Statement of Basis for Remedy Selection at:

The Former J&L Specialty Steel Facility Jewel Acquisition, LLC 1500 West Main Street Louisville, Ohio

> Stark County Ohio OHR 000 121 202 276-0000433

Prepared by The Ohio Environmental Protection Agency Division of Environmental Response and Revitalization

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STATEMENT OF BASIS FOR FORMER J&L SPECIALTY STEEL FACILITY JEWEL ACQUISITION, LLC LOUISVILLE, OHIO

1.0 INTRODUCTION

1.1 Executive Summary

The Ohio Environmental Protection Agency ("Ohio EPA") has prepared this Statement of Basis for remediation of a portion of the former J&L Specialty Steel ("J&L") facility located at 1500 W. Main Street; Louisville, Stark County, Ohio. Public participation is a requirement addressed under the Resource Conservation and Recovery Act ("RCRA"). This document provides information to the public so participation in the RCRA Corrective Action remediation process can occur. The Statement of Basis describes the historic use of the property, provides information regarding historic and current releases of hazardous materials, and documents current conditions. The Statement of Basis identifies Ohio EPA's preferred remedy for the area under consideration, explains the reasons for the selection of the remedy, solicits public review and comments, and provides information on how the public can be involved in the remedy selection process.

Under RCRA, the Corrective Action program was created to address threats to human health and the environment from historic or present waste management areas at facilities in the United States. In 2009, the 2020 Corrective Action Baseline was introduced. The list includes facilities where U.S. EPA and authorized states (such as Ohio) will focus their attention to achieve EPA's aspirational goal of achieving 95 percent remediation complete by the year 2020. As a portion of the former J&L Specialty Steel ("J&L") footprint, Jewel was included in the 2020 Corrective Action Baseline. Jewel is proceeding through the RCRA Corrective Action process without an administrative document such as a permit or administrative orders in place.

J&L, under the name Jones & Laughlin Steel Corporation, filed a RCRA Part A Hazardous Waste Permit Application for Interim Status with the U.S. EPA on November 13, 1980, with subsequent submittal to Ohio EPA on April 8, 1981. The facility was assigned Permit #02-76-0392 for tank storage (S02) and treatment (T04) of waste pickle liquor (K062, D002, D004, D006, and D007) generated on-site, as well as waste pickle liquor transported to the facility from another J&L facility in Midland, PA. In 1982, the facility modified their operations to no longer require a RCRA treatment, storage or disposal ("RCRA TSD") permit. January 5, 1983, J&L submitted a letter to the U.S. EPA providing information regarding the facility's operations and requesting a withdrawal of the RCRA Part B Hazardous Waste Permit Application. On March 14, 1984, the facility filed a RCRA Part A permit withdrawal request with Ohio EPA; the request was forwarded to U.S. EPA on August 14, 1984. Ohio EPA approved the request on April 1, 1985. RCRA TSDs are subject to Corrective Action.

The former J&L operated as an unlawful RCRA TSD Facility in 1993 when hazardous waste was stored on-site for greater than ninety (90) days without a RCRA TSD permit. This was discovered during a hazardous waste compliance evaluation inspection conducted by the Ohio EPA. The operation of a hazardous waste storage unit without a permit is a violation of RCRA hazardous waste rules. The violation resulted in the facility becoming subject to RCRA Corrective Action obligations, *inter alia*. Corrective Action ensures that historic hazardous waste facilities meet acceptable risk standards for human health and the environment for current and future land use.

The facility, in the city of Louisville, was developed in the early 1900s for commercial/industrial purposes by Superior Sheet and Tube, a large-scale steel processing facility. The facility has had several owners and in 2004, Jewel Acquisition, LLC ("Jewel") purchased, and is currently

operating, the active steel processing facility which constitutes approximately 44 acres. It is this 44acre portion of the former J&L footprint that is being remediated. The remainder of the former J&L property, located at Rear of 1500 West Main Street, was addressed through Ohio's Voluntary Action Program (CNS 14NFA588).

