Benjamin McPherson
New York State Department of Environmental Conservation
270 Michigan Ave.,
Buffalo, NY 14203

Re: Clean Air Coalition Comment on Site Number: C915353 Riverview Innovation & Technology Campus Brownfield Cleanup Site- Remedial Investigation Work Plan

Dear Mr. McPherson,

The Clean Air Coalition respectfully submits the following comments regarding the Remedial Investigation Work Plan for Riverview Innovation & Technology Campus, Inc. for a site known as Riverview Innovation and Technology Campus (former Tonawanda Coke plant), Site Number: C915353.

1. COMMUNITY IMPACT AND ENFORCEMENT HISTORY

The Clean Air Coalition is a non-profit membership organization that builds power by developing grassroots leaders who organize their communities to run and win environmental justice and public health campaigns in Western New York. Over 10 years ago our members, many who lived with cancers such as leukemia, lung cancer and other rare respiratory illnesses, organized to hold Tonawanda Coke accountable for environmental violations that put their health at risk.

The media coverage and public pressure generated by Clean Air members resulted in a December 2009, raid of Tonawanda Coke by the U.S. Department of Justice, the U.S. EPA, NYS DEC and U.S. Coast Guard. Less than a week later Mark Kamholz, Tonawanda Coke's Environmental Control Manager was arrested. Our member's advocacy resulted in an EPA enforcement action and criminal trial. Tonawanda Coke was found guilty in March 2013 of breaking 14 federal laws under the Clean Air Act and the Resource Conservation and Recovery Act. Mark Kamholz was found guilty on the same counts and an additional count of obstruction of justice.

Since the EPA's enforcement action, there was a reported 92% reduction in benzene from the continuous air monitor at Grand Island Blvd. and a 68% reduction at the air monitor on Brookside Terrace. The company was fined $12.5 million in fines, 5 years of probation, and to pay nearly $12 million for future health and environmental studies. Mark Kamholz was sentenced to 1 year and 1 day in prison, and a $20,000 fine and a supervised release after serving the term.

In May 2018, Clean Air was notified that a waste heat tunnel at Tonawanda Coke collapsed, and publicly called on the DEC and EPA to examine potential toxic emissions being released into the surrounding community. Clean Air members documented black smoke coming from the facility, and submitted hundreds of complaints to the DEC and EPA, which drew further attention to the gravity of the situation. In July 2018, DEC and EPA inspections at Tonawanda Coke revealed 176 violations of environmental regulations, and a cease and desist letter was issued.

When court proceedings began in September 2018, Clean Air members filled the court chambers for 2 weeks. The U.S. Court ruled the company was in violation of their probation after hearing the U.S. Government referencing many instances where the company violated the probation order, including numerous compliance issues brought forth by the NYS DEC and the U.S. EPA; specifically citing daily

opacity violations, an inspection revealing a giant hole in the company's ammonia tank resulting in a chemical leak, and structural damage at the facility.

In October 2018, Tonawanda Coke revealed that it would close and reorganize under Chapter 11 bankruptcy. Members immediately began calling for a worker transition plan, and for a site classification for the full property. Between October 2018 and March 2020, the U.S Environmental Protection Agency conducted emergency response activities to remove gases from pipes and tanks, treat wastewater, and manage stormwater.

At the request of Clean Air members, in July of 2020, the Erie County Legislature unanimously approved a resolution introduced by Legislator Hardwick and Legislator Chimera that proclaimed the County's support for the establishment of a Community Advisory Group on site, as well as their backing of Clean Air's comments on RITC's Remedial Investigation Work Plan. 26 community groups have also requested a Community Advisory Group is established.

On behalf of our membership, Clean Air Coalition retained New York State Professional Geological Services, PLLC (nygeology), to conduct a Phase I Environmental Site Assessment (ESA) at 3875 River Rd., Tonawanda Erie County, NY 14150, and advise the Department of Environmental Conservation to incorporate our findings, comments, suggestions and concerns into the final Remedial Investigation Work Plan to be executed by Riverview Innovation and Technology Campus, Inc. during the remediation and redevelopment of the former Tonawanda Coke Site. Furthermore, Clean Air and our retained consultants urge the NYSDEC to use any and all enforcement powers held by the State of New York to compel RITC to not refute the final RIWP approved by NYSDEC.

2. **HISTORICAL SITE USE**

The facility was owned and operated from 1917 through 1947 by Semet-Solvay Company, which was a subsidiary of Allied Chemical and Dye Corporation. In 1947, Semet-Solvay Company was merged into Allied Chemical Corporation, which owned and operated the facility until January 27, 1978, when it was sold to The Tonawanda Coke Company (TCC.) TCC operated the facility from 1978 until it filed for bankruptcy protection in October 2018, at which time all operations ceased.

Historically, manufacturing processes used at the plant have included by products coking, light oil distillation, ammonia recovery, and benzene, toluene, and xylene extraction. Coke making involves the removal of gasses, liquids (oils) and tar from coal by heating the coal in the absence of oxygen. The resulting carbon material "coke" was used, among other things, in foundries and for the production of steel. The extracted gas was used to fire the subsequent coking operations, to fuel the boiler house, flared or historically was sold as fue1. The liquids and tars were conveyed through pipes to by-products facilities where they were cooled, separated, and processed for sale as raw or feedstock for construction materials.

3. SITE GEOGRAHPY

The full site is approximately 129 acres in size and the nearest residential area is approximately 0.25 miles south of the site, where Clean Air members live. The site consists of four parcels of land separated by River Road. The BCP Site that this RIWP pertains to encompasses over 85 acres to the East of River Road. The BCP site includes what's known of the main plant area is the portion where coke manufacturing formerly occurred. The area of the BCP site includes a historic drain to the Niagara River.

Site 108, a New York State Superfund Site, is approximately 27 Acres in size along the Niagara River to the east of River Road. Site 109, a New York State Superfund Site, is over 7 acres in size east of River Road and to the west of the BCP Site. Site 110, a New York State Superfund Site, is essentially the 4.8 acre disposal area in the northeast corner of the manufacturing parcel, east of the BCP Site.

Although the NYSDEC divided the site into arbitrary brownfield and superfund designated sections, Clean Air Coalition supports an approach that views the site cleanup as a combined whole site effort to be undertaken by Honeywell and Riverview and overseen by the same NYSDEC project manager.

4. FUTURE LAND USE AND COMMUNITY HEALTH

The Clean Air Coalition echoes our members' commitment to recreational waterfront access, habitat restoration and other development that prioritizes human health and the environment.
The Clean Air Coalition urges the NYSDEC to enforce a thorough, robust and aggressive plan at the Tonawanda Coke site that centers the human health, the environment and community concerns. In alignment with the Town of Tonawanda's waterfront land use planning documents, we support public access along the waterfront. Any and all future development located in the Town of Tonawanda's Industrial Corridor must be in line with the economic, recreational, environmental, and public health priorities laid out in the Town's planning and development plans.

The Town of Tonawanda has stated throughout several planning documents that the future use for the waterfront, where the site resides, is intended for mixed use, recreational and commercial. These planning documents include, the Local Waterfront Revitalization Plan LWRP (2008), the Tonawanda Master Plan (Updated in 2014), the Tonawanda Tomorrow Economic Action Plan (2017), and the Tonawanda Brownfield Opportunity Plan (2018). The residents of Tonawanda have participated in the development of the above stated planning, development and visioning projects throughout the past decade, namely the Tonawanda Tomorrow planning process, and have said clearly that they desire public access to the waterfront.

While not included in the BCP application, we have specific concerns regarding a portion of the property, site 108, made into a landfill. Information included in an August 26th 2020 community briefing by the Environmental Protection Agency indicated that there is a potential for this site to be used in this way. Using a waterfront site as a landfill is in direct opposition to all of the Tonawanda of Tonawanda and Eire County planning documents. In addition, we have significant health concerns about putting a landfill on the water. Please answer the following questions:

Due to the number of planning documents that prioritize the waterfront, can you please tell us what contingency plans exist if the developer does not develop the property in a timely fashion?

For instance, could the property, if not developed by the developer, be developed by the community, say for a nature preserve or a solar farm?

What mechanisms could NYSDEC utilize to ensure that this property is remediated in a timely manner, and in a way that is consistent with existing waterfront redevelopment plans?

5. PROCEDURAL HISTORY

On July 1st, 2020, the NYS Department of Environmental Conservation issued a notice for public comment for the Riverview Innovation and Technology Campus (RITC) RIWP. The end date for public comment was set for July 31st, 2020. On July 23rd, 2020 the NYSDEC extended the comment deadline until August 31st, 2020. These comments are therefore submitted in a timely manner.

6. SPECIFIC TECHNICAL COMMENTS

Comments prepared by New York State Professional Geological Services, PLLC (nygeology) to the Inventum Engineering (Inventum) Remedial Investigation Work Plan (RI and RIWP respectively) for the Tonawanda Coke Brownfield Cleanup Program (BCP) Site are presented below.

Comment 1: Information Contained in the nygeology ESA Not Available to Inventum

General		

General: nygeology was retained by the Clean Air Coalition of Western New York to conduct an ASTM E1527-compliant Phase I Environmental Site Assessment (ESA) for a study area that included the BCP Site in order to better understand potential environmental conditions on behalf of the local community for the purpose of evaluating this and other RIWPs. Since these comments are based, in part, on that ESA, it is attached to these comments as a PDF file.

Analysis: Most of the suggestions made herein were due to deeper research by the nygeology team than the materials available to Inventum in the development of the RIWP.

Our request for standard record searches was performed by our contractor, EDR, and technically met the requirements of the ASTM E-1527 ESA standard for readily available information. The EDR Sanborn collection did not include key maps necessary for this assessment. We understand that Inventum used the same service and presumably got the same result. Since we understood little about Tonawanda Coke at the beginning of the RIWP public comment period, we set about to gather additional documents and build our information base by different methods.

nygeology obtained key Sanborn Coverage from the Buffalo and Erie County Public Library system and from the archives at the University at Buffalo Library, as well as aerial photos directly from the USGS and a variety of other sources. In addition, many other sources and studies important to the industrial history geology and hydrogeology of the area, along with previous site reports and other special reports on sites both within and outside of the ESA study area, were relied upon for our information base. Further, interviews were conducted with former employees familiar with site operations from the 1970s onward, including a plant superintendent and plant hydrologist.

The information contained in the ESA report can be used to develop a more complete understanding of the history of the site and develop a more comprehensive sampling program to understand its environmental condition.

Requested RIWP Revisions: All requested revisions presented herein can and should be derived from the balance of the remaining specific technical comments. Those comments are based on the information contained in the ESA. Inventum is free to use the attached nygeology ESA to support investigative decisions; however, any reliance on such information for CERCLA AAI protections or any other purpose is

strictly prohibited by nygeology under ESR Report Section 1.3 Reliance, which is specifically referenced in this comment.

Comment 2: Attached Digital Files

General		

General: To complete the attached ESA, georeferenced graphics were compiled for the BCP Site and the surrounding ESA Study Area. All files are attached as part of these comments as further described below.

Analysis:

All features, test pits, and buildings identified and discussed in these comments are located on the BCP site using the gridded system in the BCP workplan. The original gridded map from that workplan was georeferenced into Google Earth and used to record the location of the features. The information can be accessed through the provided digital files. Each digital item is available as a .kmz, .shp and .jpeg for ease of use and accessibility.

The files are organized as follows:

File Name	Content	Format
BCP_Boundaries	The Boundaries of AOI 1-7 overlaid on the Google Earth satellite base map	- Kmz - Jpeg
Adjacent_Region_Boundaries	The Boundaries of Superfund Sites 108, 109 and 110 overlaid on the Google Earth Satellite base map	- Kmz - Jpeg
Map_Features	The outlined areas of the Former Erie Canal, Rattlesnake Island, and the former pre-industrial riverbank	- Kmz - Jpeg
BCP_Features	The grid extracted from the BCP work plan. The footprints of all current and former structures in the BCP site. The names and functions of the former and current structures. The mapped drains on the BCP site. The Recognized Environmental Conditions (RECs) on the BCP site.	- Kmz - Jpeg
BCP_Samples	The locations of all unchanged, shortened and COM test pits. The locations of all planned monitoring wells. The locations of all requested additional wells. The locations of all planned surface samples. The locations of all planned surface water samples.	- Kmz - Jpeg
Historical_Sampling	The locations of test pits from previous environmental investigations (1986, 1989, 1991,	- Kmz - Jpeg

	2008) in Superfund sites 108, 109 and 110 as well as the BCP site. Locations of the monitoring wells from previous investigations (1986, 1989, 1991, 2008) in site 108, 109 and 110 as well as the BCP site.	
Aerial_Photos	Georeferenced Aerial photos from 1927, 1938, 1959, 1966, 1978, 1983, 2002, 2006, 2009, 2011, 2013, 2017	- Kmz - Jpeg
Sanborn_maps_BCP	Georeferenced Sanborn maps of the BCP site from 1917, 1918, 1921, 1940, 1947, 1967	- Kmz - Jpeg
Sanborn_maps_Roblin_Steel	Georeferenced Sanborn maps from 1917 and 1947	- Kmz - Jpeg

Requested RIWP Revisions: Inventum is free to use the attached nygeology digital files in any way it sees fit to enable updates to its RIWP or strengthen its RI Report.

Comment 3: Contacts

We appreciate the NYSDEC's approval of the community requested working group for the site. We encourage the NYSDEC to request that RITC include all members of the working group to the Community Participation Plan.

Comment 4: Status of Powers Work

2 BCP Site Description and History	2.1 BCP Background	

Lines 4 and 5: The RIWP states that Powers is still working on the BCP Site.

Requested RIWP Revisions: If Powers has completed its site activities by the next release of this RIWP, update this statement to close it out.

Comment 5: Byproduct Area Recognition

2 BCP Site Description and History	2.1 BCP Site Location and Description	

Bullet 2: The RIWP lumps all manufacturing and byproduct management activities into the AOI2 Production Area.

Analysis: Coal and Coke production areas and byproduct management areas are vastly different in terms of operation and chemistry and release potential. For more information, please see ESA Report Section 4.2 Byproduct Management. Section 4.2.8 of the ESA Report identifies specific waste streams from 23 specific byproduct management units, including the sumps, decanters, scrubbers, strippers, heaters, coolers, dryers, absorbers, condensers from water gas, tar processing, ammonia, phenol, naphthalene,

and light oil processing, as well as desulfurization, each with its own chemistry and spill history. Therefore, to the extent possible, these units have been mapped according to their specific or approximate locations as shown elsewhere in these comments so that the hot spots can be sampled and not missed by an incorrect distribution of sampling points.

Requested RIWP Revisions: Either reference that specific byproduct areas have been identified in the ESA for further investigation or use some of that information in this section to lay the groundwork for additional data collection in those areas.

Comment 6: Discuss the Historic Generation of 30 mcf/day of Manufactured Gas

2 BCP Site Description and History	2.1 BCP Site Location and Description	

General: The RIWP does not mention the manufacture and sale of gas from facility operations.

Analysis: The ESA revealed that, for a period of years, the facility sold upwards of 30 million cubic feet per day of Manufactured Gas to the Niagara Light, Heat & Power plant in the City of Tonawanda. Contrary to the NYSDEC response that the type of activity that generated Manufactured Gas was a fundamentally different process than that used at coke plants, NYSDEC guidance documents discuss the later, more modern process of generating manufactured gas at coke plants, namely the carburetted water gas process. Further the ESA revealed evidence of a Water Gas Plant. According to NYSDEC, the manufacture of such gas is known to have been associated with cyanide generation as a waste product. In fact, ever since NYSDEC required monitoring at the plant, cyanide has been a compound of concern.

Requested RIWP Revisions: The RIWP should acknowledge the manufacture and sale of large volumes of gas by the facility.

Comment 7: Stormwater History

2 BCP Site Description and History	2.1 BCP Site Location and Description	

Bullet 2 AOI 2 line 7: The RIWP states that “stormwater is collected” and discharged at Outfall 001.

Analysis: This was not the case through most of the history of the site. Additional details are provided in ESA Report Section 5.2 Surface Water. Although the current SPDES permit refers to Outfalls 001, 002 and 004 with Outfall 003 as discontinued, it should be noted that the original SPDES discharge permit allowed discharge to the Niagara River via the original Outfall 001, later renamed to Outfall 003 before the most recent system modification. Although the current site owner may not be responsible for historic releases at that outfall, the outfall should be recognized as a historic conduit for site discharges.

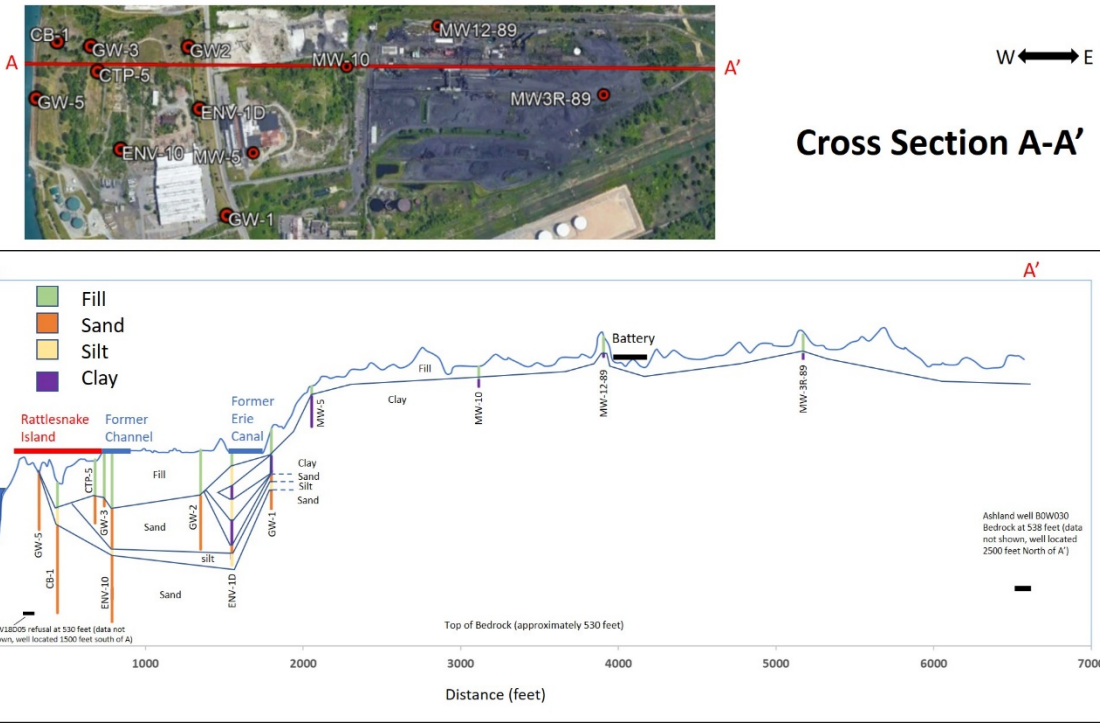
Requested RIWP Revisions: Insert “currently” after “collected” and consider adding a paragraph to discuss stormwater discharge history prior to the changeover.

Comment 8: Geology

2 BCP Site Description and History	2.4 Geology	

Paragraph 3: The RIWP characterization of the geology of the BCP Site may be overly simplistic.

Analysis: The clay deposits 1.5 miles to the east occurred in a completely different geological environment than those sediments directly downgradient and close to the Niagara River. As shown in the ESA cross section below, data from the Roblin Steel Site corroborates other data from work at the Huntley Power Plant immediately to the south. It shows the effect of a fluvial and possibly another higher energy depositional environment with sand and units of much higher permeability closer to the river. The closest downgradient log exhibits silt and sand deposits at depth, complicating the interpretation of the geology, on the western boundary of the site at least, without more information. As will also be discussed in more detail in later comments, the morphology of bedrock ridges under the BCP Site may further complicate matters.



Requested RIWP Revisions: This comment helps lay the groundwork for other comments later in the document. No revisions are necessarily required, but Inventum may choose to augment its discussion with this cross section and the additional information made available in the ESA.

Comment 9: Historical Outfall 001 / Outfall 003

2 BCP Site Description and History	2.5 Surface Water Hydrology	2.5.1 Historical

Paragraph 1: The RIWP discusses only the current series of outfalls.

Analysis: Refer to comment 6.

Requested RIWP Revisions: Recognize and discuss Historic Outfall 001.

Comment 10: Effects at Outfall 004 from Other Potential Sources

2 BCP Site Description and History	2.5 Surface Water Hydrology	2.5.1 Historical

PP2: The RIWP discusses Outfall 004.

Analysis: Outfall combines flow from Outfalls 001 and 002, discharging to a drainage ditch on Site 109 on the east side of River Road, where it combines with flows from other industrial properties north and south of Site 109 and the ditch draining Site 110. The combined flow is then conveyed through a culvert under River Road, into a drainage ditch on Site 108, and finally to the Niagara River. The impact from discharges originating from other industrial properties north and south of Site 109 is not known and is not regulated through the means of a discharge permit.

Requested RIWP Revisions: Mention the potential impact to this outfall from discharges originating from other industrial properties.

Comment 11: Geologic Complexity, Groundwater Flow Direction and Discharge

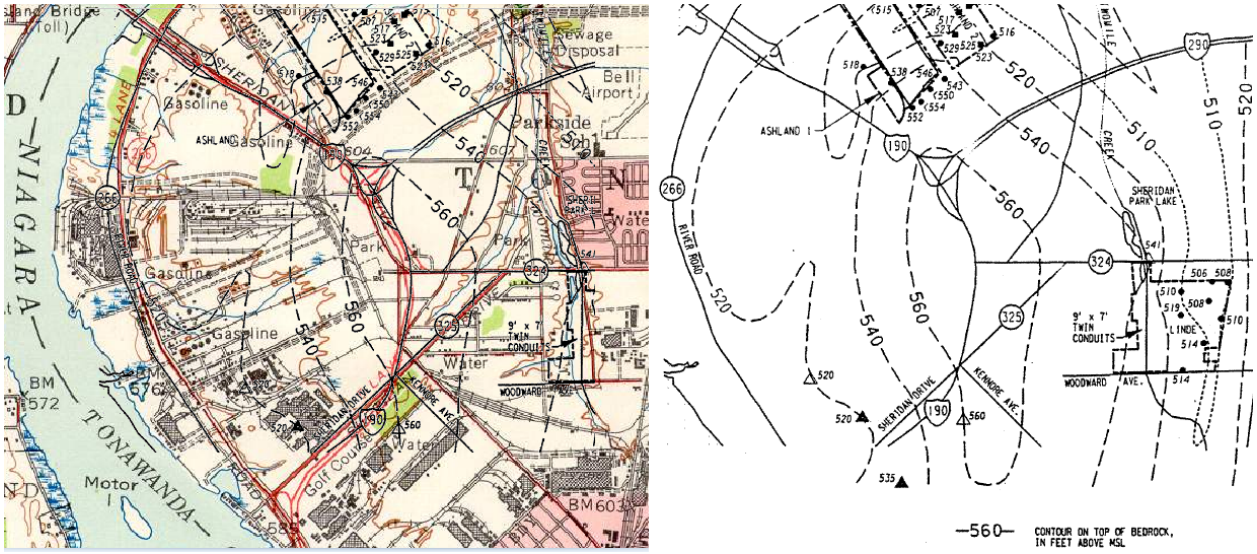
2 BCP Site Description and History	2.7 Groundwater	

General: The RIWP discusses the occurrence of groundwater in fill, clay and bedrock, and the possibility of a vertical gradient, but does not address groundwater flow, extraction or discharge.

Analysis: The RIWP does not discuss horizontal groundwater flow or the Niagara River as the local groundwater discharge zone, an important receptor particularly in light of the occurrence of higher permeability layers at the western border of the site as shown in the cross section in the earlier comment. Further, while groundwater in the area is not used for drinking, according to a NYSDEC Region 9 special report, at least one large capacity production well is located within a half-mile, seasonally controlling groundwater flow in bedrock just to the south of the BCP site. Other regional studies indicate localized groundwater flow to the north in the vicinity of the BCP Site as well. Without some control points to understand groundwater flow in bedrock, the flow direction will remain unknown.

In the 1993 USDOE *Remedial Investigation Report for the Tonawanda Site* discussed earlier, Bechtel describes the Camillus upper bedrock aquifer as a “contact-zone aquifer at the contact between basal unconsolidated materials and weathered bedrock." The report also states that “fractures, cracks, joints, solution features, and weathered gypsum and gypsiferous shale in the

upper part of the bedrock, in conjunction with a thin zone of relatively coarse-grained glaciofluvial deposits underlying the glaciolacustrine deposits, constitute the principal water-bearing interval at the Tonawanda site." Their Fig. 3-22, a contour map of the irregular top-of-bedrock surface that defines the aquifer, encompasses not only their Linde-Ashland-Seaway sites but also the Property and the entire ESA Study Area. Part of their figure is shown below in the right-hand panel, and is superimposed on the 1948 USGS topographic map in the left-hand panel.



Of particular interest are the two heads of bedrock valleys seen in the 520-foot elevation contour, one approaching the 110-BCP Property from the south, the other from the north. If mapped correctly, these favor southward flow in the aquifer beneath the southern part of the Property, and northward flow in the aquifer beneath the northern part of the Property, with the western part of the aquifer beneath Sites 108 and 109 flowing westward toward the river. Eastward flow toward the Linde site is not expected due to the north-south trending bedrock ridge (>560 feet AMSL) between the Property and Linde. Well MW-18D-05 and nearby Roblin wells suggest that the 520-foot contour on the above map may need to be shifted a short distance *west* of River Road, but such a minor revision would not substantially change the westward slope that descends from the 560-foot bedrock ridge.

To complicate matters further, the 2007 NYSDEC special report was precipitated by a State Superfund Investigation of the Polymer Applications site just south of the ESA Study Area, which discovered a seasonal depression of over 30 feet in the water table in the bedrock aquifer. The depression was attributable to the large volumes of water extracted by a local production well for the Dunlop Tire (now Sumitomo Rubber) facility. It is also possible that the contact-zone aquifer depression could be receiving groundwater from under the BCP Site, but it is not currently possible to say since there are no wells in that zone to complete the map. In summary, there is a possibility that deeper groundwater could be exiting the site to the north, west and south.

Requested RIWP Revisions: Horizontal flow and groundwater discharge should be addressed in this section. This comment helps lay the groundwork for other comments on this subject later in the document.

Comment 12: Effect of Foundations on Groundwater Flow Pathways

2 BCP Site Description and History	2.7 Groundwater	

General: The RIWP presents a concept in Section 5.1.1 RI Scope of Work / Areas of Investigation / AOI-1 - North Rail Corridor of the installation of a deep well to confirm that deep foundations have not impacted deeper groundwater, yet fails to present this concept in its analysis of groundwater flow.

Analysis: It is well known that pilings may transmit contaminants down through aquitards. Reports prepared on behalf of EPA on "Deep Foundations on Brownfields Sites" have addressed the issue of piles penetrating contaminated soils and underlying aquitards, thereby providing migration pathways for contaminants. Among the pile types tested, steel H-piles and untreated wood piles "showed rapid and significant adverse changes in contaminant transfer" (USEPA, 2002). Similarly, New York-based expert Ruwan Rajapakse notes in his book, *Pile Design and Construction Rules of Thumb* (Rajapakse, 2016), that *"When piles are driven through contaminated soil into clean water aquifers, water migration pathways could be created. Water would migrate from contaminated soil layers above to lower aquifers.... When a pile is driven or bored, a slight gap is created.... H-piles are more susceptible for creating water migration pathways than circular piles."*

The photo to the right shows the construction of a coke battery using steel piles. In the Terwilliger v Beazer (Court of Appeals of New York, June 11, 2019) Opinion, an expert witness for Honeywell asserted that at its Bethlehem Steel Lackawanna plant battery "workers drove 1,100 to 1,200 piles into the ground" to support the weight of its 76-oven coking battery. This would suggest that similar construction for the two batteries at Tonawanda Coke should have something on the order of 2,000 individual piles driven down to bedrock. A former Town of Tonawanda engineer confirmed that this would likely have been the case at Tonawanda Coke. Given the age of construction, it is likely that such steel H-piles were driven through the corrosive Odessa Silty Loam soil into the Camillus Shale bedrock at the BCP Site.

Requested RIWP Revisions: The possibility for downward flow of groundwater along preferential foundational pathways should be presented this section.

Comment 13: Historic Sample Compositing

3 Site Investigation History	3.2 Supplemental Site Investigation	

Paragraph 1 Bullet 1: The RIWP states that SVOC samples were composited.

Analysis: In the past, the lack of detection of volatile compounds in test pits was taken to be an indication of their absence at the site. However, Conestoga Rovers Associates (CRA) also composited samples for volatile analysis. Because volatiles are released in the compositing process, this data was invalid, as were any interpretations the data were based on.

Requested RIWP Revisions: The RIWP should recognize not only the invalidation of the SVOC data but the invalidity of the VOC data, specifically stating that the lack of VOCs in these samples was not an indication that they were not present.

Comment 14: USEPA and General Misinformation

3 Site Investigation History	Recent EPA Investigations	

General Notes: The USEPA noted in its August 26, 2020 community debrief that the three million gallon above ground storage gallon tank near the southwest corner of the property was remediated as a "weak Ammonia" tank. Sanborn maps in the ESA show these tanks for be fuel and pentane tanks, suggesting that some tanks may have been repurposed over the years and may not contain expected materials. Further, ammonia should never be referred to as "weak"; because it is hygroscopic and does not fully dissociate in water, does not mean it is weak, as in diluted, as it remains extremely caustic.

Comment 15: Incomplete Conceptual Site Model

4 Initial Conceptual Site Model and Data Gaps	4.1 Initial Conceptual Site Model	

Paragraph 1: The RIWP attempts to establish the baseline for a Conceptual Site Model (CSM) at the BCP Site.

Analysis: The bullet points used to establish the baseline are not an adequate baseline for a CSM. Each of the 10 bullet points addresses the potential release of contamination, but no bullet points address the migration of any contamination that might have been released. Specifically, to the extent known from previous investigations, the model should discuss or at least address:

1. The general thickness of the fill.
2. General water movement through the fill including flow direction.
3. The permeability of the clay and its ability to conduct water.
4. General water movement through the clay including flow direction.
5. The expected thickness of the clay.
6. The expected depth of bedrock.
7. General water movement through bedrock.
8. The possibility of battery pilings to conduct water and contamination vertically downward.

Requested RIWP Revisions: Revise the CSM to reflect some knowledge of the potential transport and fate of any contamination so as to provide a baseline for RIWP Sections 4.2 Data Gaps and 5 RI Scope of Work.

Comment 16: Ongoing Discharges

4 Initial Conceptual Site Model and Data Gaps	4.1 Initial Conceptual Site Model	

Bullet 5: The RIWP states that "maintenance eliminates ongoing discharges from facilities and equipment."

Analysis: This statement is only true as it applies to wastewater. It does not apply to stormwater.

Requested RIWP Revisions: Add “wastewater” between the words “ongoing” and “discharges.”

Comment 17: Naturally Occurring Constituents

4 Initial Conceptual Site Model and Data Gaps	4.1 Data Gaps	

Bullet 9: The RIWP states that "there may be coal and coke residuals in the coal and coke yards but those will be largely naturally occurring concentrations of constituents."

Analysis: This statement is taken to read that such constituents are native to Coal and Coke. However, any residual Coal and Coke remaining in the yard is not native to the site. If concentrations of analytes of interest are detected in samples, the results must be interpreted accordingly in the RI Report and in the Alternatives Analysis.

Requested RIWP Revisions: Delete this statement.

Comment 18: Gas Supply Pipeline as a Potential Migration Conduit

4 Initial Conceptual Site Model and Data Gaps	4.1 Data Gaps	

General: The RIWP does not acknowledge the manufacture and sale of gas from facility operations.

Analysis: As presented in Comment 6, the ESA revealed that, for a period of years, the facility sold upwards of 30 million cubic feet per day of Manufactured Gas to the Niagara Light, Heat & Power plant in the City of Tonawanda. Unless addressed in any Niagara Light, Heat & Power remediation efforts, the absence of data on the gas supply pipe, particularly as a conduit for contaminant migration, should be noted as a data gap.

Requested RIWP Revisions: The RIWP should acknowledge the gas supply pipeline data gap and plan to monitor for it in the RI or in subsequent site remediation or development activities.

Comment 19: Comprehensive Conceptual Site Model

4 Initial Conceptual Site Model and Data Gaps	4.1 Initial Conceptual Site Model	

Paragraph 2: The RIWP states that one Conceptual Site Model (CSM) will be developed for each AOI.

Analysis: The geology and hydrogeology of the area is complicated. AOIs are contiguous, as are adjacent and downgradient sites. More complex stratigraphy begins on the west side of the site and becomes more complex closer to the river. And while the Niagara River discharge is the major influence on groundwater flow in the area, possible regional bedrock flow regimes may also be influencing the site to the north and south as reported by NYSDEC Region 9 and others. For these reasons, the site as a whole should have a complete, unified, comprehensive CSM.

Requested RIWP Revisions: Revise the section on CSM to reflect that the RI Report will develop a single comprehensive CSM.

Comment 20: Missing Conceptual Site Model Element: Byproduct Management Area

4 Initial Conceptual Site Model and Data Gaps	4.1 Initial Conceptual Site Model (CSM)	

General: The RIWP CSM does not address the Byproduct Management Area within AOI-2.

Analysis: The coke production area in the southern half of AOI-2 and the byproduct management area in the northern half of AOI-2 have vastly different environmental footprints. While the production area mainly received coal and shipped a purer-carbon coke product, the ESA Report identified waste streams from 23 specific byproduct management units to the north, each with its own chemistry and spill history, as indicated in Comment 5. The CSM should recognize the special nature of that area.

Requested RIWP Revisions: Add information as necessary from the ESA to reference some of the specific byproduct areas that must be examined in the scope of work so as not to miss specific georeferenced hot spots.

Comment 21: Missing Conceptual Site Model Element: Powerhouse and Associated Areas with Equipment

4 Initial Conceptual Site Model and Data Gaps	4.1 Initial Conceptual Site Model (CSM) 5.2 Data Gaps	

Table 6 BCP-07: The RIWP plans to sample at former transformers near the former Breaker Building but the CSM does not address the presence of transformers or the need to collect that data.

Analysis: The breaker building is some distance away from the powerhouse where power was being generated by steam ESA, an area where transformers would have been required to feed power to other areas for use. Further, interviews in the ESA revealed that a tram was used to deliver coke form the batteries, or at least Battery 2, to the quench oil area. Power generation and the need to collect PCB data at former transformer locations should be addressed in the CSM and CSM Data Gaps in order to set the stage for such sampling as discussed in comments later in the document.

Requested RIWP Revisions: Add information as necessary from the ESA to reference some of the specific byproduct areas that must be examined in the scope of work so as not to miss specific georeferenced hot spots.

Comment 22: Missing Conceptual Site Model Element: Spill History

4 Initial Conceptual Site Model and Data Gaps	4.1 Initial Conceptual Site Model (CSM)	

General: The RIWP CSM does not address the spill history at the site.

Analysis: The ESA reports that a total of 32 spills were reported at the Tonawanda Coke Site. A closer look reveals that while the NYSDEC Database first began recording spills in 1978, the first spill at Tonawanda Coke was reported in in 1993. In the time following, only one spill was recorded in 10 years later and a third spill four years after that. In stark contrast with the 29 remaining spills reported from 2010 to the closing of the site, the lack of spill reporting over time suggests that spills were common across the operational history of the site, and that many more undocumented spills likely had occurred over the 100 years of operations at the site. The CSM should recognize the magnitude of the history and likely diffuse distribution of spills over time when the facility was operational.

Requested RIWP Revisions: The CSM should recognize the spill history at the BCP Site and plan to address it in its investigations. It is our understanding that certain specific spills were to be addressed at this phase of work; those spills and the plans to investigate them should be mentioned someplace in the RIWP. Also refer to investigation of specific spills listed later in this document.

Comment 23: Missing Conceptual Site Model Element: AOI-2 Spill Area B

4 Initial Conceptual Site Model and Data Gaps	4.1 Initial Conceptual Site Model (CSM) 4.2 Data Gaps	

Figure 7 and 5.3 Test Pits Paragraph 1 Bullet 2: The RIWP CSM does not address the history of "Spill Area B. No mention of the spills in this area have been referred to, yet the investigation of this area is clearly intended.

Requested RIWP Revisions: The CSM should discuss, to the extent possible, the origin and nature of the spill located in the are referred to as "Spill Area B."

Comment 24: Missing Conceptual Site Model Element: Other open NYSDEC Spills

4 Initial Conceptual Site Model and Data Gaps	4.1 Initial Conceptual Site Model (CSM) 4.2 Data Gaps	

RIWP Figure 4 and Bibliography: The RIWP bibliography mentions an NaOH spill, but that spill is not refenced anywhere in the RIWP, as are a number of other spills that remain open for closure by NYSDEC.

Analysis: The table below shows open spill numbers from NYSDEC files:

REC No.	Associated Operation/Event	Recognized Environmental Condition	Grid Ref.
48	Spills	Open Spill 1509056	Unreported
49	Spills	Open Spill 1707802	Z 12.5 *
50	Spills	Open Spill 1411461	Unreported
51	Spills	Open Spill 1312126	Unreported
52	Spills	Open Spill 1400418	Unreported
53	Spills	Open Spill 1404225	Unreported
54	Spills	Open Spill 1803893	AD 3.5 *
55	Spills	Open Spill 1804001	M 6.5 *
56	Spills	Open Spill 1908744	Unreported
57	Spills	Unreported Spills	Unknown

The above table does not include open spills reported but determined to be de minimis. Open spills with an asterisk * were identified in RIWP Figure 4 but not discussed anywhere else in the document, and no sampling is planned for those spill areas. Further, the six remaining spill files have not been reviewed for details, however, until the individual spill files are reviewed for location and scheduled for investigation, they are known to include a 5,000 liter spill of coal tar, releases of significant amounts of hydraulic oil, and one spill of an unknown petroleum product in an unknown amount.

Requested RIWP Revisions: The CSM should discuss each of these spills, address the necessary data gaps, and add these sites for investigation with test pits to the Scope of Work, figures and tables as appropriate.

Comment 25: Missing Conceptual Site Model Element: Geology and Hydrogeology

4 Initial Conceptual Site Model and Data Gaps	4.1 Initial Conceptual Site Model (CSM)	

General: The RIWP CSM does not address the geology or hydrogeology of the site.

Analysis: As discussed in comments 8 and 11, the CSM should include discussions on site geology and hydrogeology.

Requested RIWP Revisions: Revise the RIWP to include information on site geology and hydrogeology in which Sections 4.2 Data Gaps and 5 RI Scope of Work will be based. In particular, the CSM should discuss 1.) the possible gradation in the material underlying the fill at the BCP Site to the higher permeability deposits lying directly to the west toward the Niagara River; and 2.) the presence of local groundwater information in bedrock that can influence deeper groundwater flow at the site.

Comment 26: Collection Mains

4 Initial Conceptual Site Model and Data Gaps	4.1 Initial Conceptual Site Model (CSM) 4.2 Data Gaps	

Requested RIWP Revisions: There is no mention of "Collection Mains," including the "Bethlehem Steel" Collection Main, in the CSM. Revise the RIWP to discuss the "Collection Mains" subject to investigation at TP-BCP-40 and TP-BCP-38.

Comment 27: Missing Conceptual Site Model Element: Foundation Conduits

4 Initial Conceptual Site Model and Data Gaps	4.1 Initial Conceptual Site Model (CSM)	

General: The RIWP CSM does not address the possibility for downward flow of groundwater along preferential foundational pathways.

Analysis: The possibility for downward flow of groundwater along preferential foundational pathways is presented in detail in Comment 12.

Requested RIWP Revisions: Refer to Comment 12 and update this section to acknowledge the potential for downward flow of groundwater along preferential foundational pathways on which the deep drilling will be based.

Comment 28: Gas Supply Pipeline Migration Conduit Investigation

5 Remedial Investigation Scope of Work		

General: The RIWP does not plan to locate the former gas supply pipeline that can act as a conduit for off-site contaminant migration.

Analysis: As presented in Comment 6 Site History and Comment 18 on CSM Data Gaps, , the ESA revealed that, for a period of years, the facility sold upwards of 30 million cubic feet per day of Manufactured Gas to the Niagara Light, Heat & Power plant in the City of Tonawanda. Unless addressed in any Niagara Light, Heat & Power remediation efforts, the absence of data on the gas supply pipe, particularly as a conduit for contaminant migration, should be noted as a data gap.

Requested RIWP Revisions: The RIWP should acknowledge the gas supply pipeline data gap and plan to monitor for it in the RI or in subsequent site remediation or development activities.

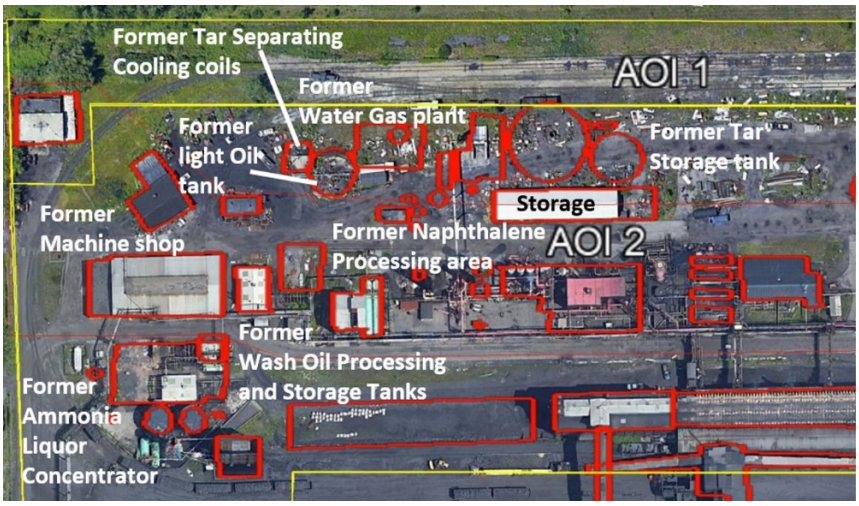
Comment 29: Byproduct Area Investigation

5 Remedial Investigation Scope of Work		

Byproduct Area within AOI2: The RIWP does not recognize the extensive processing of specific byproducts and the generation of large amounts of potentially hazardous chemicals generated in those byproduct processing areas within AOI-2.

Analysis: nygeology, through extensive research, has uncovered data not available to Inventum and determined the likely locations of specific byproduct processing units and the specific chemicals that were likely used or generated at them. With the exception of the welding shop, which was formerly a machine shop likely working with solvents, the infrastructure associated with the specific byproduct areas of concern has been removed. For a complete analysis of the nature and locations of these former units, refer to the ESA and digital file attachments. These specific areas of concern are listed below and shown in the figure.

1. Former Water Gas Plant
2. Former Tar Separating Cooling Coils
3. Former Light Oil Tank
4. Former Tar Storage Tank
5. Former Naphthalene Processing Tank Area
6. Former Machine Shop
7. Former Ammonia Liquor Concentrator
8. Former Wash Oil Processing Building and Storage Tanks



Test pits will need to be dug at each identified location to examine the impact of these byproduct processing operations. While the locations of the planned BCP pits do not change, certain BCP pits could be shortened and used to investigate the byproduct management units as discussed later in these comments. For the purposes of these comments, we have identified these pits as "community" test pits with the designation COM Test Pits to avoid confusion with the planned BCP Test Pits.

In addition, nygeology realizes that Interim Remedial Measures (IRMs) are in process for Light Oil Area Secondary Containment and for the Mixing Pad. In the interest of completeness, however, we are including the installation of additional byproduct management COM Test Pits at these locations as discussed later in these comments.

Requested RIWP Revisions: Add the additional information referenced herein to the RIWP to lay out the rationale for the additional test pit work in the byproduct processing area. Regarding the specifics of the COM Test Pits, refer to comments made herein to the RIWP Sections 5.3 Test Pits and 8.1 Interim Site Management.

Comment 30: Byproduct Area Water Samples

5 Remedial Investigation Scope of Work		

Requested RIWP Revisions: The photo below seems to show standing water at the old byproducts building that was destroyed by fire. It is unclear whether the RIWP incorporates plans to sample this area. If standing water is present, particularly in areas exhibiting a sheen, the RIWP should add a surface water sample at this location. While it is possible that the collection of this water is simply from precipitation and snow melt, a determination of water quality in this location will be helpful to evaluation the alternative to remediating the byproduct area.

Comment 31: Borehole/Well Locations, Depth and Sampling

5 Remedial Investigation Scope of Work		

General: The RIWP calls out boring and well locations as part of AOI-specific discussion which makes it difficult to comment on the locations. For this reason, a general discussion is provided below, and specific comments are called out later in the text.

Analysis: We are in general agreement with well depths and locations; however, given the information developed in the ESA, several changes are in order.

Requested RIWP Revisions: Review and incorporate the specific comments below into RIWP Section 5.1 Areas of Investigation and Figure 7 and review the comments in Section 5.2 on how to optimize drilling efforts.

Comment 32: Byproduct Area Investigation

Requested RIWP Revision: Add wells. Due to the concentration of byproduct management operations along the west-east axis in the northern section of AOI-2 and the likely westerly flow of groundwater, Monitoring Wells at MW-BCP-02, designed to monitor the light oil and weak ammonia tanks, may be located too far south to be truly downgradient of the byproduct management area. The RIWP should be revised to add shallow, medium and medium deep depth wells across the driveway to the north to better reflect downgradient conditions from the byproduct management area (MW-BCP 21 A/B/C). In addition, add a medium depth well at MW-BCP-05 (MW-BCP-05C) since that is the first most likely horizon below the fill to exhibit evidence of a release. This configuration will allow a more complete interpretation of the geology and hydrogeology in this important area.

Comment 33: Foundation Conduit Investigation

Requested RIWP Revision: Relocate MW-BCP-09 and add wells. As discussed in Comments 12 and 27, one well at MW-BCP-05 is not sufficient to investigate whether the Battery Foundations have caused releases to move lower into the water column and possibly down to the bedrock aquifer. Revise RIWP section 5.1.2 AOI-2 to relocate MW-BCP-09 slightly south-southwest to the western side of the brick building downgradient of Battery 2 and in the vicinity of former Battery 1, and specify the addition of medium deep and deep wells at the location as well (MW-BCP-09 C/D.)

Comment 34: Confirmation of Permeability.

Requested RIWP Revision: Collect additional samples and conduct slug tests if warranted. It is logical that the team performing the analysis of data will be looking at whether the clay acts as an aquiclude as expected. By nature of its low permeability, wells set in clay will not be conducive to in-situ permeability measurements once installed. The RIWP correctly attempts to collect this data via laboratory analysis using the collection of undisturbed samples in boreholes using a thin-walled or “Shelby” tube. While data from CRA wells MW-11 and MW-13 can be used, the holes are located at the extreme northwest and northeast corners of the site respectively. The planned sample at MW-BCP-01 from 20 feet below the top-of-clay will help verify the data from MW-11 and the planned samples from 10 feet below the top of clay at MW-BCP-05 in the production AOI and MW-BCP-15 on the western boundary of the site. However, if there will be a claim that an aquiclude forms a protective barrier to downward contaminant migration, additional data should be gathered in areas across the site to strengthen this claim. Revise RIWP to include similar samples at MW-BCP-8, MW-BCP-12, MW-BCP-13, and MW-BCP-20 at a depth of 10 feet below the top-of-clay to verify the continuous nature of the layer.

There is little to no geological data at depth underneath the BCP site. This is because, as presented in the cross-section in Comment 8, the geology immediately to the west of the site exhibits silt and sand units that become thicker toward the Niagara River; because they might be encountered during drilling, a comment later in this document recommends setting medium and medium deep wells in higher permeability zones, if encountered, rather than at arbitrary 25- and 40- foot depths, respectively, since preferential groundwater flow will happen in these zones and not in the clay. The RIWP should specify that, if encountered, any well screened in a higher permeability unit should be tested for permeability

using a slug test. Alternatively, depending on the nature of the material, an in-situ sample could be collected from that zone.

Comment 35: Bedrock Aquifer Characterization

Requested RIWP Revision: Add deep wells at locations MW-BCP-02, MW-BCP-06, MW-BCP-13 and MW-BCP-18. As discussed in Comments 8, 11, 15, 19, and 25, given the flow uncertainty in bedrock at the BCP Site, one bedrock well is not sufficient to determine or adequately distinguish groundwater flow, particularly seasonally, in bedrock at the BCP Site. In addition to planned deep well MW-BCP-05D and the recommended addition of a deep well at MW-BCP-09, the appropriate RIWP AOI subsections should be revised to specify the installation of deep wells at locations MW-BCP-13(D) to the east, MW-BCP-06(D) to the north, MW-BCP-18(D) to the south and MW-BCP-02(D) to monitor the downgradient border of the BCP Site.

Comment 36: Investigation of Former Gas Supply Pipeline as a Migration Conduit

Requested RIWP Revision: Investigate the Former Gas Supply Pipeline as a Conduit: The RIWP should note that the location of the former gas supply pipeline and the potential conduit for contaminant migration associated with it is not known, at that investigators will remain alert to its presence as the implement the RI.

In the ESA, former employees reported many fires, the most memorable of which seemed to be in the production and byproduct areas. Because the use of firefighting foams cannot be confirmed or denied, RIWP Section 5.1.2 Production Area -AOI-2 should be revised, with the exception of the iron oxide pile, to call for PFOS/PFAS analysis at each surface water sampling location, at each shallow groundwater sampling location and at al least one surface or soil fill sample per soil sampling location.

Comment 37: Investigations in Areas Suspected to Have Had PCBs

Requested RIWP Revision: Add PCB Sampling at Suspect Locations. As presented in Comment 21 on the powerhouse and associated areas, the RIWP identifies TP-BCP-07 to be installed near the old transformers near the Breaker Building. However, The Boiler house itself would have housed transformers, as well as the electric trams, at least the tram at Battery 2, that carried coke from the ovens to the quench area. The RIWP should be amended to include the installation of similar test pits in these areas and to be sampled for PCBs.

Comment 38: Sample Bias Methodology

Remedial Investigation Scope of Work	5.2 Monitoring Well Installation	

PP2 last sentence: The RIWP states that the methodology used for the choice of soil to be sent for sample analysis will be a decision based on the highest PID reading or visually impacted soil.

Analysis: Since visual impacts are not always apparent for volatile compounds in soil samples, and since semivolatiles associated with coal tars may not exhibit volatiles that can be detected by a Photoionization Detector (PID), VOC and SVOC constituents may be associated with different soil in different horizons in a test pit or boring. When a single sample is called for in a single location, the above methodology could lead to biasing the result to VOC, or, alternately, SVOC detections.

Requested RIWP Revisions: Revise the methodology to allow for different parts of a soil horizon to be split into different analyte sets. For example, if one sample from a location is called for but the 3- to 4- foot interval is visually impacted and the 5- to 7- foot interval is not visually impacted but exhibits a high VOC reading, the SVOC analysis could be specified for the 3- to 4- foot interval and the VOC analysis could be specified for the 5- to 7- foot interval.

Comment 39: Synoptic Measurements with Surrounding Sites

Remedial Investigation Scope of Work	5.2 Monitoring Well Installation	

Requested RIWP Revisions: Footnote 7. The footnote states that data from wells at adjoining Superfund sites will be used to supplement the data from the BCP study. The RIWP should be revised to state that, to the extent possible, groundwater sampling should be scheduled at the same time as groundwater sampling at other sites. If this is not possible, at least quarterly water levels at the BCP Site should be measured synoptically (i.e. on the same day) as quarterly water levels on the other sites to 1.) account for a more comprehensive understanding of groundwater flow for the CSM; and 2.) measure seasonal fluctuations in groundwater flow, as is particularly important if pumping centers in the area are controlling some aspects of groundwater flow.

Comment 40: Sample Bias Methodology

Requested RIWP Revisions: Paragraph 2 Last Sentence: Revise the RIWP to reflect the sampling bias methodology recommended in Comment 38 above.

Comment 41: Well Development

Requested RIWP Revisions Paragraph 3 Sentence 3: Revise the RIWP to reflect that although wells should be purged a minimum of three well volumes, the purpose of the development of a well is to remove suspended solids. Development should attempt to achieve that objective or, at a minimum, until water quality parameters including conductivity and turbidity stabilize.

Comments 42/43: Medium and Medium Deep Monitoring Well Depths

Requested RIWP Revisions: 5.2.2 Medium Depth- "B" Monitoring Wells. Revise RIWP Section 5.2.2 to reflect that, to the degree higher permeability units underlie the fill, if they are encountered before the

maximum depth of 25 feet, the well will be screened across the higher permeability zone, possibly extending the well several more feet to appropriately monitor the higher permeability layer.

Requested RIWP Revisions: 5.2.3 Medium Deep Depth- "C" Monitoring Wells. Accordingly, revise RIWP Section 5.2.2 to reflect that, to the degree higher permeability units underlie the fill, if they are encountered before the maximum depth of 40 feet, the well will be screened across the higher permeability zone in order to appropriately monitor the higher permeability layer.

Comment 44: Deep Monitoring Well Installation

Requested RIWP Revisions: 5.2.4 Deep[Depth – "D" Monitoring Wells. Revise RIWP Section 5.2.4 to reflect that, in the areas where these wells are drilled, all sampling should take place during the installation of the first deep hole, and adjacent wells in the nest can be blind drilled and set to appropriate depths without the need for additional sampling.

Comment 45: Groundwater Sampling Parameter Stabilization

Requested RIWP Revisions: 5.2.5 Groundwater Sampling Paragraph 1 Sentence 4. Revise RIWP Section 5.2.5 to reflect that sampling will occur after the stated parameters stabilize.

Comment 46: COM Test Pit Depth and Sampling Depth

5 Remedial Investigation Scope of Work	5.3 Test Pits	

Paragraphs 1 and 2: Paragraph 1 of the RIWP states the specifications for the orientation and length of Test Pits, but not the depth, except to say that only 2 vertical feet of soil will be removed per scoop, indicating a greater depth. Paragraph 3 indicates that there will be a final depth but does not specify what that is or how that decision will be made. RIWP Table 6 indicates that most test pit depts will be 5 feet.

Analysis: Confusingly, specifications for sample collection are provided in the AOI-specific discussions and call for sampling only the top 2-foot interval, and RIWP Table 6 indicates that the soil sample will be pulled from a 0- to 1-foot depth. It is likely that the spill history and flexible staging of equipment over the years may have caused rounds of filling across a 50-foot minimum test pit length, such that maximum PID readings and/or visual contamination may occur in the interval below 2 feet. While the developer may need data from the top 2 feet to support the Alternatives Analysis, samples should be biased high for maximum contaminant concentrations. The sample screening and choice for analysis should be based on a maximum value, not arbitrarily set at a depth limited to the top 1 foot, possibly missing higher levels of contamination.

Further, the Comment 38 above on Sample Bias Methodology should also apply to test pits. Since visual impacts are not always apparent for volatile compounds in soil samples, and since semivolatiles associated with coal tars may not exhibit volatiles that can be detected by a Photoionization Detector (PID), VOC and SVOC constituents may be associated with different soil in different horizons in a test pit.

Requested RIWP Revisions: The target depth or decision process to terminate at a particular depth must be included in the workplan. In addition, test pit screening should follow the modification set forth in Comment 38.

Comment 47: Test Pit Soil Analyses for a Hazardous Waste Determination

5 Remedial Investigation Scope of Work	5.3 Test Pits	

Toxicity Characteristic Leaching Procedure (TCLP) Analyses: The RIWP does not indicate any attempt to determine whether soil at the site expected to be contaminated with Polynuclear Aromatic Hydrocarbons (PAHs) needs to be considered for its potential to be classified as Hazardous Waste, in particular, by analysis for TCLP parameters, in the evaluation of alternatives in the Alternatives Analysis (AA.)

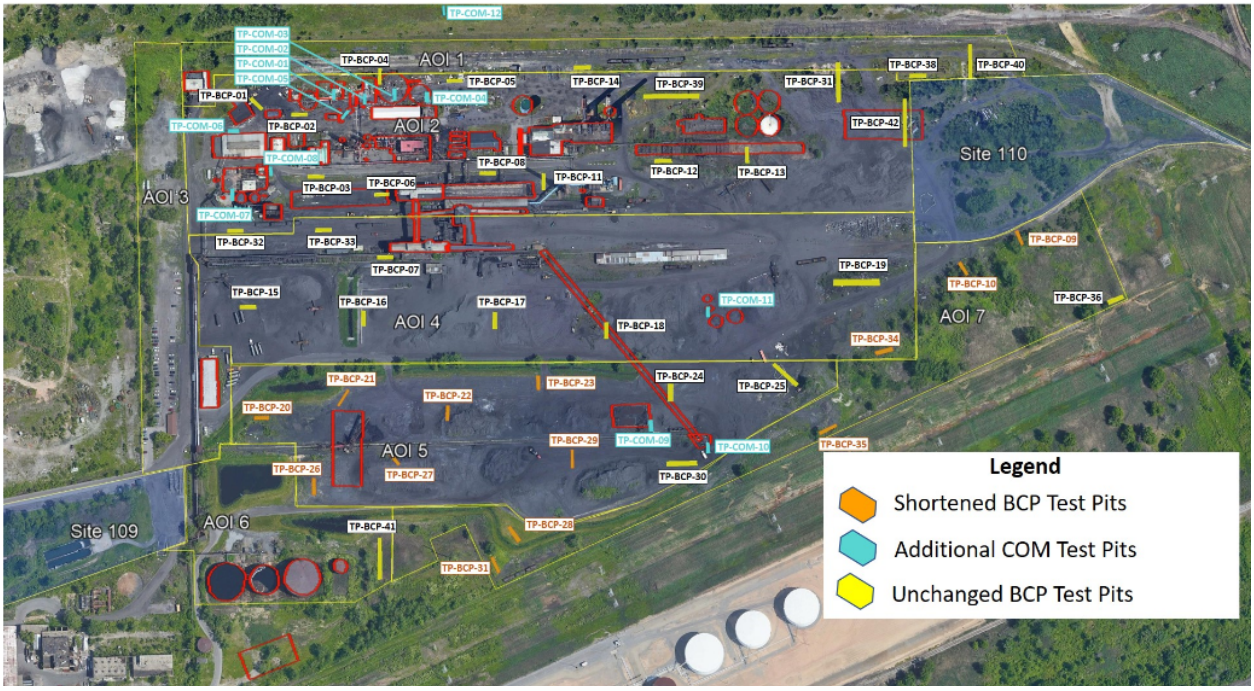
Analysis: Since the purpose of the RI is to collect information to design a site remedy, and since the evaluation of alternatives in the AA should include alternatives with in-situ treatment methods such as bioremediation and off-site treatment and disposal evaluations, at least some samples need to be analyzed for TCLP. This is important because samples that do not conform to appropriate cleanup levels for the BCP site will require some form of remediation. Given the type of compounds likely to be present, a determination of the volume of soil subject to remediation is crucial to the alternatives analysis since the choice of an alternative is in-part based on cost, which in-part is driven by potential land disposal restrictions the expense of implementing a particular in-situ technology and/or the expense associated with the transport of the soil. A knowledge of whether contaminated soil is considered a hazardous waste is therefore essential to completing the alternatives analysis and therefore, the RI.

Requested RIWP Revisions: Amend the RIWP to call for TCLP testing of test pit soils based on the revised screening for volatiles and semivolatiles presented herein. Given a 14-day hold time for TCLP soil analysis, it is unlikely that other soil analysis can be used to determine which samples should be subjected far additional TCLP testing. If all test pit soils are not sampled, all samples in AOI-2 should be subject to TCLP analysis, along with at least the one sample expected to be the most contaminated from other AOIs subject to test pits (AOIs 1, 4, 5, 6 and 7.) In addition, the sample in the iron oxide pile should also be tested for TCLP.

Comment 48: COM Test Pit Additions and BCP Test Pit Reductions

5 Remedial Investigation Scope of Work	5.3 Test Pits	

As presented earlier in Comment 20 on historic byproduct operations, this section provides the details for the modification of BCP Test Pits and the installation of each COM Test Pit. The following map shows the locations of all test pits envisioned to be installed at the site:



Out of respect for the resources that must be dedicated to implement this workplan, we have attempted to preserve the level of test pit work activity by shortening some pits and redistributing them to other areas for investigation. TP-BCP 1-8, 11-19, 24, 25, 30, 32, 33, 36-42, marked as yellow polygons on the map, do not need to be modified from the original BCP workplan. Modifications to the test pit program are discussed further below.

BCP Test Pit Modifications: Several of the BCP workplan test pits are in locations where there was limited to no historical activity. We believe these test pits can be reduced in size while still providing the same level of sampling information. Specifically, TP-BCP-9, 10, 20, 21, 22, 23, 26, 27, 28, 29, 31, 34, and 35 are identified as test pits that can be reduced in length. The modified test pits are identified as orange polygons on the above map. The rationale for shortening these test pits along with the recommended length for each is presented below:

TP-BCP-9: Current length of 165 feet. The test pit is in AOI -7 (southern drainage area). The currently mapped wetland is south of this site and it appears that no historical activity took place at this location. We recommend shortening the pit to 50 feet.

TP-BCP-10: Current length of 140 feet. The test pit is in AOI -7 (southern drainage area). The currently mapped wetland is south of this site and it appears that no historical activity took place at this location. We recommend shortening the pit to 50 feet.

TP-BCP-20: Current length of 65 feet. The pit is in AOI -5 (coal yard). The western half of this region was historically used to store coal and all the material will be stripped down to the natural soil. We recommend shortening the pit to 50 feet.

TP-BCP-21: Current length of 130 feet. The pit is in AOI-5 (coal yard). The western half of this region was historically used to store coal and all the material will be stripped down to the natural soil. We recommend shortening the pit to 50 feet.

TP-BCP-22: Current length of 65 feet. The pit is in AOI-5 (coal yard). The western half of this region was historically used to store coal and all the material will be stripped down to the natural soil. We recommend shortening the pit to 50 feet.

TP-BCP-23: Current length of 55 feet. The pit is in AOI-5 (coal yard). The western half of this region was historically used to store coal and all the material will be stripped down to the natural soil. We recommend shortening the pit to 50 feet.

TP-BCP-26: Current length of 100 feet. The pit is in AOI -5 (coal yard). The western half of this region was historically used to store coal and all the material will be stripped down to the natural soil. We recommend shortening the pit to 50 feet.

TP-BCP-27: Current length of 55 feet. The pit is in AOI-5 (coal yard). The western half of this region was historically used to store coal and all the material will be stripped down to the natural soil. We recommend shortening the pit to 50 feet.

TP-BCP-28: Current length of 100 feet. The test pit is in AOI-7 (southern drainage area). The currently mapped wetland is south of this site and it appears that no historical activity took place at this location. We recommend shortening the pit to 50 feet.

TP-BCP-29: Current length of 55 feet. The pit is in AOI-5 (coal yard). The western half of this region was historically used to store coal and all the material will be stripped down to the natural soil. We recommend shortening the pit to 50 feet.

TP-BCP-31: Current length of 130 feet. The test pit is in AOI-7 (southern drainage area). The currently mapped wetland is south of this site and it appears that no historical activity took place at this location. We recommend shortening the pit to 50 feet.

TP-BCP-34: Current length of 165 feet. The test pit is in AOI-7 (southern drainage area). The currently mapped wetland is south of this site and it appears that no historical activity took place at this location. We recommend shortening the pit to 50 feet.

TP-BCP-35: Current length of 165 feet. The test pit is in AOI-7 (southern drainage area). The currently mapped wetland is south of this site and it appears that no historical activity took place at this location. We recommend shortening the pit to 50 feet.

COM Test Pit Additions: Several locations on the BCP site identified during our review of the available historical documentation require soil sampling to assess the level of contamination, if any, in the soil. A total of 8 new test pits, each 30 feet in length, are proposed for installation in the byproducts area corresponding to specific byproduct operations. The nomenclature for these new test pits will be TP-COM-#, to identify that these test pit locations were selected from the community research of this site. These new test pits are marked with light blue polygons on the above map. The location of each additional COM test pit is shown below and is referenced to the appropriate BCP Grid square.

TP-COM-1 Former Water Gas Plant: As shown below, the new test pit will be placed as close to the former water gas plant as possible. This test pit is located in RIWP grid square M 3-4. Sample analysis should include VOCs, SVOCs, cyanide, metals and mercury.

TC-COM-2 Former Tar Separating Cooling Coils: As shown below, the new test pit will be placed as close to the former tar separating cooling coils as possible. This test pit is located in RIWP grid square O-4. Sample analysis should include VOCs, SVOCs, cyanide, metals and mercury.

TP-COM-3 Former Light Oil Tank: As shown below, the new test pit will be placed as close to the former light oil tank as possible. This test pit is located in RIWP grid square Q-4. Sample analysis should include VOCs, SVOCs, cyanide, metals and mercury.

TP-COM-4 Former Tar Storage Tank: As shown above, the new test pit will be placed as close to the former tar storage tank as possible. This test pit is located in RIWP grid square S-4. Sample analysis should include VOCs, SVOCs, cyanide, metals and mercury.

TP-COM-5 Former Naphthalene Processing Area: As shown below, the new test pit will be placed as close to the former naphthalene processing area as possible. This test pit is located in RIWP grid square N-5. Sample analysis should include VOCs, SVOCs, cyanide, metals and mercury.

TP-COM-05 in Naphthalene Processing Area

TP-COM-6 Former Machine Shop: As shown below, the new test pit will be placed as close to the former machine shop as possible. This test pit is located in RIWP grid square G-6. Sample analysis should include VOCs, SVOCs, cyanide, metals and mercury.

TP-COM-7 Former Ammonia Liquor Concentrator: As shown below, the new test pit will be placed as close to the former ammonia liquor concentrator as possible. This test pit is located in RIWP grid square G-10. Sample analysis should include VOCs, SVOCs, cyanide, metals and mercury.

TP-COM-8 Former Wash Oil Processing Building and Storage Tanks: As shown below, the new test pit will be placed as close to the former wash oil processing building and storage tanks as possible. This test pit is located in RIWP grid square I-8. Sample analysis should include VOCs, SVOCs, cyanide, metals and mercury.

Requested RIWP Revisions: The following table summarizes the additional COM Test Pits to be installed in the byproduct area:

Test Pit Number	Area	Grid Location
TP-COM-01	Former Water Gas Plant	M 3-4
TP-COM-02	Former Tar Separating Cooling Coils	O-4

TP-COM-03	Former Light Oil Tank	Q-4
TP-COM-04	Former Tar Storage Tank	S-4
TP-COM-05	Former Naphthalene Processing Area	N-5
TP-COM-06	Former Machine Shop	G-6
TP-COM-07	Former Ammonia Liquor Concentrator	G-10
TP-COM-08	Former Wash Oil Processing Building and Storage Tanks	I-8

Comment 49: Test Pits in Open NYSDEC Spill Locations

Requested RIWP Revisions: Pursuant to Comment 24 above, test pits should be added with appropriate analytes after the review of NYSDEC open spill files been completed. Test pit locations should include the three locations shown on Figure 4 along with the six other reported spill locations.

Comment 50: Survey Heading Level

5 Remedial Investigation Scope of Work	5.3 Test Pits	5.3.1 Survey

Section 5.3.1 Survey: The RIWP heading level appears to be incorrect.

Analysis: The RIWP Survey subsection is not related to test pits.

Requested RIWP Revisions: Change the Survey section to heading level 2 Section 5.4 Survey and change subsequent Heading Level 2 headings appropriately.

Comment 51: Survey of Test Pits and Sampling Locations

5 Remedial Investigation Scope of Work	5.3 Test Pits	5.3.1 Survey

Section 5.3.1 Survey: The RIWP discusses the surveying of well elevations only.

Analysis: Accurate locations of soil sampling points may be helpful for future investigation or remediation activities. These can also be surveyed in later, but consideration should be given to laying out the grid via a survey before the start of sampling; or, alternately, consider using a GPS device to accurately locate the sampling locations.

Requested RIWP Revisions: Consider a method for location soil and test pit locations for reporting purposes and place it into the RIWP.

Comment 52: Monitoring Well Survey Accuracy

5 Remedial Investigation Scope	5.3 Test Pits	5.3.1 Survey

of Work		

Section 5.3.1 Survey: The RIWP states that Survey accuracy for monitor well elevations should be within 0.1 foot.

Analysis: Well casing reference locations should be marked on the north side of the well casing and surveyed to an accuracy of 0.01 foot.

Requested RIWP Revisions: Change the accuracy from 0.1 foot to 0.01 foot.

Comment 53: Additional Test Pits Outside the Production Area

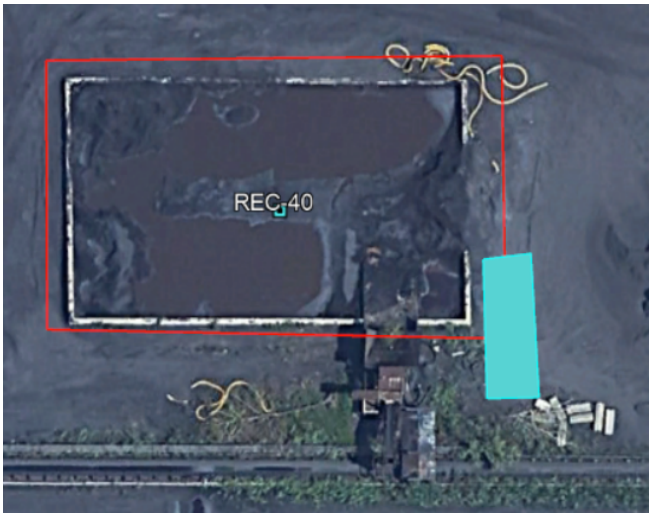
8.1 Interim Remedial Measures	8.1 Interim Site Management	

Interim Site Management: The RIWP states that Interim Remedial Measure (IRM) work plans for the Light Oil Secondary Containment and Mixing Pad areas have currently either been submitted or approved.

Analysis: The ESA identified certain areas that these IRMs may cover with work outside of the scope of the RIWP. Further, it is unclear whether these areas are the areas identified in the ESA and whether the work is that is being contemplated is adequate to satisfy the Alternatives Analysis for the site. To account for these differences, additional COM Test Pits have been included for addition into the RIWP in the event that such work is not covered by the above IRMs. These pits are shown on the general test pit map presented in Comment 48, and as stated in the comment, the resources for digging these pits have been allocated by the reduction in length of other BCP test pits.

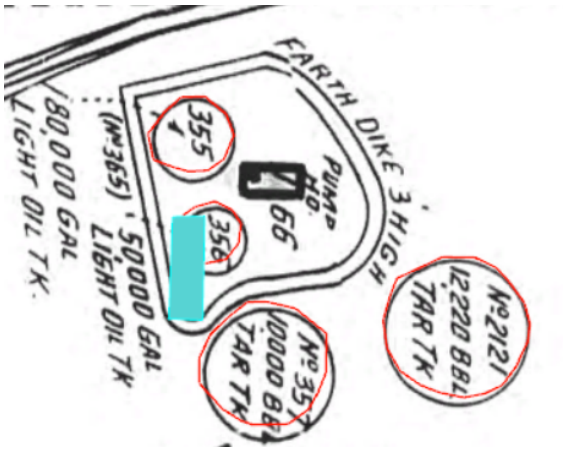
Several locations on the BCP site identified during our review of historical operations outside the production area will require soil sampling to assess soil conditions. In addition to the BCP Production Area Test Pits proposed in the byproduct operations area, a total of 4 new test pits, each 30 feet in length, are proposed for installation outside the byproducts area corresponding to specific locations identified in the ESA. Similarly, the nomenclature for these new test pits will be TP-COM-#, to identify that these test pit locations were selected from the community research of this site. These new test pits are marked with light blue polygons on the map provided in Comment 48. The location of each of these additional test pits outside the byproducts area is shown below and is referenced to the appropriate BCP Grid square.

TP-COM-9 Mixing Pad: This provisional test pit has been added in the event that this area is not part of a separate IRM investigation. As shown below, the new test pit will be placed as close to the concrete mixing pad as possible. This test pit is located in RIWP grid square AG-26. Sample analysis should include VOCs, SVOCs, cyanide, metals and mercury.



TP-COM-10 Underground Coal Conveyor Opening: This provisional test pit has been added in the event that this area is not part of a separate IRM investigation. As shown below, the new test pit will be placed as close to the underground coal conveyor opening as possible. This test pit is located in RIWP grid square AG-26. Sample analysis should include VOCs, SVOCs, cyanide, metals and mercury.

TP-COM-11 Former Light Oil and Tar Storage and Shipment Area: This provisional test pit has been added in the event that this area is not part of a separate IRM investigation. As shown below, because of the lack of field reference points, the new test pit will be located via georeferencing and placed directly in the former light oil and tar storage and shipment area. This test pit is located in RIWP grid squares AJ-17 and AK-18. Sample analysis should include VOCs, SVOCs, cyanide, metals and mercury.



TP-COM-12 Abandoned Railroad Tank Car: This provisional test pit has been added in the event that this area is not part of a separate IRM investigation. As shown below, the new test pit will be placed as close to the abandoned railroad tank car as possible.

Requested RIWP Revisions: The following table summarizes the additional COM Test Pits to be installed in other areas of the BCP Site:

Test Pit Number	Area	Grid Location
TP-COM-09	Mixing Pad	AG-26
TP-COM-10	Underground Coal Conveyor Opening	AG-26
TP-COM-11	Former Light Oil and Tar Storage and Shipment Area	AJ-17 and AK-18
TP-COM-12	Abandoned Railroad Tank Car	150 feet North of O-1

Comment 54: Figure 7 Key

5 Remedial Investigation Scope of Work	Figure 7	

Key: Figure 7 of the RIWP shows objects abbreviated as ST, PT and RC but does not show them on a key.

Analysis: Presumably ST looks to mean Storage Tank, PT to mean Phenol Tank and RC to mean Rail Car.

Requested RIWP Revisions: Add these abbreviation to the key or spell them out on the drawing.

Comment 55 Remedial Investigation Report – Qualitative Exposure Assessment

Requested RIWP Revisions: Revise RIWP Section 9 RI Report Qualitative Exposure Analysis to include statements that, in addition to the adjacent properties listed, the assessment must include a direct assessment of the impact to the Niagara River and to regional groundwater as well.

Comment 56 Alternatives Analysis

We expect to review and comment on the RI Report when it is released to the public for review. However, it is not clear whether the public will have any input as to the Alternatives Analysis. In particular, we are interested in whether such alternatives such as bioremediation will be examined as per DER-10 guidance on Green Remediation and/or plans for alternate methods for hazardous waste management will be examined. Please confirm the NYSDEC obligation to allow public comment on the RI Report. In addition, please confirm whether there will be any chance for the public to engage in the discussion of Alternatives Analysis prior to the issuance of a draft Record of Decision. Finally, please explain how remediation of the many IRMs at the site will be handled; specifically, whether each remedy will be completed in its entirety before the issuance of a ROD, whether they will be included in an Alternatives Analysis to support the remedy(ies) specified in the ROD, or whether that has yet to be determined.

Comment 57: Other Off-site Considerations

We realize that the scope of work contained in the RIWP focuses solely on the remediation of the BCP site. We are also aware of USEPA and NYSDEC oversight of investigations and cleanups at adjacent sites directly associated with Tonawanda Coke operations and at other sites at adjacent parcels including the Roblin Steel Site.

However, the important migration pathway from the original Tonawanda Coke site operation drainage to the Niagara River has not been properly acknowledged by or investigated through the many other past or planned studies. The attached ESA refers to the pathway as the Northern Drainage Corridor which runs East -West between the old Erie Canal and the Pump House Parcel.

Our concerns include the ownership and easement rights of the corridor. The "Pump House Parcel" apparently extends to the river and thus probably includes former Outfall 003 with ownership probably still tied to the BCP. If this is the case, then these comments do apply to the RIWP. If this is not the case, does NYSDEC have environmental-easement rights over the Northern Drain corridor? If so, do these rights include the right to bore and trench for environmental investigation?

Using the years of operation of the settling ponds a guide, since the pond were cleaned out every six months and contents sent back to the facility for combustion to support facility operations, the amount of tar, sludge and other compounds that entered the ditch and was discharged into waterways over the

hundred years of facility operations was bound to be enormous. Specifically, whether sampling in this corridor happens in the BCP RI or though another enforcement mechanism, we'd would want to see:

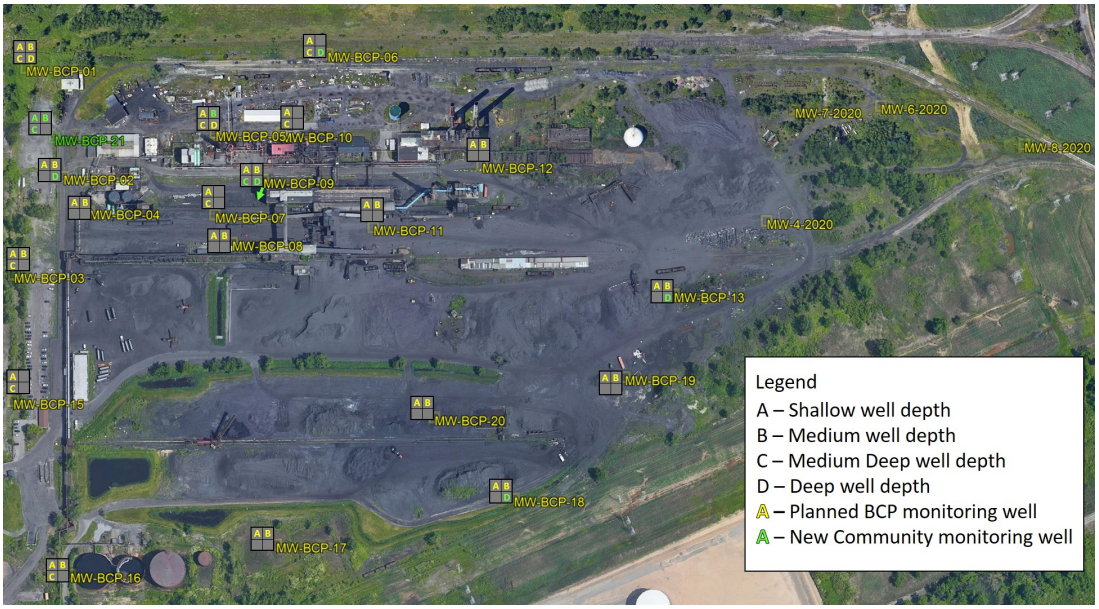
1. Wells/borings/test pit on the Pump House Parcel, as close to 003 as possible
2. Wells/borings/test pit at the location where the Northern Drain corridor crosses the old Rattlesnake Island channel
3. Characterization of the Northern Drain corridor between the old Erie Canal and the Pump House Parcel. Was/is there an underground pipe that led to outfall 003? If so, is either the old pipe or surrounding fill a migration pathway?
4. Characterization of the coke plant's water intake pipe between the old Erie Canal and the Pump House Parcel, if not already slated for characterization in the RIWP (I haven't looked thoroughly). Is either the pipe or surrounding fill a migration pathway?
5. Potential impacts to the Erie Canal in the time period prior to 1930 and since though potential contaminant dispersion though permeable drain backfill;
6. Potential impacts to the former settling pond beds; and
7. Potential Impacts to the Niagara River.

7. SUMMARY AND REQUESTED REVISIONS

In summary, the comments request:

1. Eight additional Test Pits installed at newly identified byproduct units;
2. Up to four additional Test Pits in areas outside the byproduct area;
3. One additional Surface Water Sample;
4. Additional PFAS analysis in areas with historic high fire potential;
5. Two additional Test Pits near the boiler house and the transport tram transformers to test for PCBs;
6. NYSDEC Open Spill number resolution and Test Pit Investigations as necessary;
7. Three new wells at one new location (MW-BCP-21) to monitor downgradient of the byproduct area;
8. Several additional thin walled tube samples for wider clay permeability determination;
9. Two new deeper wells at MW-BCP-09 with the location moved slightly to check foundation conduits;
10. Four new deep wells at locations MW-BCP-02/06/13/18 to gain bedrock groundwater control; and
11. Several procedural changes in sample screening, water stabilization and blind drilling.

For your convenience, a map summarizing RIWP planned wells and the requested additional wells is provided below:



We appreciate NYSDEC's commitment to the remediation of this site. We expect NYSDEC to reply to each of our comments and look forward to continuing communication towards a comprehensive remediation that the community deserves.

Sincerely,

Rebecca Newberry
Executive Director