (GWPS) in a downgradient monitoring well at the referenced CCR unit. This current notification regarding the ACM has also been entered into the facility's operating record, and will additionally be posted on our CCR website per the requirements of §257.107(h)(7). The ACM will be conducted in accordance with the requirements of §257.96, including potential application of the 60-Day extension provision per §257.96(a), as needed.

Should you require additional information, please contact George Streit at (716)-200-2797 or George.Streit@nrg.com.

Respectfully submitted,

George T. Streit
Environmental Coordinator

cc: Peter Grasso, P.E., 270 Michigan Ave., Buffalo, NY 14203

Appendix C

ACM Extension

CCR ASSESSMENT OF CORRECTIVE MEASURES
Huntley Generating Station
November 4, 2020

George Streit
Huntley Power LLC
3500 River Road
Tonawanda, NY 14150

VIA E-MAIL

Re: CCR Assessment of Corrective Measures Time Extension Request
Huntley Generating Station—South Settling Pond
Tonawanda, New York

Dear Mr. Streit,

As you are aware, Title 40 Code of Federal Regulations (CFR) Part 257 Subpart D addresses the management of coal combustion residuals (CCR) in landfills and surface impoundments. As an acknowledged feature formerly used for the management of CCR materials, the South Settling Pond at the Huntley Generating Station is subject to the provisions of the CCR Rule. Per notification provided to the State Director on July 9, 2020, lithium was measured in a downgradient CCR monitoring well (Well CCR-2) at a statistically significant level (SSL) above its corresponding site-specific groundwater protection standard. This determination, in turn, has triggered an Assessment of Corrective Measures (ACM) which commenced on October 9, 2020, per §257.95(g)(3)(i) and §257.96(a). As required, Huntley Power LLC provided notice of the ACM initiation to the State Director in accordance with §257.106(h)(7).

In parallel with the ACM, Huntley Power LLC is conducting a comprehensive Remedial Investigation in support of efforts associated with participation in the New York State's Brownfield Cleanup Program (BCP). Under the BCP, Huntley Power LLC will be characterizing the area designated as the South Parcel, which also encompasses the physical boundaries of the South Settling Pond. As such, BCP investigation-derived data generated/compiled throughout the remainder of 2020 will be useful and complimentary to the ACM activities for the South Settling Pond. In order to make effective use of the BCP data and information, a 60-day extension of the ACM due date is being applied in accordance with provisions under §257.96(a) of the CCR Rule. Accordingly, the ACM will be completed by March 9, 2021.

Respectfully submitted,

David Shott, CHMM
APTIM

Richard Southorn, P.E., P.G.
APTIM

cc: David Bacher, NRG
Tony Shea, NRG

CERTIFICATION

In accordance with Section 257.96(a) of the CCR Rule, I hereby certify based on a review of the information contained within this time extension request dated November 4, 2020 that the information contained is accurate to the best of my knowledge.

Certified by:

Richard Southorn, P.E., P.G.
New York Professional Engineer Registration No.: 97551
APTIM

Signature: _____

Date: November 4, 2020

Seal: