February 2024

FORMER RANCO PLAIN CITY FACILITY

RCRA STATEMENT OF BASIS

Ranco North America, Inc.

U.S. EPA ID# OHD004288270
8115 U.S. Route 42
Plain City, Union County, Ohio 43064

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Acronyms

AOC – Area of Concern

APCP – Amended Post Closure Plan

CA – Corrective Action

CMS – Corrective Measures Study

COC – Constituent of Concern

1,1-DCA – 1,1-Dichloroethane

1,1-DCE – 1,1-Dichloroethene

cis/trans-1,2-DCE – cis/trans-1,2-Dichloroethene

CMI – Corrective measures implementation

DFFO – Director's Final Findings and Orders

EC – Environmental Covenant

GWPS – Ground Water Protection Standard

IM – Interim Measures

LQG – Large Quantity Generator

MCL – Maximum Contaminant Level

NPDES – National Pollutant Discharge Elimination System

PCP – Post Closure Plan

POA – Point of Action

RTB – Remediation Treatment Building

RCRA – Resource Conservation and Recovery Act

SGP – Site Governance Plan

SOB – Statement of Basis

SWMU – Solid Waste Management Units

1,1,1 TCA – 1,1,1-Trichloroethane

TCE – Trichloroethylene

U.S. EPA – United States Environmental Protection Agency

WWTP – Wastewater Treatment Plant

VOC – Volatile Organic Compound

STATEMENT OF BASIS

Former Ranco North America Inc., Plain City
Plain City, Ohio

U.S. EPA #OHD004288270

Prepared by:
Ohio Environmental Protection Agency
February 2024

Solicitation of Comments

Ohio Environmental Protection Agency (Ohio EPA) solicits comments from the community on the proposed remedial action at the former Ranco North America Inc., Plain City (Ranco). Written comments may be submitted before the end of the comment period. The comment period may be extended by Ohio EPA if a specific request for a comment period extension is received within the original comment period. All persons, including Ranco, may submit comments relating to this matter. Written comments are to be submitted by email to Ohio EPA at Publiccomment@epa.ohio.gov or directly to Chris Bulinski at Christopher.Bulinski@epa.ohio.gov. When submitting written comments, please indicate that the comments are for the Ranco, Plain City Statement of Basis.

The public was informed of the Statement of Basis (SOB) and where to find it along with related documents for public review. Links to the critical documents used to select the remedies may be found in the references in Section 6.0. Representatives of Ohio EPA will attend a public meeting during the public comment period to provide information about the site and answer any questions. After considering the comments received, Ohio EPA will summarize the comments and its responses in a response to comments document. This document will be incorporated into the Administrative Record. After considering all public comments, Ohio EPA will then issue a Decision Document identifying the final remedy selection.

1.0 INTRODUCTION

The SOB presents a summary of investigation findings and interim corrective actions that have been completed at the former Ranco North America Inc. (Ranco) facility at 8115 US 42 in Plain City, Ohio (Figure 1). The facility manufactured thermal control devices from 1951 to 2003. Lab-testing was also performed on various consumer products including smoke alarms and other home safety devices for several years. The facility's Resource Conservation and Recovery Act (RCRA) identification number is OHD004288270.

Ranco is currently subject to site-wide corrective action and is implementing remedial activities pursuant to an amended post-closure plan (APCP) dated September 25, 2017. Ranco is a large quantity generator (LQG) of hazardous waste due to the large volumes of remediation waste (purge water, exchange resins, activated carbon and filter material) generated. August Mack Environmental, Inc. (August Mack) is Ranco's consultant to help implement RCRA corrective actions using the APCP as the enforceable document.

After interim measures (IMs) were completed by removal of the plating sludge from the West Field in 2009, Ranco modified the 1993 post closure plan to add corrective action investigations over a series of work plans to investigate the various areas of the property. The investigations concluded current site conditions do not pose unacceptable risk to human health and the environment and no additional corrective measures are necessary, except for the implementation of applicable land use restrictions and a site governance plan (SGP). The SGP describes Ranco's future continuing obligations to ensure the remedy will be protective of human health and the environment. Also, with respect to the potential for future recreational development of the property, all future soil management and/or property development activities which disturb soil at the site must ensure that the human health risk exposure pathways as evaluated in the Site-Wide RCRA Correction Action Report remain "incomplete" or "complete, but under control." Actions taken to mitigate or control risks resulting from the excavation or disturbance of soil at the Site must comply with the terms of an Environmental Covenant (EC) and may include, but are not limited, to excavation. Also, the design and implementation of an engineering control measure, such as an asphalt barrier (parking lot), vapor migration system or other engineered measure must be approved by Ohio EPA. Ohio EPA will make a final determination on the status of the need for corrective measures after the public comment period has ended and public comments, if any, have been considered.

This SOB is being issued by Ohio EPA as part of its public participation responsibilities under the State of Ohio's hazardous waste program. This document summarizes information that can be found in greater detail in numerous documents in the Ohio EPA file. A list of the available documents is provided in Section 6.0 of this SOB. Ohio EPA encourages the public to

review these documents to gain a more comprehensive understanding of the environmental investigation and interim measure activities conducted at the Ranco facility, as well as proposed land use restrictions and proposed measures in the SGP to ensure continued protection of human health and the environment.

2.0 FACILITY BACKGROUND

The former Manufacturing Complex included a series of buildings which were expanded between the 1950s and 1988. Manufacturing activities have ceased operating, and all buildings have been demolished, except for the Remediation Treatment Building (RTB), a maintenance shed, and the former Credit Union Building which has been used for storage and as a field office but will be demolished soon. The site consists of two major geographic areas covering approximately 73 acres (Figure 2): the former Manufacturing Complex and the West Field. The former Manufacturing Complex is 37 acres and includes the Northeast Field, which contains the former Wastewater Treatment Plant (WWTP) area, a RCRA Landfill, and the Southeast Field, which contains most of the former main manufacturing building and other former ancillary structures. The Southeast Field also includes an historical parking area and the former Credit Union Building. The second geographic area is known as the West Field, which is about 36 acres. The West Field was never developed but portions were used for disposal of plating sludge and other material.

2.1 RCRA Landfill and West Field Sludge Piles/Trenches

When actively operating, Ranco operated multiple surface impoundments for containment of metal plating sludges from plating operations and lime sludges from the production of drinking water. Plating solutions contained cyanide until 1991 and rinse waters generated a sludge that is an F007 listed hazardous waste. After 1991, acid solutions were used for the plating operations that contained cadmium, hexavalent chromium, nickel, copper, and zinc. Rinse waters from these operations went to the WWTP where an F006 hazardous metal sludge was generated. An F008 hazardous metal sludge was also generated from the plating baths themselves. Degreasing of the parts also took place on site using Trichloroethylene (TCE), 1,1,1-Trichloroethane (1,1,1-TCA), and alcohols.

In 1974, the impoundments were emptied, and the sludge (a mixture of drinking water lime and metal plating sludges) was placed in a large pit along the south bank of Robinson Run, which runs along the north side of the property. Soon after this was done Ohio EPA requested the sludge be removed from the south bank of Robinson Run to reduce potential leaching to the stream. Ranco moved the sludges (in 1974) and buried them in a series of trenches within an area of the property known as the West Field. Other plating sludges in the West Field were not buried but were mixed in surface piles using concrete developed by the Army Corps of Engineers as part of a research project on the Chemfix® Process and left on the surface. The

Chemfix® process used concrete to encapsulate potential contaminants (soil/sludge) to reduce the potential of future contaminant release to the environment. Drinking water lime sludge was also placed within various trenches and surface piles in the West Field. In 2009, all the trenches and surface piles in the West Field were excavated/removed and sent offsite for treatment and proper disposal.

In 1982, Ranco was notified by the United States Environmental Protection Agency (U.S. EPA) that the metal sludge was regulated under RCRA as an F006 or F007 listed plating waste and that the industrial sludge impoundments were classified as RCRA hazardous waste treatment, storage, or disposal (TSD) units. In 1986, U.S. EPA filed a complaint, and Ranco agreed in a consent agreement to close the impoundments. The Ranco facility has not operated as a TSD facility since December 5, 1988. The two surface impoundments at the facility were certified closed on July 5, 1989, and consolidated into a single RCRA Landfill at the facility. The PCP for monitoring and maintenance of the RCRA Landfill was approved with modifications on February 9, 1993. Later, the PCP was modified to final standards and the modifications were approved on October 18, 2002. An amended PCP (APCP) was last approved by Ohio EPA on September 25, 2017.

2.2 Interceptor Trench Interim Measure

Ground water within the shallow (Unit A) aquifer under the closed landfill was discovered to be impacted by volatile organic compounds (VOCs), primarily TCE and its breakdown products along with cyanide. This Unit A upper-most aquifer discharged to Robinson Run, directly and through ground water seeps in the South bank of the stream. To prevent releases of contaminated ground water to Robinson Run, Ranco installed (in 1996) a 679-foot-long shallow ground water Interceptor Trench along the northern edge of the RCRA Landfill and extending east/northeast within the Northeast Field. The Interceptor Trench collects impacted ground water in the upper-most aquifer Unit A for treatment at an on-site treatment unit and permitted discharge to the Big Darby Creek.

The Interceptor Trench was installed within the upper-most aquifer (Unit A) and terminates in the clay confining unit at a depth of approximately 10 feet below grade. The trench was constructed to slope toward a recovery sump at the east end of the trench. Impacted ground water is routed to the remediation treatment building (RTB) for treatment prior to being discharged as permitted by Ranco's National Pollutant Discharge Elimination System (NPDES) permit (permit number 4IC00008*ID) into the Big Darby Creek south of the facility. The RTB was installed in 2012 and contains pumps, filters, and vessels containing granular activated carbon and anionic resin to remove chlorinated VOCs and other constituents from ground water. Prior to construction of the RTB, collected ground water was treated at the facility WWTP, which was demolished in 2012 after construction of the RTB. In 2016, a force

main was installed to reroute the treated ground water to the eastern sewer system which was cleaned and used to convey the water to the NPDES discharge.

2.3 Former Container Storage Area Closure

A former container storage area (SWMU 2) is in the southwest portion of the former Manufacturing Complex and was used to accumulate hazardous waste generated at the site in drums. After confirming releases of 1,1,1-TCA and its breakdown products in April 1987, Ranco submitted a closure plan, which included remediation using dual phase extraction, to Ohio EPA in July of 1988. On February 2, 2001, Ohio EPA granted approval of an amended closure plan for the former container storage area. However, after continued ground water monitoring the dual phase extraction system was determined to be unnecessary because contaminant concentrations met standards without it. Closure certification was approved by Ohio EPA on May 4, 2001, and release from financial assurance for the former container storage area was granted by Ohio EPA on June 1, 2001.

3.0 CORRECTIVE ACTION PROCESS AND RCRA FACILITY INVESTIGATION SUMMARY

The corrective action process is defined in Ohio EPA's Corrective Action Plan. The general steps in the corrective action process are as follows:

- FACILITY ASSESSMENT - Updated or conducted by Ohio EPA. It answers the questions: Is there a current release and/or imminent threat?
- INTERIM MEASURE(S) - Undertaken by the facility. It addresses in the near term a release or potential release and/or an imminent threat or potential imminent threat.
- RCRA FACILITY INVESTIGATION - Undertaken by the facility. It answers the questions: How significant is the release or potential release and/or imminent threat or potential imminent threat?
- CORRECTIVE MEASURE(S) STUDY (CMS) AND DECISION - Shared responsibility by both the facility and Ohio EPA. It determines how to best address the release or potential release and/or imminent threat or potential imminent threat.
- CORRECTIVE MEASURE(S) IMPLEMENTATION (CMI) - Performed by the facility. It designs the solution and addresses the release or potential release and/or imminent threat or potential imminent threat.

The Site-wide RCRA Corrective Action Report was first submitted to Ohio EPA on November 30, 2018, and the final revised report was received January 3, 2024. Based on the final 2024 Report, implementation of a suite of Corrective Measures to address the identified exposure pathways of concern is proposed. Due to the various historical activities at the facility, an extensive set of Interim Measures (IMs), Presumptive Remedies (PRs), RCRA closures, NPDES

permit-related work, and other activities (collectively referred to as "Corrective Measures") have already been implemented. The Corrective Action Report summarizes efforts associated with the steps included in the corrective action process listed above, including the Facility Assessment, IMs, RFI, and the CMS. It is proposed that the Corrective Measures implemented during the various historical activities will be supplemented with additional continuing obligations described in this SOB. The CMI occurs by Ranco after the final decision is made by Ohio EPA on the Corrective Measures for the property after public comment. Figure 3 shows the SWMUs and Areas of Concern (AOCs) that were investigated at the property. Figure 4 shows all of the monitoring well and soil boring locations. This SOB summarizes the findings of the Site-wide RCRA corrective action and presents the continuing obligations Ranco will implement to ensure the property remains protective of human health and the environment.

The Corrective Action Report includes additional proposed continuing obligations that are included in a draft SGP and draft EC. The final SGP will be included in the Ohio EPA Director's Final Findings and Orders (DFFOs). Once issued by the Director, the DFFOs and final SGP will replace the 2017 APCP and will describe all of Ranco's future regulatory obligations at the Site (*e.g.*, technical, legal, administrative, financial, and other requirements). Also, the draft EC, which will be signed by both Ohio EPA and Ranco once finalized, will address potential future vapor intrusion issues by requiring a vapor intrusion investigation and engineering controls or other restrictions for use of any future buildings to prevent vapor intrusion.

A soil management plan, which is attached to the draft SGP, will address any identified contaminated soils throughout the site, as well as maintenance of the RCRA Landfill. This draft SGP will eliminate or minimize exposures to contaminants during construction. It also details how contaminated soil and ground water on site will be properly managed, stored and disposed. The management of the soil will be based upon human health risk assessment to meet a cumulative clean-up goal with less than a carcinogenic risk of 1×10^{-5} and a hazard index of 1. Finally, the draft SGP includes technical and administrative requirements for the Interceptor Trench Post-Termination Confirmation Study to determine whether the interceptor trench can be taken out of service.

3.1 Site Hydrogeology

The understanding of the hydrogeology of the site has been established through numerous investigations beginning in the late 1980s and through 2018. The geologic setting of the facility consists of a stratified sequence of unconsolidated glacial deposits overlying dolomite bedrock. There are five (5) named water-bearing formations (units), plus a clay glacial till layer which forms an aquitard that separates the upper most aquifer from the deeper formations (Figure 5). From shallowest to deepest, the key hydrogeological features are:

Unit A	The upper-most saturated zone extends to a depth of approximately 10 feet below grade. It is comprised of surface loam soil underlain by unconsolidated sand and gravel outwash. It is hydraulically isolated from Units B/C and D, except where excavation has pierced the underlying aquitard (*i.e.*, the basement and foundation of the former WWTP). Ground water within this unit in the north portion of the site flows northerly towards Robinson Run. Ground water in the southern portion of the site flows to the south toward Big Darby Creek.
Aquitard	An approximately 7- to 10-foot-thick clay glacial till layer, which forms an effective barrier between Unit A and lower units.
Unit B/C	The next lowest-saturated zone beneath the aquitard. The zone extends to a depth of approximately 30 to 40 feet below grade and is comprised of unconsolidated sand and gravel outwash. It is hydraulically connected to the underlying Unit D formation. Ground water in this unit flows to the northeast.
Unit D	The next lowest saturated zone, beginning at approximately 30 to 40 feet below grade, is comprised of light brown highly weathered dolomite bedrock that is approximately 20 feet thick. Ground water in this unit flows to the northeast and east.
Aquitard	An approximately 20-foot-thick zone of slightly fractured but competent dolomite with interbedded shale is present between 60 and 80 feet below grade forms an effective barrier between Units D and E.
Unit E	The lowest observed saturated zone consists of a highly fractured dolomite aquifer with smaller zones of interbedded shale than within the aquitard that sits above it. Unit E begins at approximately 80 feet below grade and extends to a depth of at least 100 feet below grade. Ground water in this unit flows to the southeast.

3.2 Former Manufacturing Complex Findings

RCRA Landfill

A small, remnant fan-shaped plume of 1,1,1-TCA, TCE (and degradation products including vinyl chloride) and 1,4-Dioxane, which emanates from the RCRA Landfill and migrates northerly towards the Interceptor Trench and Robinson Run, is present in Unit A. The plume originates from a small historic area formerly located in the northeastern impoundment cell at a spot where facility personnel discovered a pile of metal scraps during the construction of the RCRA Landfill in 1988. The metal scraps were believed to have been placed into the impoundment cell from the plating operation, perhaps because of cleaning and maintenance

of the plating "dip" tanks. This source released the degreasing solvents TCE and 1,1,1-TCA (and cyanide) into the ground water of Unit A. Both VOCs were detected in the ground water of Unit A at parts per million concentrations in the late 1980s. The VOC concentrations have since decreased to low parts per billion levels while also producing several degradation daughter compounds including 1,1-Dichloroethane (1,1-DCA), 1,1-Dichloroethene (1,1-DCE), cis/trans-1,2-Dichloroethene (cis/trans-1,2-DCE) and vinyl chloride. 1,4-Dioxane was first detected in September 2015 and is likely present because of its widespread use as a stabilizing agent for chlorinated solvents such as 1,1,1-TCA. 1,4-Dioxane contamination is described in more detail below. A ground water divide exists within Unit A in the central portion of the property. South of this divide, Unit A ground water flows to the south and southeast toward Big Darby Creek. North of this divide, Unit A ground water generally flows to the north and northeast towards Robinson Run. Unit A ground water flow in the vicinity of the RCRA Landfill is northerly with an easterly component based on over 20 years of ground water monitoring data (Figure 6a).

Northeast Field

Vinyl chloride is present in ground water immediately north and east of the RCRA Landfill in the vicinity of the maintenance garage, WWTP, and areas further east within the Northeast Field (Figure 6a). An extensive ground water investigation was conducted in 2008 and 2009 that included installation of over 30 piezometers and ground water monitoring wells within the former manufacturing area in the Northeast Field. This investigation revealed vinyl chloride impacts in Unit A in the vicinity of the maintenance garage and WWTP. Due to a breach in the aquitard that occurred during construction of the WWTP, it is believed that impacts associated with the Unit A plume have migrated downward through the breach into the underlying ground water units (Units B/C, and D). Impacts associated with this plume have been identified in the WWTP area (as indicated by monitoring well PC-8Sb), which historically contained the highest concentrations of vinyl chloride (Figure 6b). Vinyl chloride has also been periodically detected above the U.S. EPA Maximum Contaminant Level (MCL) of 2 ug/l in Unit D (weathered bedrock) along the northeast property boundary (as indicated by monitoring well PC-12D) (Figure 6c). Vinyl chloride values from well PC-12D have ranged from non-detect to a high of 3.50 ug/L. Based on the monitoring conducted to date, it is also believed that the source of these impacts may be the RCRA Landfill and other potential comingled sources in the vicinity of the maintenance garage and WWTP area. Additional investigation in this area has been conducted as part of the RFI work activities and did not identify any other significant sources areas within the Northeast Field. In 2013, a homeowner located northeast of the Ranco property had its well, which drew water from Unit D, disconnected from the home's indoor plumping. Ranco then installed a deeper potable well

into Unit E and connected the new well to the home's indoor plumbing to serve as the potable water supply for the residential property.

1,4-Dioxane Contamination

This constituent was first detected in site ground water in September 2015 during the RFI. It has been observed in Unit A immediately northwest of the former Manufacturing Complex building pad (Figure 6a). This constituent is also detected in Unit B/C immediately north of the RCRA Landfill in well PC-2Sb. The contaminant plume spreads radially from the RCRA Landfill northeast in Unit B/C with the eastern extent located between wells PC-8Sb and PC-12Sb/PC-13Sb (Figure 6b). 1,4-Dioxane is also observed in lower Unit D from the approximate location of the former WWTP and to the northeast corner of the site to well PC-38D (Figure 6c). The northeastern most extent of monitored ground water with detectable levels of 1,4-Dioxane is in well PC-19D (off-site on Freeman property), and the southernmost extent is in well PC-40D (at the property boundary). No 1,4-Dioxane has been detected in lower Unit E, which is hydraulically separated from the ground water Unit D above it.

3.3 West Field Findings

Unit A Ground Water

An east-to-west trending ground water divide is present in the central portion of the West Field in the vicinity of PC-202Sa, consistent with the conclusions reached during the former Manufacturing Complex RFI (Figure 6a). Ground water north of the divide flows northerly towards Robinson Run. Ground water south of the divide flows south and/or west towards Big Darby Creek. No chlorinated VOCs were identified during the 2015 or the comprehensive 2017 West Field sampling. The only VOCs detected were laboratory artifacts (e.g., acetone). No 1,4-Dioxane was detected in any West Field monitoring wells during the January 2016 site-wide 1,4-Dioxane Sampling event (conducted per the 1,4-Dioxane Interim Response Action Plan dated December 21, 2015). Wells located along State Road 736 near the southern and western boundary of the West Field (PC-204Sa and PC-205Sa) did not contain any constituents above MCLs. Chromium is the only constituent that has been consistently detected near or above the MCL in ground water monitoring wells in the West Field. Chromium has been detected in wells MW-3, MW-5A, and MW-6A.

There is no current potential risk to receptors from ground water conditions in the West Field based on the following:

- Unit A ground water is not utilized as a drinking water source for any of the surrounding properties or at the Site.

- Chromium identified in Unit A ground water is only present in the north central portion of the West Field located approximately 200 feet south (MW-6A) of Robinson Run.
- Ground water flow in this area is to the north towards Robinson Run and is intercepted by Interceptor Trench. The water is then treated and discharged to Big Darby Creek, although this treatment and discharge may be discontinued pending the results of the Interceptor Trench Post-Termination Confirmation Study.
- The Interceptor Trench Post-Termination Confirmation Study will determine whether shutting down the Interceptor Trench is protective of Robinson Run. A demonstration approved by Ohio EPA Division of Surface Water indicates that ground water flowing to Robinson Run will meet *de minimis* requirements for surface water quality when the Interceptor Trench is turned off.
- There is no potential for these impacts to migrate south or southwest due to the presence of the Unit A ground water divide.

Unit B/C Ground Water

Ground water direction flow in Unit B/C ground water is easterly across the West Field (Figure 6b). No VOCs were identified during the 2017 sampling (consistent with previous sampling events in other West Field wells). No 1,4-Dioxane was detected in any of the West Field monitoring wells during the January 2016 Site-wide 1,4-Dioxane sampling event (conducted per the 1,4-Dioxane Interim Response Action Plan dated December 21, 2015). Arsenic is the only constituent detected in Unit B/C wells above an MCL. Arsenic was observed in ground water monitoring well PC-202Sb which is in the central portion of the West Field.

There is no current potential risk to receptors from ground water conditions in the West Field based on the following:

- Unit B/C ground water is not utilized as a drinking water source for any of the surrounding properties or at the Site.
- Except for arsenic, no constituents have been detected above MCLs in Unit B/C wells in the West Field.
- Arsenic exceedances are most likely related to naturally occurring elevated soil arsenic levels.
- The arsenic MCL was only exceeded in Unit B/C or deeper wells with negative oxidation reduction potential (ORP), which promotes the formation of soluble forms of arsenic.

Unit B/C and Unit D Ground Water

One (1) Unit B/C (PC-6Sb) and two (2) Unit D wells (PC-6D and PC-7D) are present in the West Field and were installed as part of assessments of the RCRA Landfill. The only constituent detected above an MCL in Unit B/C and Unit D wells is arsenic. This arsenic is believed to be naturally occurring as identified above. No additional deeper wells have been or need to be installed in the West Field since no impacts associated with former sludge handling practices are present in Unit B/C.

3.4 Human Health and Ecological Assessments

Figure 4 shows the location of all monitoring wells and soil borings installed during the RFI. Figures 6a, 6b, and 6c show ground water impact for Units A, B/C and D, respectively. Figure 7 shows soil sample results for the screening level evaluation for all exposure pathways, including residential exposure. Figures 8a and 8b show non-residential soil impacts after remediation for the 0-to-30-foot soil interval and the 0-to-2-foot soil interval, respectively. Soil and ground water investigations have resulted in the delineation of contamination at the Site, and the nature and extent of on-Site impacts are delineated and/or well understood. The following overall conclusions can be made regarding constituents of concern (COCs) and the delineation effort of the RFI:

- No new or significant soil or ground water sources areas were identified during the RFI.
- Impacts to soil after accounting for the depth at which the screening level (SL) applies shows a limited number of samples contain COCs at concentrations above the delineation criteria:
    - A limited number (3 total) of shallow soil samples (0-2 ft) exceeded the Site-Specific Recreator SL;
        - 3 samples in SWMU-3 (West Field)
    - A limited number (2 total) of shallow soil samples (0-2 ft) exceeded the Trespasser SL;
        - 2 samples in SWMU-3 (West Field)
    - A limited number (2 total) of shallow soil samples (0-2 ft) exceed the Industrial SL;
        - 2 samples in SWMU-3 (West Field);
    - A limited number (4 total) of soil samples from all depths exceeded the Construction SL;
        - 2 samples in SWMU-3 (West Field);

        - 2 samples from excavation sidewalls along SWMU-5 (Former Acid/Alkaline Sewer Lines).
    - Only 7 soil samples from the 0 to 2 ft depth exceeded the Residential SL.
        - There is no potential for residential exposure given the Site's existing industrial zoning designation; and
        - An EC limiting the property to commercial, industrial, and/or recreational uses will be recorded.

- Impacts to Site-wide ground water are limited in nature and extent and are defined in each of the ground water units (Unit A, Unit B/C, Unit D, and Unit E) in relation to potential receptors.
    - No ground water "hotspots" or significant source areas have been identified.
    - 1,4-Dioxane was the only new constituent to be identified at the Site.
    - Ground water impacts are primarily related to chlorinated solvents (TCE, 1,1,1-TCA, and daughter products) or 1,4-Dioxane and are characterized as being present in low-level, diffuse, contaminant plumes.
    - The 1,4-Dioxane plume is observed over a limited spatial extent in the former Manufacturing Complex in Units A and B/C, and in the former Manufacturing Complex and along the northeastern and eastern property boundaries in Unit D.
    - There are no receptors currently on-Site, and there is no risk to human health or ecological off-Site ground water receptors.
    - The area containing the highest chlorinated solvent concentrations is the area of Unit A near the closed RCRA Landfill and former Maintenance Garage/WWTP, which is captured by the Interceptor Trench and treated before discharge.
    - Use of an EC and comprehensive ground water monitoring strategy will ensure that future on-Site and off-Site receptors continue to be protected.

The Site-Wide RCRA Corrective Action Report includes the following conclusions about human health and ecological exposure pathways.

- The potential exposure pathways are well understood and protected,
- The potential risks at the site are within acceptable ranges and/or controlled,
- There are no unacceptable risks to off-site receptors, and
- There are no anticipated risks to human health and the environment or impacts to water quality following cessation of trench operations.

A summary of the information used to support each of these conclusions is provided below.

3.4.1. Potential Exposure Pathways Are Well Understood and Protected

Ranco evaluated all potential human health and ecological exposure pathways and receptors results. Each of the pathways was characterized with respect to whether the pathway is complete or incomplete under current and anticipated future conditions.

- Soil Direct Contact (ingestion, dermal, inhalation):
    - Incomplete for Residents.
    - Complete but negligible for Industrial Workers, Recreators, and Trespassers.
    - Complete but under control for Construction Workers.
- Soil Migration-to-Ground Water:
    - No significant soil source areas identified.
- Ground Water Direct Contact (ingestion, dermal, and inhalation):
    - Incomplete for Recreators and Trespassers.
    - Complete but under control or negligible for Industrial Workers, Construction Workers, and Off-Site Users.
- Surface Water/Sediment:
    - For Industrial Workers, Construction Workers, Trespassers, and Off-Site Residents in wetland areas – complete but under control.
    - For ecological receptors in wetlands – complete but negligible exposures.
    - For human and ecological receptors in Robinson Run – incomplete pathway.

3.4.2 Potential Risks at The Site Are Within Acceptable Ranges and/or Controlled

No on-Site exposures were identified for soil and ground water. Residual soil impacts were evaluated to ensure that receptors are protected. Ranco conservatively evaluated all the soil COCs that were within 0.1 times of any of the Screening Levels. Utilizing this data, Ranco established four (4) Exposure Units at the Site for Industrial Workers, Construction Workers, and Trespassers; and one (1) Exposure Unit at the Site for Recreators.

- None of the Exposure Units had a combined carcinogenic risk of over $1x10^{-5}$ for any receptor.
- Only one (1) exposure unit, Exposure Unit 3 (Southern Former Manufacturing Area) had a combined hazard index above 1 for Construction Workers.
    - All work at the Site is conducted by trained workers using appropriate PPE.

- The EC will require that a Soil Management Plan be followed and that a Health and Safety Plan be developed for any future construction activity in that area (and other portions of the Site).

- No excess carcinogenic or non-carcinogenic risk is present for any other receptor on-Site.

The Ranco Site is currently an industrial property and future land use will be limited to commercial, industrial, and/or recreational land uses. Ranco intends to maintain and implement current Corrective Measures and Future Actions to ensure that the potential human health and ecological receptors are protected until such time as Ranco demonstrates those measures can be terminated and Ohio EPA approves.

3.4.3 No Unacceptable Risks to Off-Site Receptors

All ground water impacts have been delineated laterally and vertically using monitoring wells and inferred ground water flow from multiple years of ground water data, with the exception of 1,4-Dioxane in Unit B to the north; however, there are no receptors in Unit B to the north. The only COC that has been detected above an action level in the Point of Action (POA) wells is 1,4-Dioxane.

- As relates to POA 1: 1,4-Dioxane, has been observed above the GWPS in two POA wells PC-13D and off-Site well PC-19D along the northeast boundary of the Site.
- As relates to POA 2: no exceedance of the GWPS have ever been detected in any POA 2 wells to the east.

Ranco evaluated the potential for people (i.e., receptors) who live or otherwise use properties located near the Site to be exposed to 1,4-Dioxane that has been detected in ground water at the Site. This evaluation was performed for receptors downgradient of both POA 1 and POA 2 (even though no constituents, including 1,4-Dioxane, have ever exceeded GWPS in the POA 2 wells).

The evaluation of off-Site receptors included identification of potential off-Site receptors, description of exposure pathways, and preliminary assessment of potential risk. Under current conditions, the pathway and risk analysis show that 1,4-Dioxane detected at the Site poses no unacceptable risk to residential or non-residential receptors located east or northeast of the Site because:

1. There are no potable ground water users in Unit D to the northeast, and 1,4-Dioxane concentrations are below the protective concentration for non-potable use.
2. There are no exceedances of the GWPS in the POA2 wells along the east property line.

3.4.4 No Anticipated Risks to Human Health and The Environment or Impacts to Water Quality Following Cessation of Trench Operations

Three targeted evaluations were conducted by Ranco in 2019–2020 to assess the nature and degree of impacts (if any) posed by the permanent cessation of Interceptor Trench operations: (1) a Supplemental Investigation of the Interceptor Trench; (2) Antidegradation Analysis for Robinson Run and Big Darby Creek; and (3) Risk Assessment. These comprehensive and conservative evaluations reached the following conclusions:

- There are no unacceptable risks to human health, or the environment associated with ground water resuming its natural discharge to Robinson Run under current or anticipated future conditions. This will be verified in the proposed stream monitoring program.
- Operation of the Trench coupled with other remedial measures implemented at the Site over the last 20+ years have accomplished the goal of reducing concentrations in ground water. It is proposed that continued operation of the Interceptor Trench is no longer needed to protect human health and the environment.
- Antidegradation analysis concluded that Ranco discontinuing operation of the Interceptor Trench, terminating the NPDES permit, and restoring natural ground water flow into Robinson Run will meet the *de minimis* criteria under the relevant Ohio EPA statutes and regulations governing antidegradation.
- Terminating the Interceptor Trench will not have any practical or material adverse effect on human health and the environment, or on the water quality in Robinson Run and downstream Big Darby Creek.

The purpose of the Interceptor Trench Post-Termination Confirmation Study is to determine if these conclusions and predictions are accurate.

4.0 CURRENT CONDITIONS AND PROPOSED REMEDY SUMMARIES

The following summarizes SWMUs 1 through 7, AOCs 1 through 6, and the three primary areas of ground water contamination, which are collectively referred to as AOC 7. Summaries include a description of the current conditions and remaining environmental concerns in each, and the remedies proposed by Ranco and Ohio EPA. Extensive coordination between Ohio EPA and Ranco during development of the Corrective Action Report has resulted in Ranco proposing various remedies with Ohio EPA's concurrence resulting in no significant differences between proposed remedies offered by Ranco and Ohio EPA. Figure 3 shows the location and description of SWMUs 1 through 7, AOCs 1 through 6. The ground water contamination areas (designated as SWMU 7) are shown on Figures 6a, 6b, and 6c.

4.1 RCRA Landfill SWMU 1

The RCRA Landfill is in the northern area of Ranco's property. The unit is a former surface impoundment which has been closed as a landfill. It is about 125 by 225 by 10 feet deep or 29,000 cubic feet. The plating sludge was stabilized in a cement matrix called "Chem-fixing." The final volume was 1,955 cubic yards of stabilized sludge and 250 cubic yards of stabilized soil. The landfill was certified closed on July 5, 1989. The ground water is monitored with an integrated ground water monitoring plan. The maintenance of the landfill, such as mowing and security, is currently being conducted according to an O&M plan and inspections are recorded in a log every month.

Table 1: Current Conditions, Remaining Environmental Concerns and Proposed Remedies for SWMU 1 – RCRA Landfill

Current Conditions at SWMU 1	Environmental Concerns Still Existing at SWMU 1	Ranco Proposed Remedy for SWMU 1	Ohio EPA Proposed Remedy for SWMU 1
1) The RCRA Landfill (SWMU 1) contains solidified plating sludge with metals such as chrome, nickel, cadmium. Other compounds associated with the landfill are cyanide and TCE.	1) Contaminants from SWMU 1 have migrated into ground water. The ground water is currently monitored, and the A zone ground water intercepted and treated so the constituents do not reach Robinson Run. There is a proposal to shut down the interceptor trench and sample ground water and surface water for a period of two years. If the two-year monitoring period demonstrates surface water standards are met, the Interceptor Trench may be permanently shut down and the NPDES permit will be allowed to expire. Ranco will then allow the A zone ground water to discharge naturally to Robinson Run.	1) Ranco proposes to continue ground water monitoring during a two-year Post Termination Trench Confirmation Study. The sampling will occur five times a year. Sampling will be required in four A zone ground water wells. Surface water samples will also be required along three transects crossing Robinson Run at upstream, mid-stream and downstream locations. A response to an elevated concentration in the downstream Robinson Run samples may cause the interceptor trench and treatment system to be reactivated. Monitoring will be re-evaluated after the two-year period.	1) Ranco will continue ground water monitoring during a two-year Post Termination Trench Confirmation Study. The sampling will occur five times a year. Sampling will be required in four A zone ground water wells. Surface water samples will also be required along three transects crossing Robinson Run at upstream, mid-stream, and downstream locations. A response to an elevated concentration in the downstream Robinson Run samples may cause the interceptor trench and treatment system to be reactivated. Monitoring will be re-evaluated after the two-year period.

Current Conditions at SWMU 1	Environmental Concerns Still Existing at SWMU 1	Ranco Proposed Remedy for SWMU 1	Ohio EPA Proposed Remedy for SWMU 1
2) The RCRA Landfill has a capping system with drainage and an O&M Plan to maintain it. There is financial assurance for ground water sampling and maintenance of the landfill.	2) The chrome, nickel and cadmium will not break down and will always be in the landfill matrix.	2) Ranco proposes to continue long-term care for SWMU 1. Maintenance, security (fence and signs) and inspections of the landfill will continue under the SGP.	2) Ranco will commit to long-term care of the RCRA Landfill. Maintenance security and inspections will be instituted according to a SGP.
3) Ground water in Unit A near the landfill is currently being intercepted by a trench and treated. There is a proposal to shut down the interceptor trench. A confirmation study is proposed where Ranco would sample ground water and surface water for a period of two years. If the two-year monitoring period demonstrates surface water standards are met, Ranco will continue to allow ground water to discharge naturally to Robinson Run and the NPDES permit will be allowed to expire.	3) The landfill cap would quickly be damaged if deep rooted plants have a chance to become established. Therefore, continued mowing is required. Also, maintenance of the drainage system by keeping toe drains open and slope repair must continue.	3) Ranco proposes entering into an EC with Ohio EPA for the area of SWMU 1 to eliminate all exposures. Ranco also proposes to prohibit excavation, filling, grading, at the landfill unless a request in accordance with OAC 3745-513 is granted from OEPA. Excavation, filling and grading are acceptable without an OAC 3745-513 request for the purpose of landfill maintenance. The EC will include a prohibition on the use of ground water, which includes the area under SWMU 1.	3) Ranco will enter into an Environmental Covenant with Ohio EPA to eliminate any exposures as well as any excavation at the landfill unit unless a request in accordance with OAC 3745-513 is granted from OEPA. Excavation, filling and grading are acceptable without an OAC 3745-513 authorization, if for the purpose of landfill maintenance. The EC will prohibit the use of ground water, which includes the area under SWMU 1.
	4) TCE, 1,1,1-TCA, 1,1-DCA, 1,1-DCE, cis/trans-1,2,-DCE, Vinyl Chloride, and Cyanide have all been detected in wells monitoring the RCRA Landfill.	4) Ranco proposes a soil management plan attached to the SGP to prevent exposure or movement of soil from SWMU 1.	4) A soil management plan attached to the SGP will prevent exposure or movement of soil from SWMU 1.
		5) Ranco proposes to continue financial assurance for landfill maintenance and required ground water monitoring before reevaluation.	5) Ranco will continue to provide financial assurance for maintenance and required ground water monitoring.

4.2 RCRA Container Storage Area SWMU 2

SWMU 2 is the former RCRA Container Storage Area and was used to accumulate hazardous waste generated at the site in drums. It was located near the former water tower. The slab and walls of the structure were made of poured concrete and the storage area was not under cover. The storage area was not diked and did not have a drainage sump, it was 45 feet by 45 feet, about 2000 square feet in area. After confirming releases of 1,1,1-TCA and its breakdown products in April 1987, Ranco submitted a closure plan to Ohio EPA in July of 1988 for the former hazardous waste container storage area. Closure activities included washing the pad with a scrubber and detergent. Approximately, 240 cubic yards of soil were removed, and a risk assessment was conducted on the remaining soils. Ground water in the area remained contaminated above MCLs and plans to install a dual phase extraction system were included in the closure plan. However, the system did not have to be installed because contaminant concentrations dropped below their respective MCLs prior to installation of the system. Monitoring wells were sampled for six consecutive quarters to ensure contaminant concentrations did not increase, which they did not. Therefore, SWMU 2 was certified closed in May 2001. Contaminated soil near the west sewer was removed along with the adjacent sections of the west sewer. The remaining sections of the west sewer were grouted in place. Soil confirmation results did not exceed residential levels, but it was disposed of as F001 listed hazardous waste out of an abundance of caution.

Table 2: Current Conditions, Remaining Environmental Concerns and Proposed Remedies for SWMU 2 - RCRA Container Storage Area

Current Conditions at SWMU 2	Environmental Concerns Still Existing at SWMU 2	Ranco Proposed Remedy for SWMU 2	Ohio EPA Proposed Remedy for SWMU 2
1) SWMU 2 was certified closed May 2001. 1,1,1-TCA, TCE and breakdown products in soil and ground water met MCL and Ohio's risk goals.	1) All environmental concerns associated with this SWMU have been addressed.	1) No remedy is proposed for SWMU 2 other than the site-wide ground water monitoring and other site-wide restrictions.	1) No remedy is proposed for SWMU 2 other than the site-wide ground water monitoring and other site-wide restrictions.
2) Soil was excavated in areas surrounding the storage pad and adjacent sections of the west sewer.			

Current Conditions at SWMU 2	Environmental Concerns Still Existing at SWMU 2	Ranco Proposed Remedy for SWMU 2	Ohio EPA Proposed Remedy for SWMU 2
3) Ground water monitoring was found to be below detection limit for 8 consecutive quarters before certification.			

4.3 West Field Pre-RCRA Sludge Pits and Piles SWMU 3

In 1974, the impoundments (a mixture of drinking water lime and metal plating sludges) were emptied and the sludge was placed alongside Robinson Run in a large pit. Ohio EPA then requested the sludge be moved from the banks of Robinson Run so it would not erode or leach into the stream. Ranco buried the sludges in a series of trenches in the West Field. Another pile of plating sludge in the West Field had not been buried but was fixed in place in 1976 on the surface by the Army Corp of Engineers as part of a research project on the Chemfix® Process. Other piles of drinking water lime sludge were also located in the West Field. The West Field consists of six former shallow plating sludge pits; several surface piles, the chem-fix and drinking sludge pile and the gravel pit which was the original plating sludge pit. The surface impoundments operations ceased in 1988.

In 2009 most of the pits and piles were removed under an interim action. Approximately 7,310 tons of hazardous sludge and soil were removed from pits 3-6 and the gravel pit. An additional 3,280 tons on non-hazardous sludge and soil were removed from the west field in 2009, this was primarily drinking water sludge (spent lime). Approximately 100 more tons of sludge and soil were removed from discrete areas of the gravel pit during 2010. A human health and ecological risk assessment was conducted on the West Field. The ecological risk assessment demonstrated that the removal action was an adequate removal of constituents from the west field and that Robinson Run was stable and met warm water quality habitat criteria. The human health risk assessment demonstrated several areas which had constituents remaining over construction worker screening levels, those are free cyanide, cadmium, and chromium VI. These same compounds with the addition of thallium also exceed residential screening levels.

Table 3: Current Conditions, Remaining Environmental Concerns and Proposed Remedies for SWMU 3 - West Field Pre-RCRA Sludge Pits and Piles

Current Conditions at SWMU 3	Environmental Concerns Still Existing at SWMU 3	Ranco Proposed Remedy for SWMU 3	Ohio EPA Proposed Remedy for SWMU 3
1) The West Field SWMU 3 pits and piles contained plating sludge with metals, such as chrome, nickel, and cadmium. Cyanide was also associated with the sludge.	1) There are detections of chrome VI, cadmium, thallium, and cyanide remaining in SWMU 3 soils. The concentration of some of these constituents are over residential, commercial, industrial, trespasser, construction worker, and recreational direct contact standards. However, all risk goals hazard indices are met because the average exposure point concentration is below the screening standards for all pathways other than residential.	1) Ranco proposes to continue ground water monitoring site wide during corrective actions for a minimum of 8 semi-annual events to monitor plume stability. MW-5a and MW-6a are wells in the northern section of SWMU 3.	1) Ranco will continue site wide ground water monitoring under corrective action for a minimum of 8 semi-annual events to monitor plume stability. MW-5a and MW-6a are in the northern portion of SWMU 3.
2) The plating sludge was removed from SWMU 3 in 2009 and 2010. Confirmation and other sampling demonstrated that most of the constituents had been removed with the sludge and soil.	2) Some of the contaminants in the plating sludge, such as chromium, have migrated into ground water.	2) Ranco does not propose fencing SWMU 3. The West Field does not need a fence because the contaminants remaining are below commercial industrial, and recreational direct contact standards.	2) Ohio EPA concurs that a fence is not needed to prevent access to the SWMU 3.
3) Some constituents in ground water remain above standards in some monitoring wells. Ground water is being monitored with an acceptable plan.	3) SWMU 3 is not fenced and is open to trespassers. Agricultural and other residential uses will not take place in SWMU 3 because it will be restricted by an EC.	3) Ranco proposes to enter into an EC with Ohio EPA for SWMU 3 to prevent any residential uses allowing only commercial, industrial and recreational uses. The EC will allow for water deeper than 125 feet below ground	3) Ranco will enter into an EC with Ohio EPA for SWMU 3 to eliminate any residential uses allowing only commercial industrial and recreational uses. The EC will allow the use of ground water from below 125 feet below ground

Current Conditions at SWMU 3	Environmental Concerns Still Existing at SWMU 3	Ranco Proposed Remedy for SWMU 3	Ohio EPA Proposed Remedy for SWMU 3
		surface to be used in the southern and western portions of SWMU 3.	surface in the southern and western sections of SWMU 3.
4) Some constituents remain above residential standards in SWMU 3.		4) Ranco proposes to attach a soil management plan to the SGP to prevent exposure or movement of soil from SWMU 3 to areas with unacceptable exposures.	4) A soil management plan attached to the SGP will prevent exposure or movement of soil from the SWMU 3 to areas with unacceptable exposures.
		5) Ranco proposes to continue to provide financial assurance for site maintenance and ground water monitoring under corrective actions.	5) Ranco will continue to provide financial assurance under corrective actions for maintenance and ground water monitoring.

4.4 Empty Drum Storage Area SWMU 4

The Former Empty Drum Storage Area is in the former Manufacturing Complex. It was used to store empty 55-gallon drums. It was located between buildings 9C and 10C. It was about 50 by 30 feet or 1,500 square feet in size. Forty-two soil samples were taken in this area. Soil samples had copper and cadmium exceedances. Ground water is being monitored with two wells and 1,4- Dioxane exceeds the risk level for a residential onsite receptor of drinking water.

Table 4: Current Conditions, Remaining Environmental Concerns and Proposed Remedies for SWMU 4 - Empty Drum Storage Area

Current Conditions at SWMU 4	Environmental Concerns Still Existing at SWMU 4	Ranco Proposed Remedy for SWMU 4	Ohio EPA Proposed Remedy for SWMU 4
1) SWMU 4 is an area of 50 feet by 30 feet (about 1500 square feet).	1) Copper and cadmium were detected in soils in excess of screening values for residential use and construction exposures. However, they were only detected in one surface sample. All other	1) Ranco proposes that ground water monitoring for off-site receptor protection will continue for 5 years then monitoring will be re-evaluated. Monitored wells	1) Ranco will continue ground water monitoring ground water for off-site receptor protection for 5 years then monitoring will be re-evaluated. Monitored wells would detect any releases from SWMU 4.

Current Conditions at SWMU 4	Environmental Concerns Still Existing at SWMU 4	Ranco Proposed Remedy for SWMU 4	Ohio EPA Proposed Remedy for SWMU 4
	samples from this area have concentrations well below screening values. Therefore, the detections from the one soil sample are not considered representative of the unit.	would detect any releases from SWMU 4.	
2) 42 soil samples were taken in this area, and it has been well investigated. The soil had detections of copper and cadmium which exceeded screening values. However, they were only detected in one surface sample. All other samples from this area have concentrations well below screening values. Therefore, the detections from the one soil sample are not considered representative of the unit.	2) 1,4-Dioxane may have migrated from the vicinity of the empty drum storage area which has resulted in risk levels over residential for an onsite receptor drinking the water.	2) Ranco proposes to attach a soil management plan to the SGP to prevent exposure or movement of soil to areas with unacceptable exposures.	2) A soil management plan attached to the SGP will prevent exposure or movement of soil to areas with unacceptable exposures.
3) Ground water is being monitored with two wells and 1,4-Dioxane is over risk level for a residential on-site receptor drinking the water.		3) Ranco proposes to enter into an EC with Ohio EPA that will prohibit the use of ground water from SWMU 5.	3) Ranco will enter into an EC with Ohio EPA that will prohibit the use of ground water from SWMU 5.
		4) Ranco proposes continued financial assurance under corrective actions for ground water monitoring and maintenance at the site.	4) Ranco will continue financial assurance under corrective actions for ground water monitoring and maintenance.

4.5 Acid / Alkaline Sewer Pipeline SWMU 5

This SWMU is a sewer pipeline which transported acidic and alkaline plating wastes from the plating shops in Building 1A and Building 7 ½ to the WWTP. The unit is about 20 feet wide by 1,650 feet long or approximately 33,000 square feet total. The acidic waste contained hexavalent chrome, nickel, copper, and zinc. The alkaline waste contained cyanide. Most of the pipeline was removed in December 1998, except for 172 feet, which was too close to the buildings to remove. This section was grouted shut and left in place. Surrounding contaminated soils along the pipeline were removed. Soil removal was also conducted in 2010 to remove soils which had copper over the residential screening level.

Table 5: Current Conditions, Remaining Environmental Concerns and Proposed Remedies for SWMU 5 - Acid / Alkaline Sewer Pipeline

Current Conditions at SWMU 5	Environmental Concerns Still Existing at SWMU 5	Ranco Proposed Remedy for SWMU 5	Ohio EPA Proposed Remedy for SWMU 5
1) Acid / Alkaline Pipeline was removed in December 1998 except for 172 feet which was too close to the buildings and a high-water table to remove. This section was grouted shut and left in place. The surrounding impacted soils along the pipeline were also removed. Another soil removal was conducted to remove copper contamination.	1) Contaminants in soil from SWMU 5 include, antimony, cadmium, chromium, hexavalent chromium, copper, zinc, 1,1,1-TCA, TCE, 1,2-DCE, toluene, hexane, benzene, and ethylbenzene. Of these detections three samples still exceed industrial screening numbers one for total cyanide and two for hexavalent chrome. Two samples exceeded construction screening for total cyanide.	1) Ranco proposes that ground water monitoring per the site-wide ground water monitoring plan, which includes a minimum of 8 semi-annual monitoring events. These wells would detect any releases from SWMU 5.	1) Ranco will continue ground water monitoring per the site-wide ground water monitoring plan, which includes a minimum of 8 semi-annual monitoring events. These wells would detect any releases from SWMU 5.
2) Antimony, cadmium, chromium, cyanide hexavalent chrome, copper, and zinc were metals detected in soils. VOCs remaining in soil were 1,1,1-TCA, TCE, 1,2-DCE, toluene, hexane, benzene and ethylbenzene.	2) Several compounds have been detected in Unit A ground water in excess of the ground water protection standard. These are cadmium, TCA, DCE, and TCE. Ground water is being monitored with an acceptable plan.	2) Ranco proposes a soil management plan attached to the SGP which will prevent exposure or movement of soil from the SWMU 5 to areas with unacceptable exposures.	2) A soil management plan attached to the SGP will prevent exposure or movement of soil from the SWMU 5 to areas with unacceptable exposures.

Current Conditions at SWMU 5	Environmental Concerns Still Existing at SWMU 5	Ranco Proposed Remedy for SWMU 5	Ohio EPA Proposed Remedy for SWMU 5
3) Several compounds have been detected in Unit A ground water in excess of the ground water protection standard. These are Cadmium, TCA, DCE, and TCE. Ground water is being monitored with an acceptable plan.	3) The ground water is being monitored under a site-wide ground water monitoring plan.	3) Ranco proposes to enter into an EC with Ohio EPA for the entire site to eliminate any residential uses allowing only commercial, industrial, or recreational uses. The EC will prohibit the use of ground water from SWMU 5.	3) Ranco will enter into an EC with Ohio EPA to eliminate any residential uses allowing only commercial, industrial, and recreational uses. The EC will prohibit the use of ground water from SWMU 5.
		4) Ranco proposes to provide continued financial assurance for site maintenance and ground water monitoring under corrective actions.	4) Ranco will continue financial assurance for site maintenance and ground water monitoring under corrective actions.

4.6 Former Wastewater Treatment Plant Vinyl Chloride Plume SWMU 6

The WWTP treated both industrial and domestic wastewater in two treatment plants from 1951 to 2010. A TCE and vinyl chloride plume emanates from the RCRA Landfill in Unit A ground water. The plume migrates to Unit B/C and D ground water units near the WWTP through a breach in the aquitard as observed in well PC-8Sb. This plume was identified in the 1990s. In March 2013, the clarifier and WWTP were demolished. The WWTP and clarifier were both demolished below the existing grade. The bottom sump of the WWTP was filled with flowable fill. A 12-inch corrugated pipe was placed to the bottom of the WWTP, and a slot screen was cut at the bottom. Pea gravel was used to surround the screened interval. Then on-site demolition material and "pit-run" clean fill were used to fill the bottom of the void. Pit-run clean fill was used to fill up to near the ground surface. A Geotextile material was used on top, and three feet of native clay was compacted on top of it for cover. Four inches of topsoil were placed on the clay, and it was planted with grass. The large clarifier next to the WWTP was closed in the same manner. A series of ground water monitoring wells monitor the ground water protection exceedances for vinyl chloride and arsenic plume. The arsenic has been shown to be naturally occurring. One of the wells has a GWPS exceedance for 1,4-Dioxane.

Table 6: Current Conditions, Remaining Environmental Concerns and Proposed Remedies for SWMU 6 - Former Wastewater Treatment Plant Vinyl Chloride Plume

Current Conditions at SWMU 6	Environmental Concerns Still Existing at SWMU 6	Ranco Proposed Remedy for SWMU 6	Ohio EPA Proposed Remedy for SWMU 6
1) The former WWTP and clarifier was demolished in March 2013.	1) The former treatment plant and fill probably acts as a conduit for ground water from Unit A to Unit B/C.	1) Ranco proposes to continue ground water monitoring per the site-wide ground water monitoring plan, which includes a minimum of 8 semi-annual monitoring events. These wells would detect any releases from SWMU 6.	1) Ranco will continue ground water monitoring per the site-wide ground water monitoring plan, which includes a minimum of 8 semi-annual monitoring events. These wells would detect any releases from SWMU 6.
2) The former WWTP was torn down to below grade level and closed as detailed in the paragraph above.	2) The wastewater treatment plant and clarifier do not appear to be a direct source of contaminates moving to the ground water.	2) Ranco proposes to attach a soil management plan to the SGP to prevent exposure or movement of soil from the SWMU 6 to areas with unacceptable exposures.	2) A soil management plan attached to the SGP will prevent exposure or movement of soil from the SWMU 6 to areas with unacceptable exposures.
3) Ground water is currently being monitored with an acceptable plan.	3) Only two soil samples from 10 – 12 ft exceeded residential screening levels. All other soil samples met screening levels.	3) Ranco proposes to enter into an EC with Ohio EPA to eliminate any residential uses allowing only commercial, industrial, or recreational uses. The EC will prohibit for use of ground water from below SWMU 6.	3) Ranco will enter into an EC with Ohio EPA to eliminate any residential uses allowing only commercial, industrial, or recreational uses. The EC will prohibit use of ground water below SWMU 6.
4) A homeowner northeast of the property had new deeper potable well installed in June of 2013.	4) There were GWPS exceedances in 4 Unit A wells for vinyl chloride. There was one GWPS exceedance for 1,4-Dioxane in a Unit A well. There was a GWPS exceeded for 1, 4-Dioxane in a Unit B well monitoring the unit.	4) Ranco proposes to continue financial assurance for site maintenance and ground water monitoring under corrective actions.	4) Ranco will continue financial assurance for site maintenance and ground water monitoring under corrective actions.

4.7 Former Sludge Holding Tank SWMU 7

The underground sludge holding tank was built in 1981 to hold plating sludge, which was generated in the WWTP before shipment to the treatment, storage, disposal facility, Tricil in Hilliard, Ohio. This sludge tank was decommissioned in 1989 when the wastewater treatment plant was modified with a filter press, which would dump the sludge directly into a roll-off box. The roll-off box was then sent directly to a treatment, storage, disposal facility. The sludge holding tank was demolished in October 2010. The water in the tank was sampled first and then the tank was pumped out. A jack hammer mounted on a track hoe was used to break the top and sides of the concrete tank. The bottom of the tank was also broken into pieces. Two samples, one from under the tank, and the other from under the connecting pipe were taken. All the rebar and the upper half of the tank were transported off site for disposal. The excavation was finally backfilled with clean soil. The two soil samples had no compounds over screening levels.

Table 7: Current Conditions, Remaining Environmental Concerns and Proposed Remedies for SWMU 7 - Former Sludge Holding Tank

Current Conditions at SWMU 7	Environmental Concerns Still Existing at SWMU 7	Ranco Proposed Remedy for SWMU 7	Ohio EPA Proposed Remedy for SWMU 7
1) The former Sludge Holding Tank was destroyed in October 2010.	1) There were GWPS exceedances in 4 A unit wells for vinyl chloride. There was one GWPS exceedance for 1,4-Dioxane for an A unit well monitoring the unit. There was a GWPS exceeded for 1, 4-Dioxane in a Unit B well monitoring the unit.	1) Ranco proposes to continue ground water monitoring per the site-wide ground water monitoring plan, which includes a minimum of 8 semi-annual monitoring events. These wells would detect any releases from SWMU 7.	1) Ranco will continue ground water monitoring per the site-wide ground water monitoring plan, which includes a minimum of 8 semi-annual monitoring events. These wells would detect any releases from SWMU 7.
2) SWMU 7 was closed in place.	2) Soil samples from SWMU 7 had no compounds over screening levels.	2) Ranco proposes to enter into an EC with Ohio EPA for the entire site to eliminate any residential uses allowing only commercial, industrial, or recreational uses. The EC will prohibit the use of ground water from under SWMU 7.	2) Ranco will enter into an Environmental Covenant with Ohio EPA to eliminate any residential uses allowing only commercial, industrial, or recreational uses. The EC will prohibit the use of ground water from under SWMU 7.

Current Conditions at SWMU 7	Environmental Concerns Still Existing at SWMU 7	Ranco Proposed Remedy for SWMU 7	Ohio EPA Proposed Remedy for SWMU 7
3) Ground water is being monitored with an acceptable plan.		3) Ranco proposes to continue financial assurance for site maintenance and ground water monitoring under corrective actions.	3) Ranco will provide continued financial assurance for site maintenance and ground water monitoring under corrective actions.

4.8 Underground Storage Tanks AOC 1

This includes all the underground storage tanks (USTs) at the facility that held petroleum products, which were mainly diesel but some held heating oil. There were six tanks total: three 3000-gallon tanks, one 5000-gallon fiberglass tank, one 10,000-gallon, and one 1890-gallon tank. Two of these tanks were regulated by BUSTR and were closed to BUSTR standards. Three of these tanks were not regulated by BUSTR but were closed to BUSTR standards. All five tanks were removed on July 16, 2007. The 1890-gallon tank, which ran the backup generator and steam boiler at the wastewater treatment, had a five-gallon release on December 9, 1988, to Big Darby Creek. This tank was removed, and the spilled fuel oil was recovered. All six tanks lie inside the perimeter fence at the Ranco facility.

Table 8: Current Conditions, Remaining Environmental Concerns and Proposed Remedies for AOC 1 - Underground Storage Tanks

Current Conditions at AOC 1	Environmental Concerns Still Existing at AOC 1	Ranco Proposed Remedy for AOC 1	Ohio EPA Proposed Remedy for AOC 1
1) The USTs were used to hold fuel and heating oil.	1) All environmental concerns associated with this SWMU have been addressed. The USTs were removed to BUSTR standards and two of the tanks were certified closed by BUSTR.	1) No remedy is proposed for AOC 1 other than the site-wide ground water monitoring and other site-wide restrictions.	1) No remedy is proposed for AOC 1 other than the site-wide ground water monitoring and other site-wide restrictions.
2) The USTs were removed to BUSTR standards and two were certified closed by BUSTR.			

4.9 Building 1A Plating Shop Area AOC 2

This area was used for electroplating for copper, brass, and stainless-steel parts. The shop included bright dip, flux removal, heat scale removal, and wax dip finishes. Copper and brass parts were run through a series of agitators, rinses, acid dips, more rinses, and a drying cycle to produce a bright finish. Stainless steel pilot valves were cleaned and passivated in the cleaning line. Solder rings were cleaned to remove oxidation and dust. Copper and copper alloy parts also had flux and heat scale removed. Fiberglass and plastic panels were also dipped in wax at the building 1A plating shop. The AOC is about 3,000 square feet or 100 feet by 30 feet. Copper, cadmium and hexavalent chromium were found in soils above residential screening levels. Cadmium, TCA, DCE, and TCE were above the GWPS in a single shallow Unit A zone well, PC-104Sa.

Table 9: Current Conditions, Remaining Environmental Concerns and Proposed Remedies for AOC 2 - Building 1A Plating Shop Area

Current Conditions at AOC 2	Environmental Concerns Still Existing at AOC 2	Ranco Proposed Remedy for AOC 2	Ohio EPA Proposed Remedy for AOC 2
1) AOC 2 Copper, cadmium and hexavalent chromium were found in soils above residential screening levels.	1) AOC 2 Copper, cadmium and hexavalent chromium were found in soils above residential screening levels.	1) Ranco proposes to continue ground water monitoring per the site-wide ground water monitoring plan, which includes a minimum of 8 semi-annual monitoring events. These wells would detect any releases from AOC 2.	1) Ranco will continue ground water monitoring per the site-wide ground water monitoring plan, which includes a minimum of 8 semi-annual monitoring events. These wells would detect any releases from AOC 2.
2) Cadmium, TCA, DCE, and TCE were above the GWPS in a single shallow Unit A zone well, PC-104Sa.	2) Cadmium, TCA, DCE, and TCE were above the GWPS in a single shallow Unit A zone well, PC-104Sa.	2) Ranco proposes a soil management plan attached to the SGP will prevent exposure or movement of soil from AOC 2 to areas with unacceptable exposures.	2) A soil management plan attached to the SGP will prevent exposure or movement of soil from AOC 2 to areas with unacceptable exposures.
3) Ground water is being monitored with an acceptable plan.		3) Ranco proposes to enter into an EC with Ohio EPA for the entire site restricting residential use and allowing commercial, industrial, or	3) Ranco will enter into an EC with Ohio EPA to eliminate any residential uses and allow commercial, industrial, or

Current Conditions at AOC 2	Environmental Concerns Still Existing at AOC 2	Ranco Proposed Remedy for AOC 2	Ohio EPA Proposed Remedy for AOC 2
		recreational use. The EC will also prohibit ground water use from under AOC 2.	recreational use. The EC will also prohibit ground water use from under AOC 2.
		4) Ranco proposes to continue financial assurance for site maintenance and ground water monitoring under corrective actions.	4) Ranco will continue to provide financial assurance for corrective action maintenance and monitoring at the site.

4.10 NPDES Permit Outfall 001 AOC 3

Historically, the NPDES permitted outfall 001 was used to discharge treated sanitary and industrial wastewaters to the Big Darby Creek. The discharge is currently only used to discharge treated interceptor trench water and is in compliance with the current NPDES permit for this outfall.

Table 10: Current Conditions, Remaining Environmental Concerns and Proposed Remedies for AOC 3 - NPDES Permit Outfall 001

Current Conditions at AOC 3	Environmental Concerns Still Existing at AOC 3	Ranco Proposed Remedy for AOC 3	Ohio EPA Proposed Remedy for AOC 3
1) The sampling from the NPDES Permit Outfall 001 demonstrates it is following the NPDES permit.	1) Sampling from the NPDES Permit Outfall 001 demonstrates it is following the NPDES permit. It will continue to be regulated by Ohio EPA Division of Surface Water. The permit for the outfall may be terminated following the Interceptor Trench Post-Termination Confirmation Study, assuming acceptable results are obtained.	1) Ranco proposes to continue monitoring and testing the treated interceptor trench water, and the water from the NPDES outfall until the trench is shut down for the Trench Confirmation Study.	1) Ranco will continue monitoring and testing the interceptor trench water, the treated interceptor trench water, and the water discharged at the NPDES outfall until the trench is shut down for the Trench Confirmation Study.

Current Conditions at AOC 3	Environmental Concerns Still Existing at AOC 3	Ranco Proposed Remedy for AOC 3	Ohio EPA Proposed Remedy for AOC 3
2) Ranco has proposed eliminating the NPDES outfall.		2) Ranco proposes to temporarily cease operation of the Interceptor Trench as part of the Trench Confirmation Study. If the results of the Study demonstrate that Ranco can permanently cease operating the Interceptor Trench, and if Ohio EPA agrees with that conclusion, Ranco will notify the Ohio EPA Surface Water Division that its NPDES permit can be terminated.	2) Ranco will temporarily cease operation of the Interceptor Trench as part of the Trench Confirmation Study.
		3) Ranco proposes to provide financial assurance for the maintenance of the interceptor trench, trench water treatment train and monitoring for the NPDES permit under corrective actions unless the trench monitoring study demonstrates it is safe to permanently shut down the trench and treatment system.	3) If the results of the Study demonstrate that Ranco can permanently cease operating the Interceptor Trench, and if Ohio EPA agrees with that conclusion, Ranco will notify the Ohio EPA Surface Water Division that its NPDES permit can be terminated.
			4) Ranco will reactivate the trench and treatment system if monitoring data show that reactivation is warranted as outlined in the Trench Confirmation Study Plan.
			5) Ranco will provide financial assurance for the maintenance of the interceptor trench, treatment system, and monitoring for the

Current Conditions at AOC 3	Environmental Concerns Still Existing at AOC 3	Ranco Proposed Remedy for AOC 3	Ohio EPA Proposed Remedy for AOC 3
			NPDES permit under corrective actions unless the Trench Confirmation Study demonstrates it is safe to permanently shut down the trench and treatment system.

4.11 Building 2 ½ Former Charging Area AOC 4

The control units manufactured by Ranco were tested in this area using ethylene glycol. The unit was approximately 32 feet by 32 feet, or about 1,100 square feet.

Table 11: Current Conditions, Remaining Environmental Concerns and Proposed Remedies for AOC 4 - Building 2 ½ Former Charging Area

Current Conditions at AOC 4	Environmental Concerns Still Existing at AOC 4	Ranco Proposed Remedy for AOC 4	Ohio EPA Proposed Remedy for AOC 4
1) The sampling from AOC 4 did not demonstrate any detections of ethylene glycol.	1) All environmental concerns associated with this SWMU have been addressed.	1) No remedy is proposed for AOC 4 other than the site-wide ground water monitoring and other site-wide restrictions.	1) No remedy is proposed for AOC 4 other than the site-wide ground water monitoring and other site-wide restrictions.

4.12 Building 7 ½ Bright Dip Copper Shop AOC 5

This was the location for bright dipping copper brackets from 1987 to 1988 and then the operation was transferred to Building 1A, Plating Shop AOC 2. The unit was approximately 43 feet by 43 feet, or 1900 feet square.

Table 12: Current Conditions, Remaining Environmental Concerns and Proposed Remedies for AOC 5 - Building 7 ½ Bright Dip Copper Shop

Current Conditions at AOC 5	Environmental Concerns Still Existing at AOC 5	Ranco Proposed Remedy for AOC 5	Ohio EPA Proposed Remedy for AOC 5
1) The soil sampling from the AOC 5 demonstrated that there are no constituents detected above screening levels.	1) All environmental concerns associated with this SWMU have been addressed.	1) No remedy is proposed for AOC 5 other than the site-wide ground water monitoring and other site-wide restrictions.	1) No remedy is proposed for AOC 5 other than the site-wide ground water monitoring and other site-wide restrictions.
2) No ground water samples were over the GWPS. Site-wide ground water is being monitored with an acceptable plan.			

4.13 Hazardous Waste Storage Building AOC 6

This building currently houses treatment equipment for the ground water interceptor trench treatment system. From 1990 to 2009, this building was used to manage hazardous waste from the manufacturing processes. It is currently used to manage hazardous waste derived from the corrective action investigation, such as purge water from ground water monitoring well sampling, drill cuttings and the hazardous waste generated from operating the interceptor trench treatment system. The unit dimensions are approximately 40 by 75 feet, or 3,000 square feet.

Table 13: Current Conditions, Remaining Environmental Concerns and Proposed Remedies for AOC 6 - Hazardous Waste Storage Building

Current Conditions at AOC 6	Environmental Concerns Still Existing at AOC 6	Ranco Proposed Remedy for AOC 6	Ohio EPA Proposed Remedy for AOC 6
1) The hazardous waste storage building is still in use to accumulate hazardous waste in a less than 90-day storage area and will require generator closure when the accumulation ceases.	1) 1,4-Dioxane was detected in ground water near AOC 6.	1) Ranco proposes that ground water monitoring for off-site receptor protection will continue for 5 years then monitoring will be reevaluated. These wells would detect any releases from AOC 6.	1) Ranco will continue ground water monitoring ground water for off-site receptor protection for 5 years then monitoring will be reevaluated. These wells would detect any releases from AOC 6.

Current Conditions at AOC 6	Environmental Concerns Still Existing at AOC 6	Ranco Proposed Remedy for AOC 6	Ohio EPA Proposed Remedy for AOC 6
The building is also used to treat interceptor trench water. Purge water will continue to be accumulated as listed hazardous waste in the treatment building as the site moves into corrective actions.			
2) There is a proposal to shut down the interceptor trench which currently intercepts shallow ground water and is treated in the treatment building and discharged to the Big Darby under an NPDES permit. The A zone ground water will then flow to Robinson Run. The treatment system for the intercepted trench water is located in the Hazardous Waste Storage Building but could be removed if the demonstration is effective.	2) In 1992, as part of the SWMU-1 RCRA Landfill ground water investigation, 1,1,1-TCA concentrations were found in a ground water sample collected from a temporary well on the east side of the building that exceeded the GWPS. Only 1,4-Dioxane exceeded the GWPS in a nearby well. This exceedance occurred only during a single sampling event (4 sampling events total). The well in question is PC-31Sa and 1,4-Dioxane was found to range < 2.0 to 7.2 µg/L.	2) Ranco proposes to enter into an EC with Ohio EPA to prevent any residential uses for the entire site. The EC will prohibit ground water use from under AOC 6.	2) Ranco will enter into an EC with Ohio EPA to prevent any residential uses for the entire site. The EC will also prohibit ground water use from under AOC 6.
3) Ground water is being monitored with an acceptable plan.	3) No screening levels were exceeded in any of the 9 samples collected from 4 soil borings during investigative activities in AOC-6, therefore soil is not a concern.	3) Ranco proposes to continue financial assurance for maintenance and ground water monitoring under corrective actions.	3) Ranco will continue to provide financial assurance for maintenance and ground water monitoring under corrective actions.

4.14 Site-Wide Ground Water AOC-7

Site-wide ground water has been designated AOC-7 and consists of ground water plume areas.

- Northeast field ground water contamination in the Unit A ground water zone and is related to the RCRA Landfill and the northern part of northeast field.
- Vinyl Chloride Ground Water plume is located north and east of the RCRA Landfill in the vicinity of the maintenance garage, WWTP, and areas further east within the northeast field impacting ground water Units A, B/C, and D.
- 1,4-Dioxane ground water plume within the former Manufacturing Complex impacting ground water Units A, B/C, and D.

The following provides a description of each of these three main contaminant plumes.

4.14.1 Northeast Field Ground Water Contamination Unit A (RCRA Landfill and Northern Part of Northeast Field)

A small, remnant fan-shaped plume of TCE (and daughter products including vinyl chloride) is present in Unit A, which emanates from the RCRA Landfill and migrates northerly towards the Interceptor Trench and Robinson Run. The plume originates from a small historic area formerly located in the northeastern impoundment cell at a spot where facility personnel discovered a pile of metal scraps during the construction of the RCRA Landfill in 1988. The metal scraps were believed to have been placed into the impoundment cell from the plating operation, perhaps as a result of cleaning and maintenance of the plating "dip" tanks. This source released the degreasing solvents TCE and 1,1,1-TCA (and cyanide) into the ground water of Unit A. Both VOCs were detected in the ground water of Unit A at parts per million concentrations in the late 1980s but have since decreased to low parts per billion concentrations after removal of the source and natural attenuation has degraded the compounds, producing several degradation daughter compounds including 1,1-DCA, 1,1-DCE, cis/trans-1,2-DCE and vinyl chloride. A ground water divide exists in Unit A. South of this divide, Unit A ground water generally flows to the south and southeast toward Big Darby Creek. North of this divide, Unit A ground water generally flows to the north and northeast towards Robinson Run. Unit A ground water flow in the vicinity of the RCRA Landfill is northerly with an eastern component based on over 20 years of ground water monitoring data.

Table 14: Current Conditions, Remaining Environmental Concerns and Proposed Remedies for Northeast Field RCRA Landfill Ground Water Plume

Current Conditions for Northeast Field Ground Water	Environmental Concerns Still Existing for Northeast Field Ground Water	Ranco Proposed Remedy for Northeast Field Ground Water	Ohio EPA Proposed Remedy for Northeast Field Ground Water
1) The ground water in the Northeast Field has chemicals above risk levels for ground water emanating from the RCRA Landfill and possible other locations.	1) TCE, DCE, DCA and Vinyl Chloride are emanating from the RCRA Landfill.	1) Ranco proposes that ground monitoring will continue after interceptor trench shut down. This will be accomplished following the Trench Confirmation Study using four A zone ground water wells and three transects across Robinson Run. Monitoring data from Robinson Run may warrant reactivation of the interceptor trench and treatment system.	1) Ranco will continue ground water monitoring after interceptor trench shut down. This will be accomplished by following the Trench Confirmation Study using four A zone ground water wells and three transects across Robinson Run. Monitoring data from Robinson Run may warrant reactivation of the interceptor trench and treatment system.
2) There is an interceptor trench which currently intercepts A zone ground water, which is treated and discharged to the Big Darby with an NPDES permit. The interceptor trench is proposed to be shut down and the A zone ground water will then flow to Robinson Run.	2) 1,4-Dioxane is in ground water and has been detected in several areas in the Northeast Field.	2) Ranco proposes that ground water monitoring for off-site receptor protection will continue for 5 years then monitoring will be reevaluated. This will include five wells to the northeast and five wells on the east side of the Northeast Field as part of the corrective action at the facility.	2) Ranco will continue ground water monitoring ground water for off-site receptor protection for 5 years then monitoring will be reevaluated. This will include five wells to the northeast and five wells on the east side of the Northeast Field as part of the corrective action at the facility. A response will take place if the value at the property line is over risk values. This response may include sampling receptor wells or placing a new well in between the risk exceedance and the receptor well.

Current Conditions for Northeast Field Ground Water	Environmental Concerns Still Existing for Northeast Field Ground Water	Ranco Proposed Remedy for Northeast Field Ground Water	Ohio EPA Proposed Remedy for Northeast Field Ground Water
3) Ground water is being monitored with an acceptable plan and will continue to be monitored after interceptor trench shut down with a Trench Confirmation Study using four Unit A ground water wells three transects across Robinson Run.	3) 1,4 Dioxane has been detected off property north of the Northeast Field on the Freeman Property.	3) Ranco proposes to enter into an EC with Ohio EPA to prevent any residential uses for the entire site. The EC will prohibit ground water use from under the Northeast Field.	3) Ranco will enter into an EC with Ohio EPA to prevent any residential uses for the entire site or removal of ground water from under the northern portion of the Northeast Field. The EC will also prohibit ground water use from under the Northeast Field.
4) Access to the Unit A aquifer is very limited.		4) Ranco proposes to continue financial assurance for maintenance and ground water monitoring under corrective actions.	4) Ranco will continue to provide financial assurance for maintenance and ground water monitoring under corrective actions.

4.14.2 Vinyl Chloride Ground Water Plume (Northeast Field)

Vinyl chloride is present in ground water immediately north and east of the RCRA Landfill in the vicinity of the maintenance garage, WWTP, and areas further east within the Northeast Field. An extensive ground water investigation was conducted in 2008 and 2009 that included installation of over 30 piezometers and ground water monitoring wells within the former manufacturing area in the Northeast Field. This investigation revealed vinyl chloride impacts in Unit A in the vicinity of the maintenance garage and WWTP. Due to a breach in the aquitard in the area near the WWTP, it is believed that impacts associated with the Unit A plume have migrated downward through the breach into the underlying ground water units (Units B/C, and D). Impacts associated with this plume have been identified in the WWTP area (PC-8Sb), which historically contained the highest concentrations of vinyl chloride. Vinyl chloride has also been periodically detected above the U.S. EPA MCL of 2 ug/l in the Unit D (weathered bedrock) along the northeast property boundary (PC-12D). Vinyl chloride values from well PC-12D have ranged from non-detect to a high of 3.50 ug/L. Based on the monitoring conducted to date, it is also believed that the source of these impacts may be the RCRA Landfill and other potential comingled sources in the vicinity of the maintenance garage and WWTP area. Additional investigation in this area has been conducted as part of the RFI work activities and did not identify any other significant

sources areas within the Northeast Field. In 2013, a homeowner located northeast of the Ranco property had its well, which drew water from Unit D, disconnected from the home's indoor plumping. Ranco then installed a deeper potable well into Unit E and connected the new well to the home's indoor plumbing to serve as the potable water supply for the residential property.

Table 15: Current Conditions, Remaining Environmental Concerns and Proposed Remedies for Northeast Field Vinyl Chloride Ground Water Plume

Current Conditions for Northeast Field Ground Water	Environmental Concerns Still Existing for Northeast Field Ground Water	Ranco Proposed Remedy for Northeast Field Ground Water	Ohio EPA Proposed Remedy for Northeast Field Ground Water
1) The ground water in the Northeast Field has chemicals above risk levels for ground water emanating from the RCRA Landfill and possible other locations.	1) Vinyl Chloride has been detected in on-site ground water in Units A, B/C and D.	1) Ranco proposes that ground monitoring will continue after interceptor trench shut down. This will be accomplished following the Trench Confirmation Study using four Unit A ground water wells and three transects across Robinson Run. Monitoring data from Robinson Run may warrant reactivation of the interceptor trench and treatment system.	1) Ranco will continue ground water monitoring after interceptor trench shut down. This will be accomplished with the Trench Confirmation Study using four Unit A ground water wells and three transects across in Robinson Run. Monitoring data from Robinson Run may warrant reactivation of the interceptor trench and treatment system.
2) There is an Interceptor Trench which currently intercepts Unit A ground water which is treated and discharged to the Big Darby with an NPDES permit. The Interceptor Trench is proposed to be shut down and the Unit A ground water will then flow to Robinson Run.		2) Ranco proposes to continue ground water monitoring for off-site receptor protection for 5 years then monitoring will be re-evaluated. This will include five wells to the north and five wells on the east side of the Northeast Field. A response will take place if concentrations at the property line are over risk values. Potential responses are included in the SGP and could entail additional	2) Ranco will continue ground water monitoring ground water for off-site receptor protection for 5 years then monitoring will be re-evaluated. This will include five wells to the northeast and five wells on the east side of the Northeast Field. A response will take place if concentrations at the property line are over risk values. Potential responses are included in the SGP and could entail additional

Current Conditions for Northeast Field Ground Water	Environmental Concerns Still Existing for Northeast Field Ground Water	Ranco Proposed Remedy for Northeast Field Ground Water	Ohio EPA Proposed Remedy for Northeast Field Ground Water
		investigation, sampling of private wells, installation of point of use treatment and/or providing an alternate water supply to potentially affected wells.	investigation, sampling of private wells, installation of point of use treatment and/or providing an alternate water supply to potentially affected wells.
3) Ground water is being monitored in Units A, B/C and D with an acceptable plan and will continue to be monitored after Interceptor Trench shut down with Trench Confirmation Study using four Unit A ground water wells and three transects across Robinson Run.		3) Ranco has drilled a deeper supply well for the homeowner northeast of property in Unit E that does not have the contaminants detected in Unit D.	3) Ranco has drilled a deeper supply well for the homeowner northeast property in Unit E that does not have the contaminants detected in Unit D.
4) Access to the Unit A aquifer is very limited.		4) Ranco proposes to enter into an EC with Ohio EPA to prevent any residential uses for the entire site. The EC will prohibit ground water use from under the northern portion of the Northeast field.	4) Ranco will enter into an EC with Ohio EPA to prevent any residential uses for the entire site. The EC will also prohibit ground water use from under the northern portion of the Northeast Field.
		5) Ranco proposes to continue financial assurance for maintenance and ground water monitoring under corrective actions.	5) Ranco will continue to provide financial assurance for maintenance and ground water monitoring under corrective actions.

4.14.3 1,4-Dioxane Ground Water Plume (Former Manufacturing Complex)

This constituent was first detected in site ground water in September 2015 during the RFI investigation. It has been observed in Unit A immediately northwest of the former Manufacturing Complex building pad. This constituent is also detected in Unit B/C immediately north of the RCRA Landfill in well PC-2Sb. The contaminant plume spreads radially from the original 1950's era

WWTP and ultimately flows northeast in Unit B/C with the eastern extent between PC-8Sb and PC-12Sb/PC-13Sb. 1,4-Dioxane is also observed in Unit D from the approximate location of the RTB to the northeast corner of the Site at PC-38D. The northeastern most extent is PC-19D, and the southernmost extent is PC-40D. No 1,4-Dioxane has been detected in Unit E, which is hydraulically separated from the ground water units above it.

Table 16: Current Conditions, Remaining Environmental Concerns and Proposed Remedies for 1,4-Dioxane Ground Water Plume

Current Conditions for 1,4-Dioxane Ground Water Plume	Environmental Concerns Still Existing for 1,4-Dioxane Ground Water Plume	Ranco Proposed Remedy for 1,4-Dioxane Ground Water Plume	Ohio EPA Proposed Remedy for 1,4-Dioxane Ground Water Plume
1) The ground water in the northeast field has 1,4-Dioxane above risk levels for ground water emanating from the area of the RCRA Landfill and possible other locations in the Northeast field.	1) 1,4-Dioxane is in ground water and has been detected in several areas in the Northeast property.	1) Ranco proposes to continue ground water monitoring for off-site receptor protection for 5 years then monitoring will be reevaluated. This will include five wells to the northeast and five wells on the east side of the Northeast Field. A response will take place if concentrations at the property line are over risk values. Potential responses are included in the SGP and could entail additional investigation, sampling of private wells, installation of point of use treatment and/or providing an alternate water supply to potentially affected wells.	1) Ranco will continue ground water monitoring for off-site receptor protection for 5 years then monitoring will be reevaluated. This will include five wells to the northeast and five wells on the east side of the Northeast Field. A response will take place if concentrations at the property line are over risk values. Potential responses are included in the SGP and could entail additional investigation, sampling of private wells, installation of point of use treatment and/or providing an alternate water supply to potentially affected wells.
2) Ranco has drilled a deeper supply well for the homeowner northeast of the property in Unit E	2) 1,4-Dioxane has been detected off property north of the Northeast Field on the Freeman Property.	2) Ranco proposes to enter into an EC with Ohio EPA to prevent any residential uses for the entire site. The EC will prohibit ground water	3) Ranco will enter into an EC with Ohio EPA to prevent any residential uses for the entire site. The EC will prohibit ground water

Current Conditions for 1,4-Dioxane Ground Water Plume	Environmental Concerns Still Existing for 1,4-Dioxane Ground Water Plume	Ranco Proposed Remedy for 1,4-Dioxane Ground Water Plume	Ohio EPA Proposed Remedy for 1,4-Dioxane Ground Water Plume
that does not have the contaminants detected in Unit D.		use from under the northern portion of the Northeast Field.	use from under the northern portion of the Northeast Field.
3) Ground water is being monitored with an acceptable plan.		3) Ranco proposes to continue financial assurance for maintenance and ground water monitoring under corrective actions.	3) Ranco will continue to provide financial assurance for maintenance and ground water monitoring under corrective actions.
4) Access to the Unit A aquifer is very limited.			

5.0 SUMMARY OF PROPOSED REMEDY

The final Ranco Corrective Action Report includes the IMs already performed at the site, including:

- The 1989 RCRA Landfill from the existing impoundments,
- The 1996 interceptor trench to stop the shallow water from flowing to Robinson Run,
- The 1998-1999 excavation of the Acid /Alkaline Pipeline and some adjacent soil,
- The 2009 removal of plating sludge from the West field,
- The installation of a deeper potable well at the residence northeast of the property, and
- The removal of some of the Western storm sewer along with some soil in 2016 during the switch over to sending the treated trench water to the Eastern jet cleaned storm sewer have been successful in reducing risk to receptors.

The data presented in the Corrective Action Report confirms that no further corrective action measures should be required at the Ranco facility and that a CMS should not be necessary. The IMs were not intended to serve as a final remedy for the site. An EC restricting property use and a SGP including a Soil Management Plan, O&M plan, and a ground water monitoring plan all required by the DFFOs will be considered as the other components of the final remedy. The EC would restrict land use to commercial/industrial and recreational use, prohibit potable use of ground water in the northern section of the property, and require reevaluation of the vapor intrusion pathway in the event buildings are to be constructed on the property or there are other development or changes in the future.

Ohio EPA will review any comments received during the public comment period of this SOB and then draft a Responsiveness Summary that will be included in the Decision Document. The Decision Document issued by Ohio EPA will describe Ohio EPA's final selected remedies and Corrective Measures for the Site. After the Decision Document is issued Ohio EPA will then issue DFFOs that include a requirement for a final SGP which will describe all of Ranco's regulatory obligations including technical, administrative, financial, and legal. The following items will also be required by the SGP:

- Corrective Measures and Implementation Plan
- Ground Water Monitoring Program
  - Off-Site Receptor Protection Well Network and proposed response protocol for undertaking potential additional "response actions" as needed to protect off-site receptors.
  - Plume Stability Well Network
- Interceptor Trench Post-Termination Confirmation Study
- Site Management Plan that includes RCRA Landfill care and maintenance
- Site-Wide EC

- Financial Assurance
- Soil Management Plan

Conclusion

The Ranco facility began as a manufacturing and assembly operation in the early 1950s. Shortly thereafter buildings were constructed including an office building, WWTP, and support facilities through the 1980s. During that time Ranco manufactured thermostatic sensors, automotive parts, reversing valves for heat pumps, and other equipment. Activities included metal working, cleaning, degreasing, plating, and painting and wastewater treatment operations. Historically, a surface impoundment containing four cells were used to store non-hazardous drinking water lime sludge and two cells were used to store industrial sludge. Following issuance of regulations under RCRA and Ohio Solid Waste Disposal Law in the early 1980s the industrial sludge impoundments were classified as RCRA hazardous waste TSD units. Closure of the two surface impoundments were initiated in the 1980s and hazardous sludge was consolidated into a single RCRA Landfill.

Ranco has been investigating environmental conditions and corrective actions since the 1980s. The initial focus was the RCRA Landfill including closure, post-closure maintenance, and ground water monitoring. In 2015, Ranco and Ohio EPA began to focus on site-wide corrective action at the site. In 2017, an APCP was developed to outline work to satisfy hazardous waste obligations with the RCRA Landfill and site-wide corrective action. A Site-wide RCRA Corrective Action Report was submitted in 2018 to replace the 2017 APCP. After Ohio EPA comments were incorporated, a final Corrective Action Report was submitted to Ohio EPA on January 3, 2024. This SOB summarizes the site-wide corrective action activities and proposed Corrective Measures and seeks public input. After public input, a Decision Document and DFFOs will be issued that include responses to any comments and a final decision on the Corrective Measures for the facility. A final SGP will be developed that includes all Ranco's TSD and corrective action obligations going forward.

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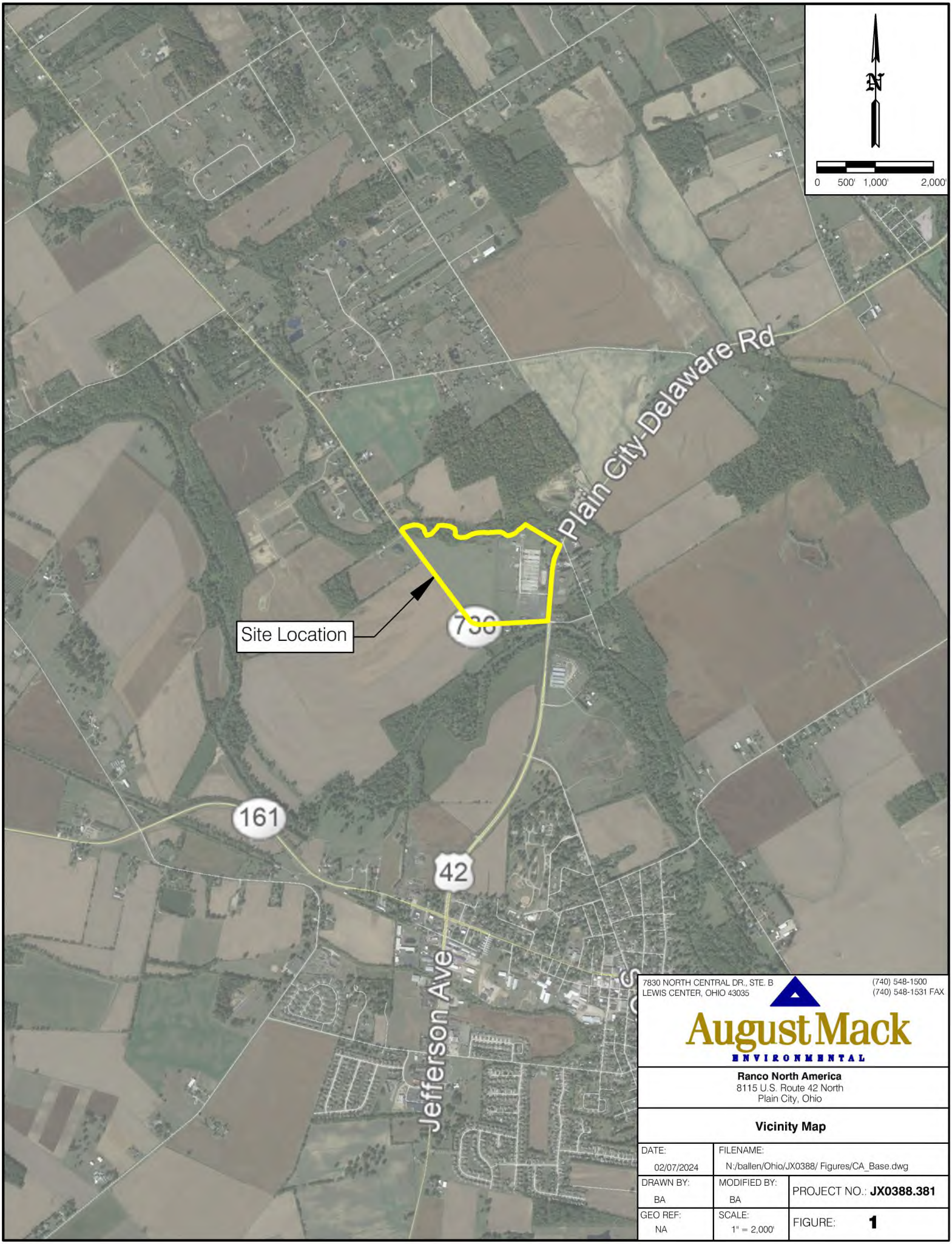
FIGURES



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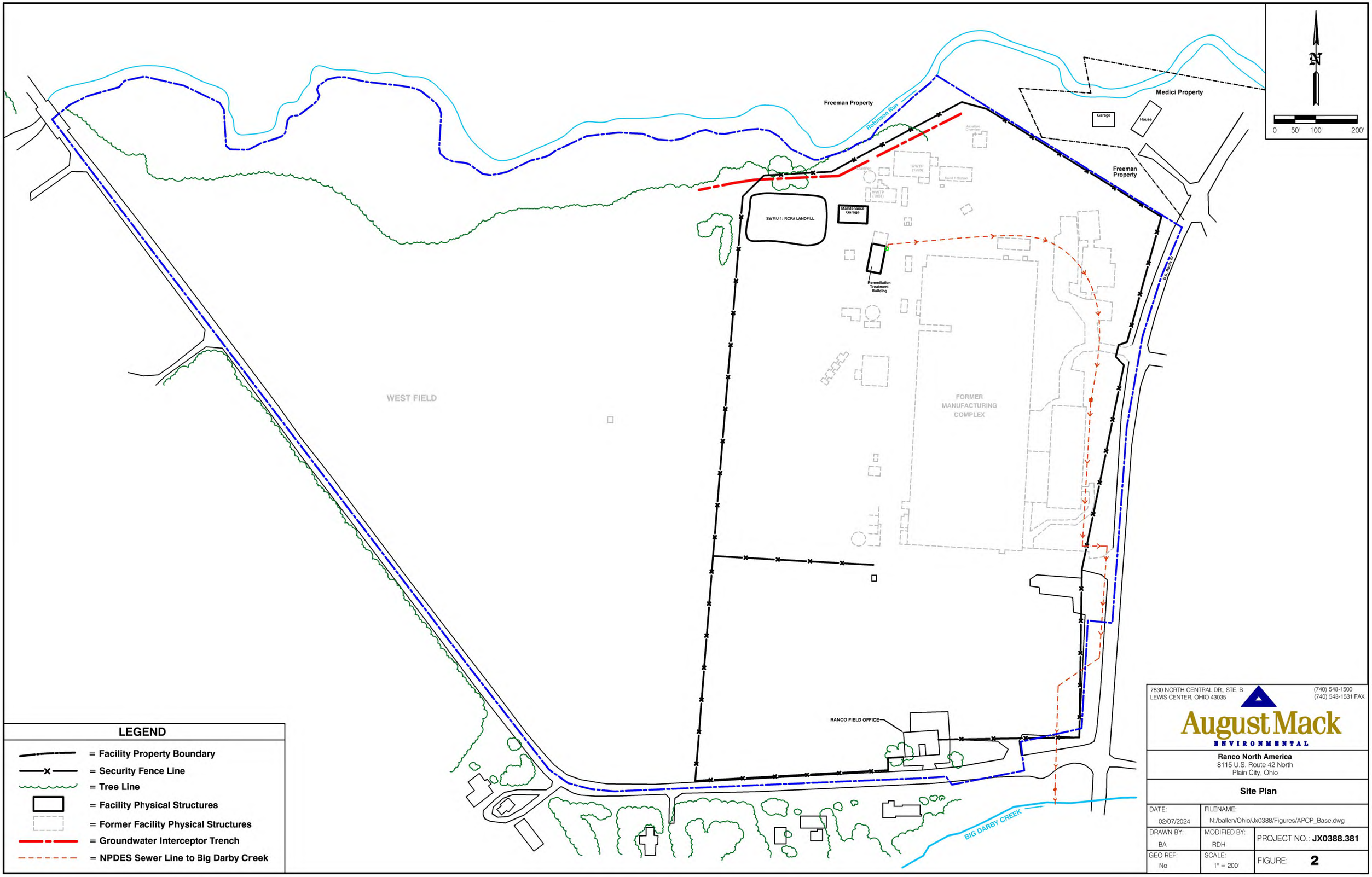
Plain City, Ohio

Vicinity Map

DATE: 02/07/2024	FILENAME: N:/ballen/Ohio/JX0388/ Figures/CA_Base.dwg	
DRAWN BY: BA	MODIFIED BY: BA	PROJECT NO.: **JX0388.381**
GEO REF: NA	SCALE: 1" = 2,000'	FIGURE: **1**



LEGEND

- = Facility Property Boundary
- = Security Fence Line
- = Tree Line
- = Facility Physical Structures
- = Former Facility Physical Structures
- = Groundwater Interceptor Trench
- = NPDES Sewer Line to Big Darby Creek

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Site Plan

DATE: 02/07/2024	FILENAME: N:/ballen/Ohio/Jx0388/Figures/APCP_Base.dwg	
DRAWN BY: BA	MODIFIED BY: RDH	PROJECT NO.: **JX0388.381**
GEO REF: No	SCALE: 1" = 200'	FIGURE: **2**

SWMUs & AOC LEGEND

1. SWMU 1: RCRA Landfill
2. SWMU 2: Former RCRA Container Storage
3. SWMU 3-Pit 1: Former Sludge Pit #1
4. SWMU 3-Pile 2: Former Chem Fix & Non-Haz Sludge Piles
5. SWMU 3-Pit 2: Former Sludge Pit #2
6. SWMU 3-Pit 3: Former Sludge Pit #3
7. SWMU 3-Pit 4: Former Sludge Pit #4
8. SWMU 3-Pit 5: Former Sludge Pit #5
9. SWMU 3-Pit 6: Former Sludge Pit #6
10. SWMU 3-FSHP: Gravel Pit
11. SWMU 4: Former Empty Drum Storage Area
12. SWMU 5: Former Acid & Alkali Sewer Pipelines
13. SWMU 6: WWTP Vinyl Chloride Plume
14. SWMU 7: Former 1981 RCRA Sludge Holding Tank
15. AOC 1: Former WWTP 2,000-Gallon UST
16. AOC 1: Former UST T001
17. AOC 1: Former USTs T002, T003, & T004
18. AOC 1: Former UST T005
19. AOC 2: Former Building 1A Metal Plating Shop
20. AOC 3: NPDES Discharge
21. AOC 4: Former Building 2-1/2 Metal Plating Area
22. AOC 5: Former Building 7-1/2 Metal Plating Area
23. AOC 6: Hazardous Waste Storage Building (Currently Remediation Treatment Building)

LEGEND

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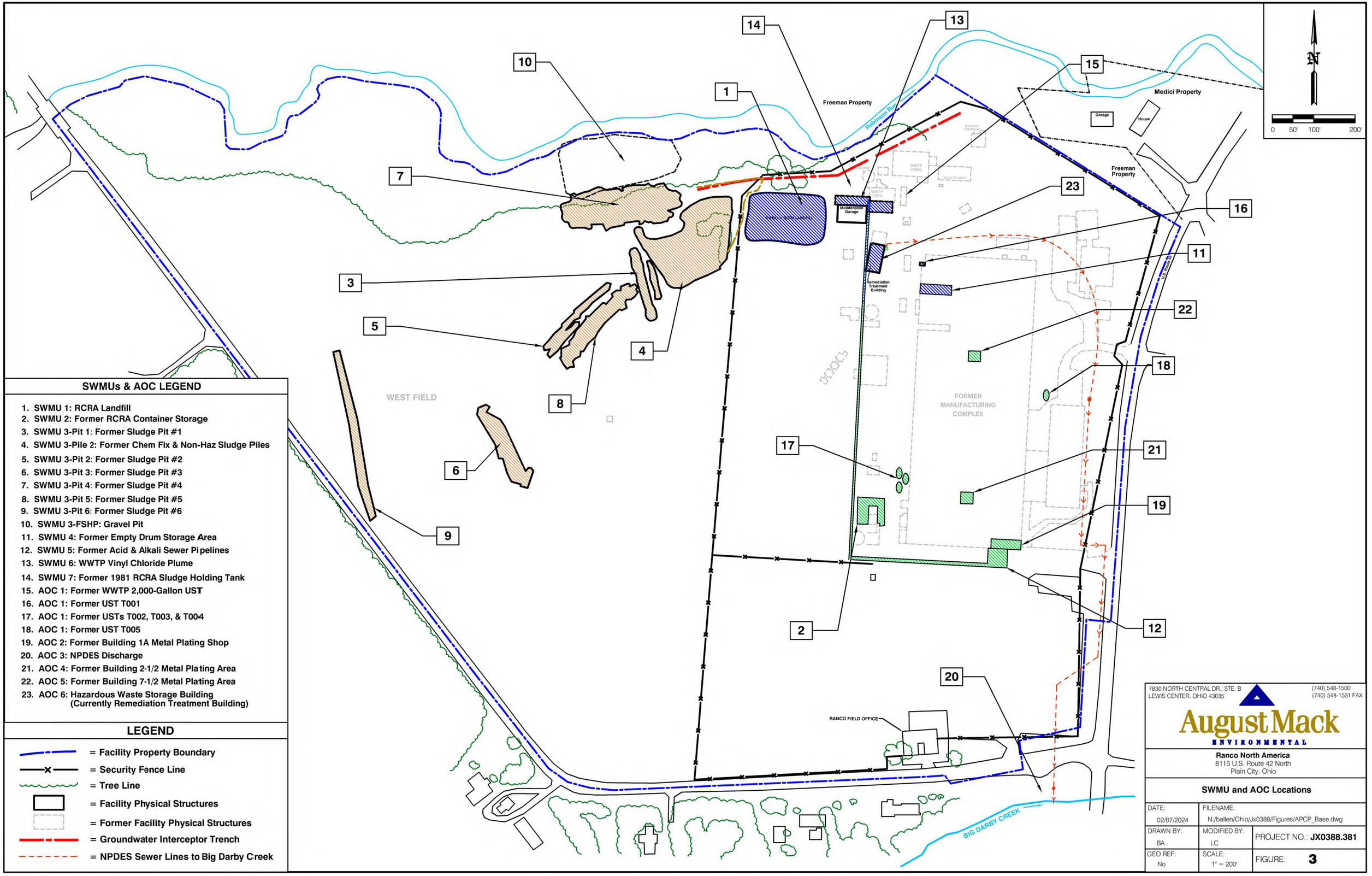
- = Groundwater Interceptor Trench
- = NPDES Sewer Lines to Big Darby Creek



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SWMU and AOC Locations

DATE: 02/07/2024	FILENAME: N:/ballen/Ohio/Jx0388/Figures/APCP_Base.dwg	
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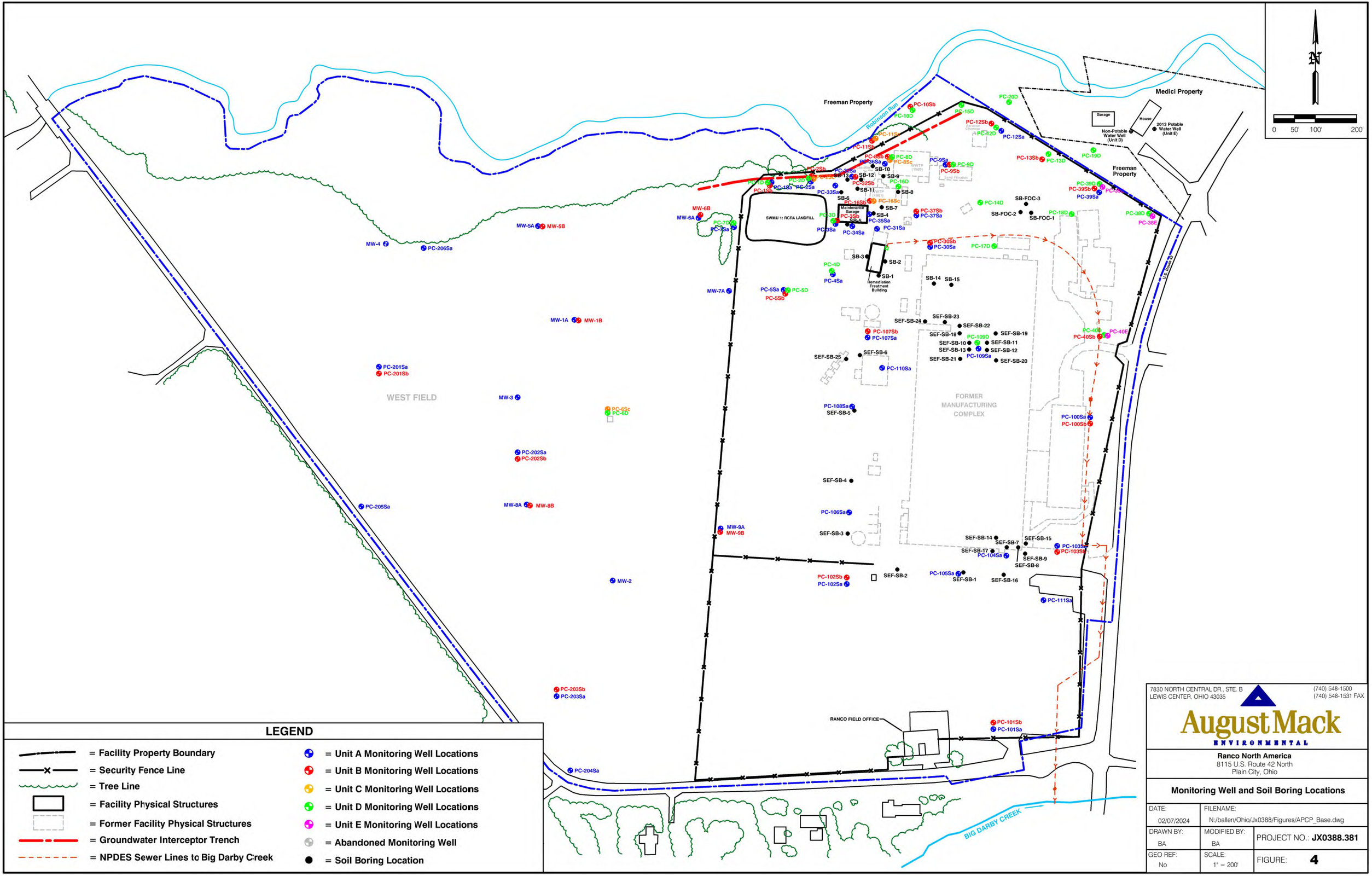

LEGEND

- = Facility Property Boundary
- = Security Fence Line
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- = Facility Physical Structures
- = Former Facility Physical Structures
- = Groundwater Interceptor Trench
- = NPDES Sewer Lines to Big Darby Creek
- = Unit A Monitoring Well Locations
- = Unit B Monitoring Well Locations
- = Unit C Monitoring Well Locations
- = Unit D Monitoring Well Locations
- = Unit E Monitoring Well Locations
- = Abandoned Monitoring Well
- = Soil Boring Location

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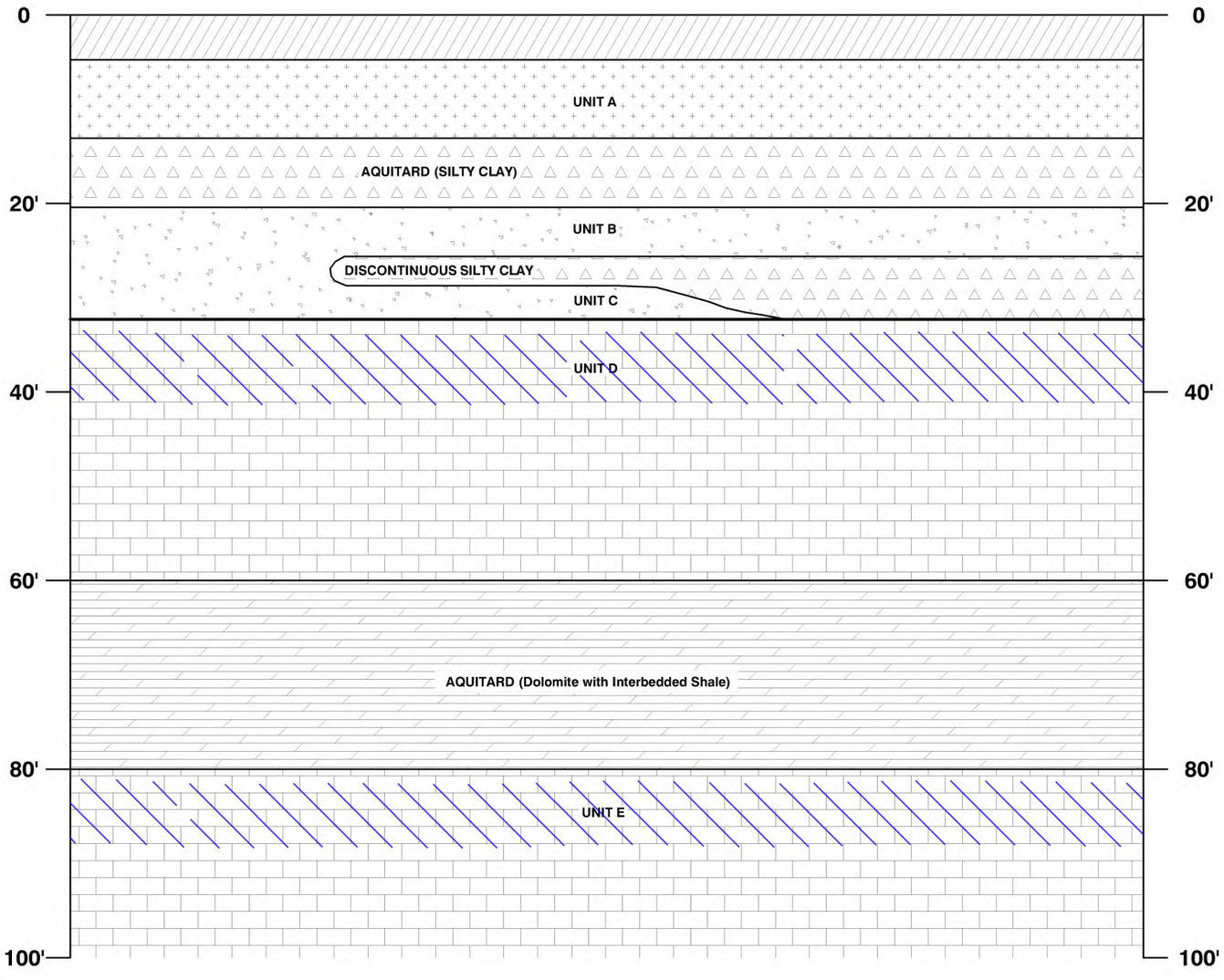
Monitoring Well and Soil Boring Locations

DATE: 02/07/2024	FILENAME: N:/ballen/Ohio/Jx0388/Figures/APCP_Base.dwg	
DRAWN BY: BA	MODIFIED BY: BA	PROJECT NO.: **JX0388.381**
GEO REF: No	SCALE: 1" = 200'	FIGURE: **4**



NOTE: Units B & C are variable and not present in every location.

Fox Silt Loam Soil

Unit A Sand & Gravel Outwash

Unit B & C Fine-Medium Sand And/Or Clayey Sand

Geologic Contact

Silty Clay Glacial Till

Dolomite with Interbedded Shale

Dolomite

Highly Fractured Zone

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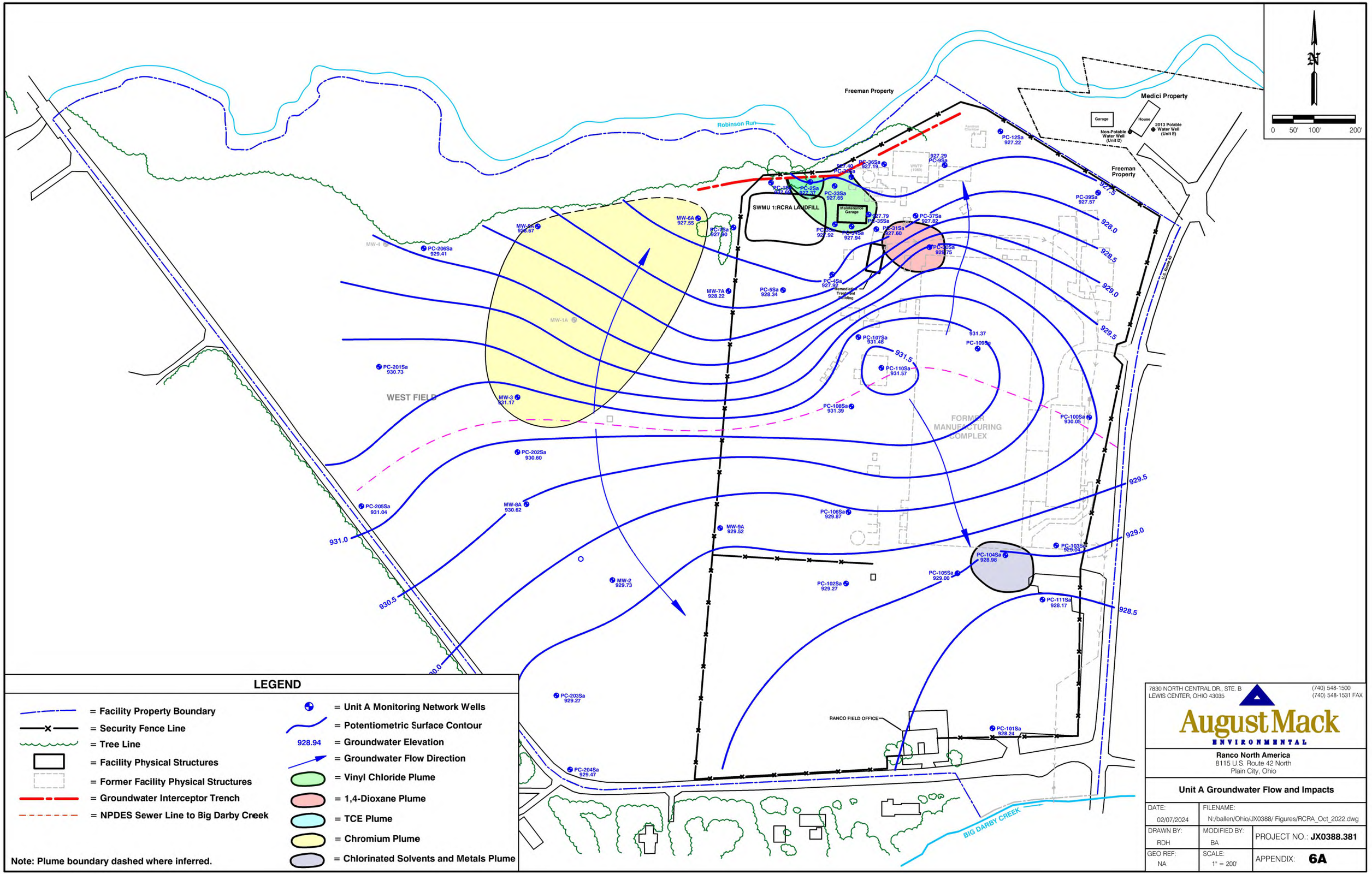
Hydrogeologic Schematic

DATE: 02/07/2024	FILENAME: N:/ballen/Ohio/Jx0388/Figures/APCP_Base.dwg	
DRAWN BY: BA	MODIFIED BY: BA	PROJECT NO.: **JX0388.381**
GEO REF: NA	SCALE: Not To Scale	FIGURE: **5**



LEGEND

- = Facility Property Boundary
- = Security Fence Line
- = Tree Line
- = Facility Physical Structures
- = Former Facility Physical Structures
- = Groundwater Interceptor Trench
- = NPDES Sewer Line to Big Darby Creek
- = Unit A Monitoring Network Wells
- = Potentiometric Surface Contour
- 928.94 = Groundwater Elevation
- = Groundwater Flow Direction
- = Vinyl Chloride Plume
- = 1,4-Dioxane Plume
- = TCE Plume
- = Chromium Plume
- = Chlorinated Solvents and Metals Plume

Note: Plume boundary dashed where inferred.

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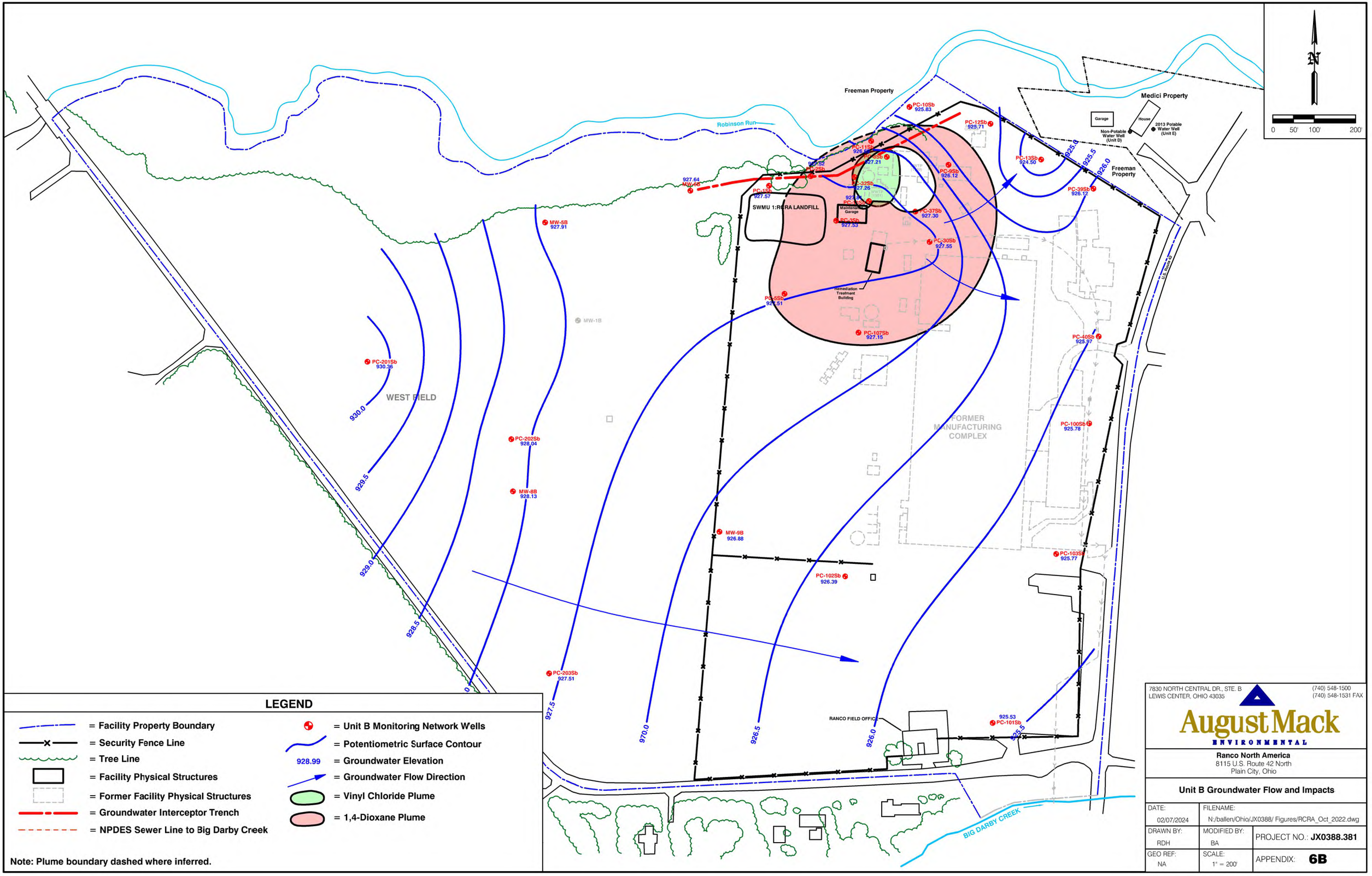
Unit A Groundwater Flow and Impacts

DATE: 02/07/2024	FILENAME: N:/ballen/Ohio/JX0388/ Figures/RCRA_Oct_2022.dwg	
DRAWN BY: RDH	MODIFIED BY: BA	PROJECT NO.: **JX0388.381**
GEO REF: NA	SCALE: 1" = 200'	APPENDIX: **6A**



LEGEND

- = Facility Property Boundary
- = Security Fence Line
- = Tree Line
- = Facility Physical Structures
- = Former Facility Physical Structures
- = Groundwater Interceptor Trench
- = NPDES Sewer Line to Big Darby Creek
- = Unit B Monitoring Network Wells
- = Potentiometric Surface Contour
- 928.99 = Groundwater Elevation
- = Groundwater Flow Direction
- = Vinyl Chloride Plume
- = 1,4-Dioxane Plume

Note: Plume boundary dashed where inferred.

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Unit B Groundwater Flow and Impacts

DATE: 02/07/2024	FILENAME: N:/ballen/Ohio/JX0388/ Figures/RCRA_Oct_2022.dwg	
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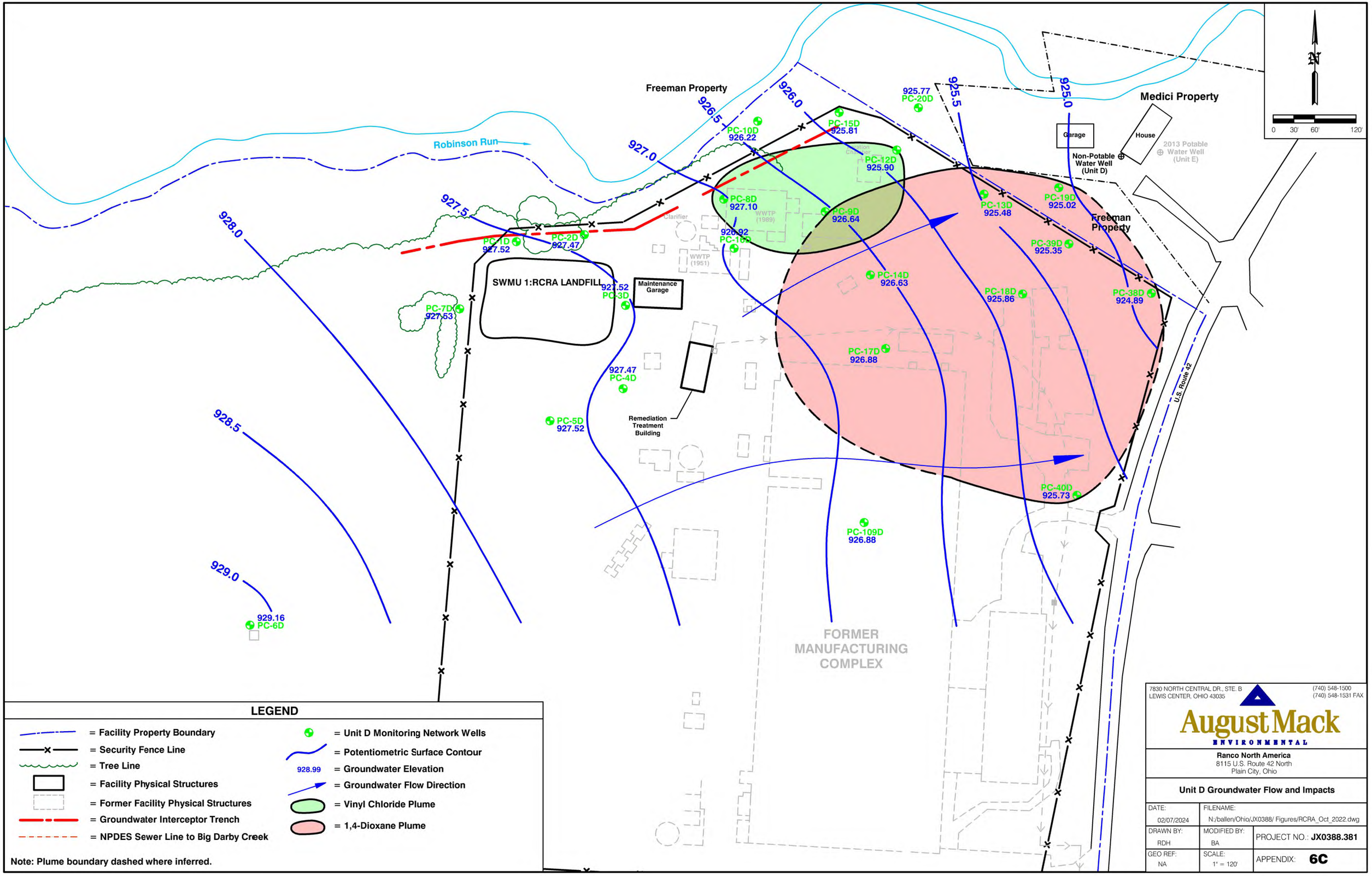
GEO REF: NA	SCALE: 1" = 200'	APPENDIX: **6B**



LEGEND

- = Facility Property Boundary
- = Security Fence Line
- = Tree Line
- = Facility Physical Structures
- = Former Facility Physical Structures
- = Groundwater Interceptor Trench
- = NPDES Sewer Line to Big Darby Creek
- = Unit D Monitoring Network Wells
- = Potentiometric Surface Contour
- 928.99 = Groundwater Elevation
- = Groundwater Flow Direction
- = Vinyl Chloride Plume
- = 1,4-Dioxane Plume

Note: Plume boundary dashed where inferred.

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Unit D Groundwater Flow and Impacts

DATE: 02/07/2024	FILENAME: N:/ballen/Ohio/JX0388/ Figures/RCRA_Oct_2022.dwg	
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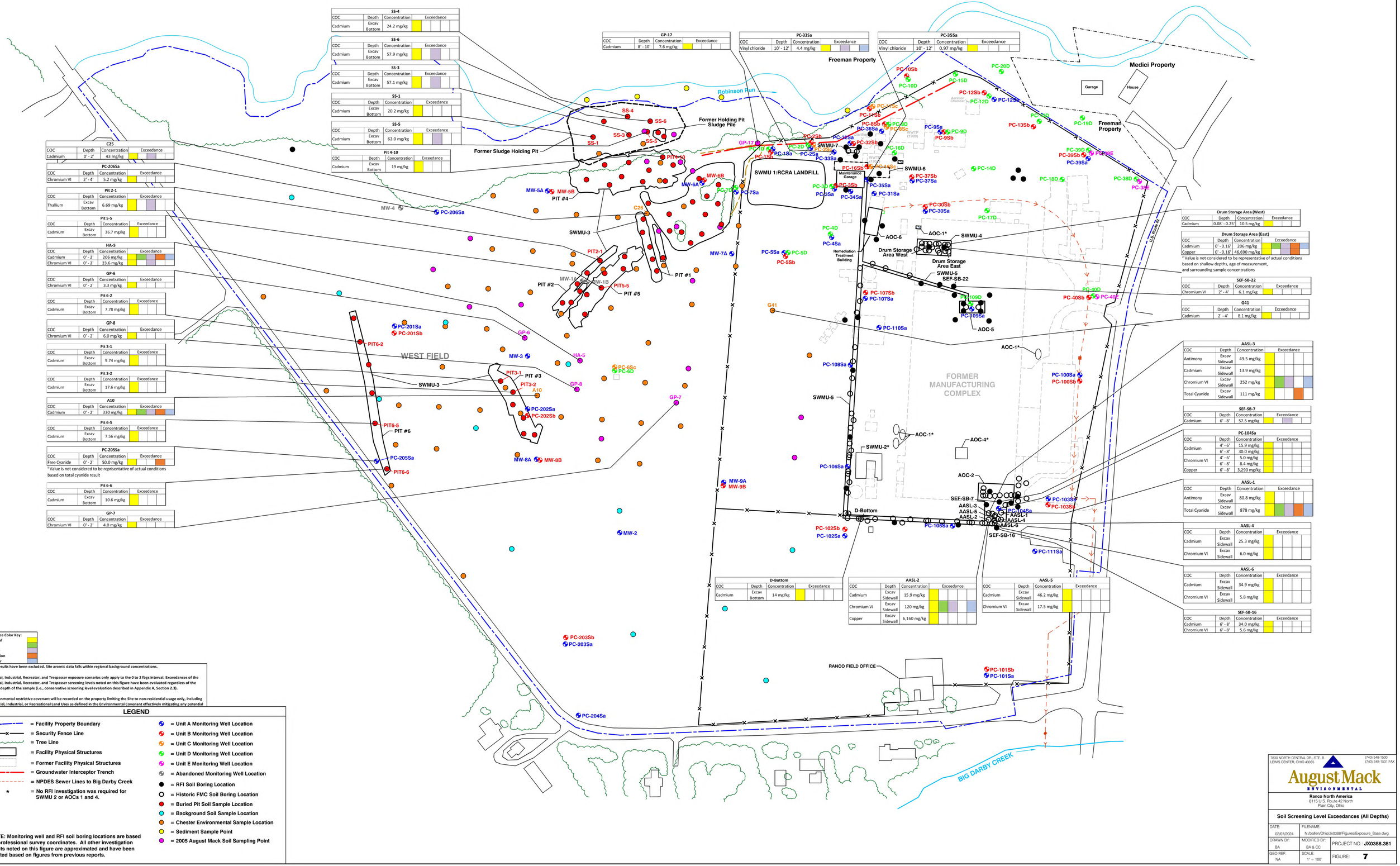
GEO REF: NA	SCALE: 1" = 120'	APPENDIX: **6C**



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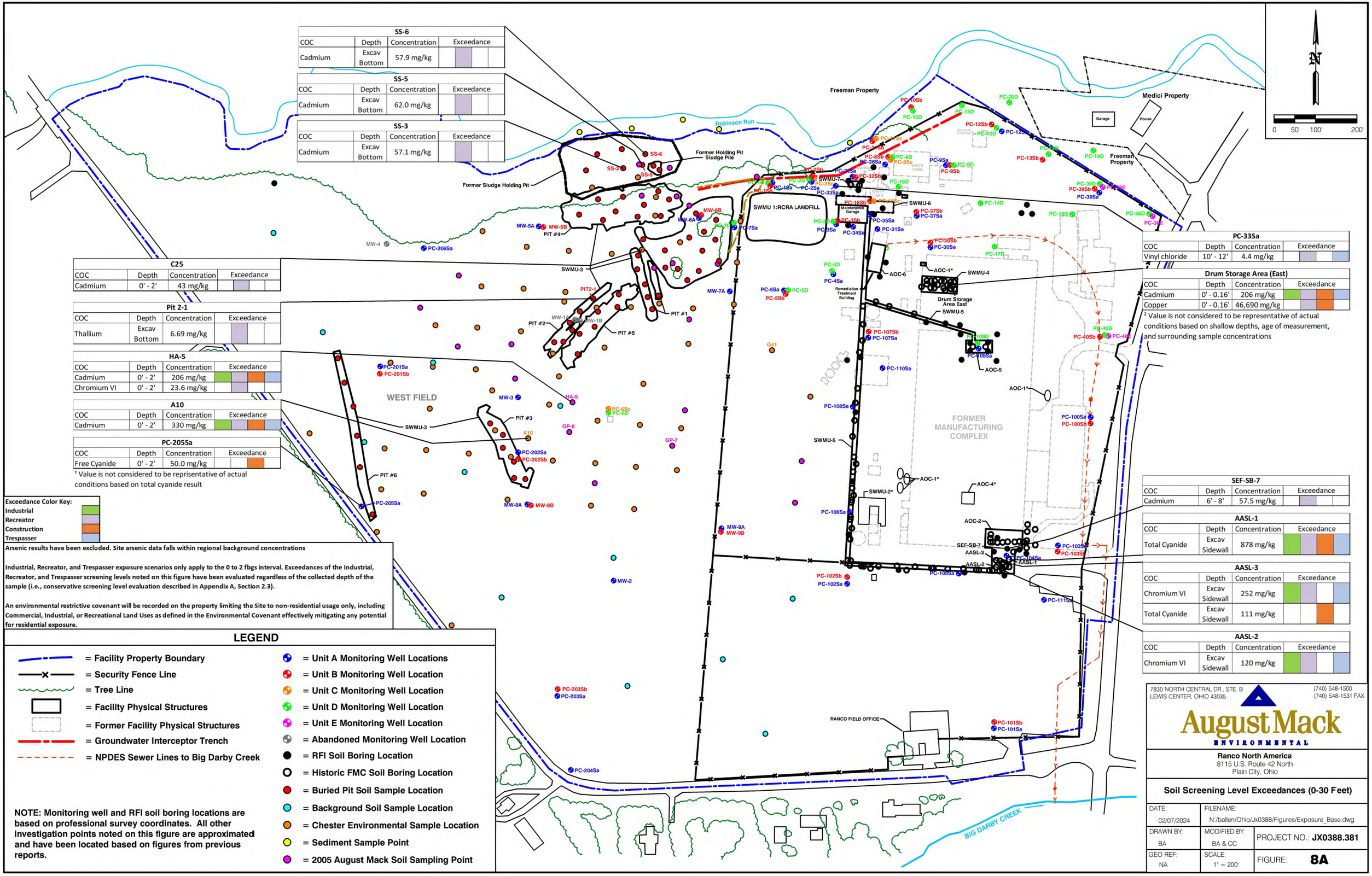
Soil Screening Level Exceedances (All Depths)

DATE: 02/07/2024	FILENAME: N:/ballen/Ohio/JX0388/Figures/Exposure_Base.dwg		
DRAWN BY: BA	MODIFIED BY: BA & CC	PROJECT NO.: JX0388.381	
GEO REF: NA	SCALE: 1" = 100'	FIGURE: 7	


SS-6
COC | Depth | Concentration | Exceedance
Cadmium | Excav Bottom | 57.9 mg/kg
SS-5
COC | Depth | Concentration | Exceedance
Cadmium | Excav Bottom | 62.0 mg/kg
SS-3
COC | Depth | Concentration | Exceedance
Cadmium | Excav Bottom | 57.1 mg/kg
C25
COC | Depth | Concentration | Exceedance
Cadmium | 0' - 2' | 43 mg/kg
Pit 2-1
COC | Depth | Concentration | Exceedance
Thallium | Excav Bottom | 6.69 mg/kg
HA-5
COC | Depth | Concentration | Exceedance
Cadmium | 0' - 2' | 206 mg/kg
Chromium VI | 0' - 2' | 23.6 mg/kg
A10
COC | Depth | Concentration | Exceedance
Cadmium | 0' - 2' | 330 mg/kg
PC-205Sa
COC | Depth | Concentration | Exceedance
Free Cyanide | 0' - 2' | 50.0 mg/kg
[1] Value is not considered to be reprisentative of actual conditions based on total cyanide result
Exceedance Color Key:
Industrial
Recreator
Construction
Trespasser
Arsenic results have been excluded. Site arsenic data falls within regional background concentrations
Industrial, Recreator, and Trespasser exposure scenarios only apply to the 0 to 2 fbgs interval. Exceedances of the Industrial, Recreator, and Trespasser screening levels noted on this figure have been evaluated regardless of the collected depth of the sample (i.e., conservative screening level evaluation described in Appendix A, Section 2.3).
An environmental restrictive covenant will be recorded on the property limiting the Site to non-residential usage only, including Commercial, Industrial, or Recreational Land Uses as defined in the Environmental Covenant effectively mitigating any potential for residential exposure.
LEGEND
= Facility Property Boundary
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= NPDES Sewer Lines to Big Darby Creek
= Unit A Monitoring Well Locations
= Unit B Monitoring Well Location
= Unit C Monitoring Well Location
= Unit D Monitoring Well Location
= Unit E Monitoring Well Location
= Abandoned Monitoring Well Location
= RFI Soil Boring Location
= Historic FMC Soil Boring Location
= Buried Pit Soil Sample Location
= Background Soil Sample Location
= Chester Environmental Sample Location
= Sediment Sample Point
= 2005 August Mack Soil Sampling Point
NOTE: Monitoring well and RFI soil boring locations are based on professional survey coordinates. All other investigation points noted on this figure are approximated and have been located based on figures from previous reports.
Robinson Run
Former Holding Pit Sludge Pile
Former Sludge Holding Pit
SWMU 1:RCRA LANDFILL
Maintenance Garage
Freeman Property
Medici Property
Garage
House
WEST FIELD
FORMER MANUFACTURING COMPLEX
Drum Storage Area East
Remediation Treatment Building
RANCO FIELD OFFICE
BIG DARBY CREEK
SWMU-1
SWMU-2*
SWMU-3
SWMU-4
SWMU-5
SWMU-6
SWMU-7
AOC-1*
AOC-2
AOC-4*
AOC-5
AOC-6
PIT #1
PIT #2
PIT #3
PIT #4
PIT #5
PIT #6
PC-33Sa
COC | Depth | Concentration | Exceedance
Vinyl chloride | 10' - 12' | 4.4 mg/kg
Drum Storage Area (East)
COC | Depth | Concentration | Exceedance
Cadmium | 0' - 0.16' | 206 mg/kg
Copper | 0' - 0.16' | 46,690 mg/kg
[2] Value is not considered to be representative of actual conditions based on shallow depths, age of measurement, and surrounding sample concentrations
SEF-SB-7
COC | Depth | Concentration | Exceedance
Cadmium | 6' - 8' | 57.5 mg/kg
AASL-1
COC | Depth | Concentration | Exceedance
Total Cyanide | Excav Sidewall | 878 mg/kg
AASL-3
COC | Depth | Concentration | Exceedance
Chromium VI | Excav Sidewall | 252 mg/kg
Total Cyanide | Excav Sidewall | 111 mg/kg
AASL-2
COC | Depth | Concentration | Exceedance
Chromium VI | Excav Sidewall | 120 mg/kg
0 50' 100' 200'
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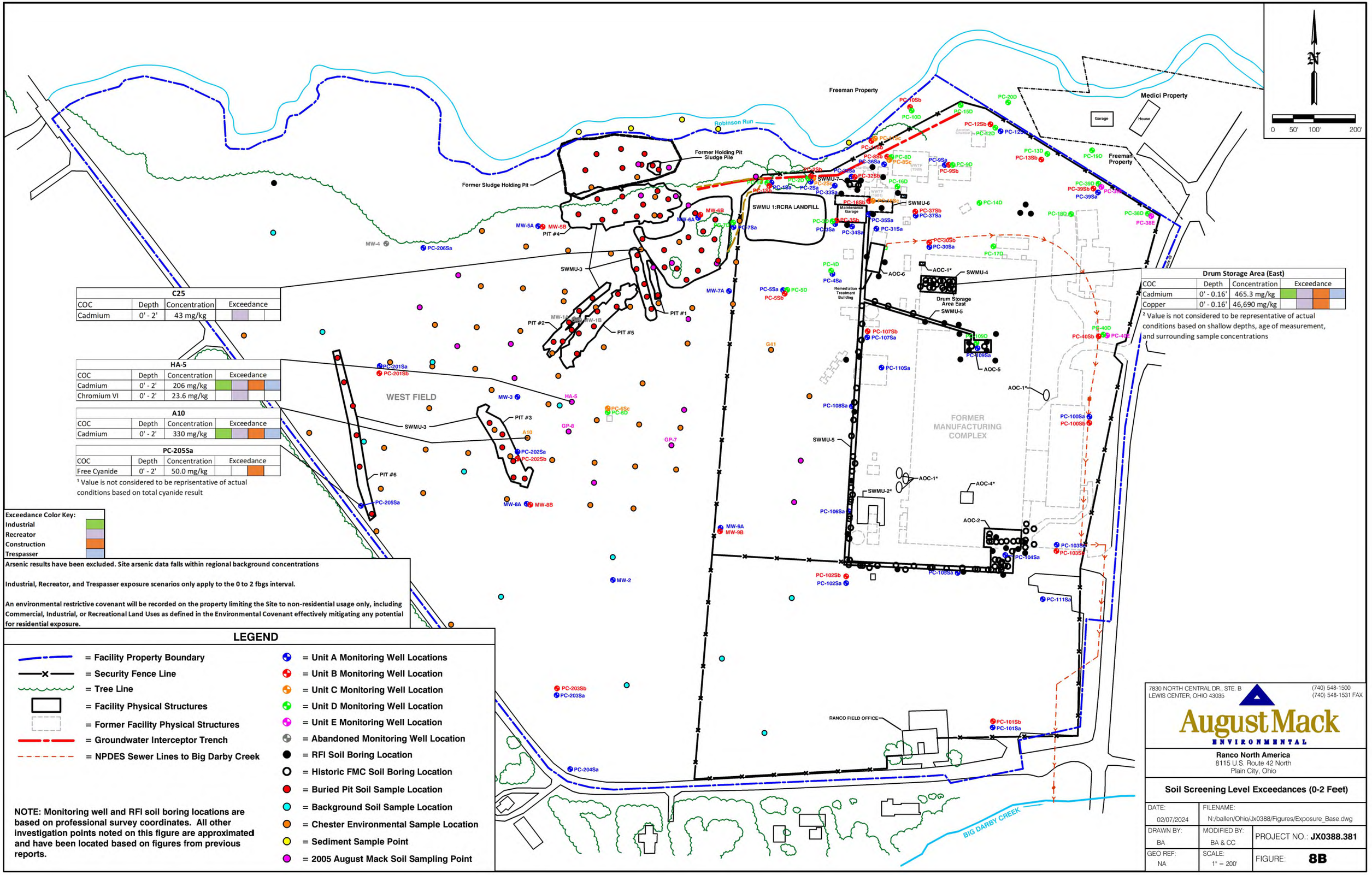
August Mack ENVIRONMENTAL
Ranco North America
8115 U.S. Route 42 North
Plain City, Ohio
Soil Screening Level Exceedances (0-30 Feet)
DATE: 02/07/2024
FILENAME: N:/ballen/Ohio/Jx0388/Figures/Exposure_Base.dwg
DRAWN BY: BA
MODIFIED BY: BA & CC
PROJECT NO.: JX0388.381
GEO REF: NA
SCALE: 1" = 200'
FIGURE: 8A



C25			
COC	Depth	Concentration	Exceedance
Cadmium	0' - 2'	43 mg/kg	

HA-5			
COC	Depth	Concentration	Exceedance
Cadmium	0' - 2'	206 mg/kg	
Chromium VI	0' - 2'	23.6 mg/kg	

A10			
COC	Depth	Concentration	Exceedance
Cadmium	0' - 2'	330 mg/kg	

PC-205Sa			
COC	Depth	Concentration	Exceedance
Free Cyanide	0' - 2'	50.0 mg/kg	

[1] Value is not considered to be reprisentative of actual conditions based on total cyanide result

Drum Storage Area (East)			
COC	Depth	Concentration	Exceedance
Cadmium	0' - 0.16'	465.3 mg/kg	
Copper	0' - 0.16'	46,690 mg/kg	

[2] Value is not considered to be representative of actual conditions based on shallow depths, age of measurement, and surrounding sample concentrations

Exceedance Color Key:
- Industrial
- Recreator
- Construction
- Trespasser

Arsenic results have been excluded. Site arsenic data falls within regional background concentrations

Industrial, Recreator, and Trespasser exposure scenarios only apply to the 0 to 2 fbgs interval.

An environmental restrictive covenant will be recorded on the property limiting the Site to non-residential usage only, including Commercial, Industrial, or Recreational Land Uses as defined in the Environmental Covenant effectively mitigating any potential for residential exposure.

LEGEND

- = Facility Property Boundary
- = Security Fence Line
- = Tree Line
- = Facility Physical Structures
- = Former Facility Physical Structures
- = Groundwater Interceptor Trench
- = NPDES Sewer Lines to Big Darby Creek
- = Unit A Monitoring Well Locations
- = Unit B Monitoring Well Location
- = Unit C Monitoring Well Location
- = Unit D Monitoring Well Location
- = Unit E Monitoring Well Location
- = Abandoned Monitoring Well Location
- = RFI Soil Boring Location
- = Historic FMC Soil Boring Location
- = Buried Pit Soil Sample Location
- = Background Soil Sample Location
- = Chester Environmental Sample Location
- = Sediment Sample Point
- = 2005 August Mack Soil Sampling Point

NOTE: Monitoring well and RFI soil boring locations are based on professional survey coordinates. All other investigation points noted on this figure are approximated and have been located based on figures from previous reports.

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August Mack ENVIRONMENTAL

Ranco North America
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Plain City, Ohio

Soil Screening Level Exceedances (0-2 Feet)

DATE: 02/07/2024	FILENAME: N:/ballen/Ohio/Jx0388/Figures/Exposure_Base.dwg	
DRAWN BY: BA	MODIFIED BY: BA & CC	PROJECT NO.: **JX0388.381**
GEO REF: NA	SCALE: 1" = 200'	FIGURE: **8B**