Ohio EPA and Jewel have assessed the current environmental conditions at the facility and proposed a remedy, included in this document, for public review and comment. Ohio EPA will select a final remedy for the facility only after the public comment period has ended and the comments received during the comment period have been reviewed and considered.

In brief, Ohio EPA proposes the following measure:

Jewel and Ohio EPA agree to enter a legal and binding Environmental Covenant ("EC") restricting the use of groundwater at the facility and restricting the future use of the land to industrial/commercial land use. Other components of the remedy will include a Risk Mitigation Plan to ensure protective measures are employed in areas that have been identified as contaminated and the proper abandonment of the groundwater monitoring wells installed to conduct the RCRA Facility Investigation. Currently operating solid waste management units ("SWMU"s), upon termination of use, will be assessed, investigated, and remediated through Consensual Orders with the Director of the Ohio EPA.

1.2 How the Corrective Action Process Works

After RCRA was enacted, the U.S. EPA, Office of Waste Program Enforcement, required facilities managing hazardous waste and hazardous constituents to have a preliminary assessment/visual site inspection ("PA/VSI") conducted. The PA/VSI was performed to identify and systematically review all solid waste management units ("SWMU"s) and areas of concern ("AOC") on the property and make a cursory determination of their condition by visual observation.

In 1993, U.S. EPA contracted with PRC Environmental Management to conduct a PA/VSI at the J&L facility. The focus of this investigation was to identify and assess the existence and likelihood of releases from SWMUs and other AOCs at the J&L facility. In 1993, the facility included approximately 275 acres in Louisville (Figure 1). PA/VSIs were also used to prioritize RCRA facilities for Corrective Action activities.

The PA/VSI was one tool used to evaluate whether any of the identified SWMUs required further investigation. In 2015, Jewel submitted a Description of Current Conditions ("DOCC") Report to the Ohio EPA that included all identified SWMUs and AOCs located on the Jewel portion of the former J&L property (Attachment 1). The objective of the assessment was to determine the full scope of RCRA Corrective Action necessary for the 44-acre site operated by Jewel.

The initial step in the Corrective Action process for facilities regulated under RCRA is a site characterization or RCRA facility investigation ("RFI"). The RFI was used to define the nature and extent of contamination at the facility based on information garnered from the PA/VSI report, DOCC report, facility operating records, and facility walk-through inspections (August 15, 2013) by the Ohio EPA. The August 15, 2013 site visit allowed Ohio EPA an opportunity to observe operations at the facility; hazardous waste management activities; and the identified AOCs and SWMUs, both active and inactive, on site.

A RFI work plan, submitted by Jewel in April 2015 (with addendums submitted in June and July 2015), was approved with modifications by Ohio EPA in July 2015. The plan was implemented to collect and analyze soil and groundwater samples. The data obtained from the RFI was used to

define a conceptual site model of contamination at the site, e.g., contamination sources and pathways of transport, potential impacts on humans and the ecosystem, and develop remediation options based on the model.

Upon submission of the RFI report in 2016, the Ohio EPA required additional data. Jewel conducted additional sampling of groundwater in 2016 and 2017. The facility also provided integrity tests results for identified ancillary (for select AOCs and SWMUs) and provided laboratory analytical information in order for Ohio EPA to characterize and evaluate wastes generated and materials used in facility processes.

Ohio EPA reviewed and evaluated the results, and Jewel's proposed remedy for remediation as found in the Final RFI Report. The report was approved in 2018. The Ohio EPA then developed a preliminary decision on remedy selection for public comments by issuing a Statement of Basis (this document). Following public review, and at the completion of the designated public comment period, Ohio EPA will respond to all comments received. Considering all comments from both the public and the facility, Ohio EPA will make a final remediation decision. The facility is then required to implement the remedy to address the issues identified.

2.0 PUBLIC PARTICIPATION

Ohio EPA is seeking comments from the public on the proposed remedy presented in this Statement of Basis. The actual approval for the final remedy will be made after the comments received during the public comment period have been reviewed. All comments received during the public comment period will be summarized and addressed in a Responsiveness Summary that will be available for public review. Ohio EPA, after considering all public comments, will then issue a Declaration and Decision Document identifying the final remedy selection.

Historic documents pertaining to this facility are available for review by the public at Ohio EPA's Northeast District Office, 2110 East Aurora Road, Twinsburg, Ohio 44087. To review these records, call Ohio EPA at (330) 963-1200 to make a request; provide the facility's RCRA facility identification number, OHR 000 121 202, when making requests to review records.

2.1 PUBLIC PARTICIPATION

The comment period for this Statement of Basis will run from May 21, 2018 to July 6, 2018. Comments regarding information contained in this Statement of Basis must be submitted before the end of the public 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 Jewel, may submit written comments relating to this matter.

Your comments must be submitted during the comment period and may either be submitted in writing by mail to:

Ohio Environmental Protection Agency Division of Environmental Response and Revitalization Attn: Patricia Dunbar 2110 E. Aurora Road; Twinsburg, Ohio 44087

Or by e-mail to: patricia.dunbar@epa.ohio.gov

When submitting your comments, please identify the document, "Statement of Basis for Remedy Selection at Jewel Acquisition, LLC" and include the RCRA ID# OHR 000 121 202.

3.0 FACILITY BACKGROUND

The property was developed in the early 1900s for commercial/industrial purposes related to the steel processing industry. The facility was approximately 275 acres and included the pickling, annealing, slitting, shot blasting, rolling, and finishing of specialty steel sheets and strips (including stainless steel). Examples of waste types associated with the operations included pickle liquor, filter cake, waste oils/oil sludges, shot blast dust, mill scale, wastewater treatment plant effluent, non-hazardous parts cleaning solvents, universal waste (waste lamps, mercury containing items, and batteries), and scrap steel.

In the early 1900s, Superior Sheet and Tube processed galvanized steel products until 1957; at which time, Jones & Laughlin Steel Corporation began processing stainless steel. In 1983, LTV Steel Company purchased Jones & Laughlin and in 1986, J&L Specialty Steel ("J&L") purchased the facility. In 2004, Groffre Investment ("Groffre") gained ownership of approximately 231 acres of the former J&L facility. That same year, Jewel Acquisition, LLC ("Jewel"), purchased the active steel processing facility which included five buildings on approximately 44 acres in the northern portion of the original J&L footprint. Jewel currently operates the specialty steel processing facility.

The former J&L facility consisted of a main plant building and numerous lagoons. Heavy metal sludges were managed in the unlined lagoons south and east of the main plant building. The lagoons were used for neutralization of pickle liquor and the storage and disposal of wastewater, solid wastes, and sludge. The lagoons and waste disposal pits used by the former J&L are not located on the 44-acre property under consideration for this Statement of Basis.

On February 12, 2015, Jewel submitted a DOCC Report (GES, 2015) to the Ohio EPA that identified data gaps and provided Jewel's basis for developing a RCRA RFI Work Plan. The DOCC used existing information to assess the potential for releases of contaminants with respect to active and historic RCRA SWMUs and AOCs. Thirteen (13) SWMUs and 38 AOCs associated with the Jewel property were evaluated in the DOCC report. Attachment 1 to this document includes a list of the RCRA Corrective Action SWMUs and AOC that have been associated with the property. The DOCC report recommended no further action at ten SWMUs and 35 AOCs. The following three SWMUs and three AOCs were retained for further investigation:

- SWMU 6 Baghouse Dust Collectors/Shot Blast Dust Collection Area (active),
- SWMU 10 Mill Scale Roll-off Box Dewatering Area (inactive),
- SWMU 12 Waste Oil Cracker System (inactive),
- AOC 23 Fuel Storage Tanks (active),
- AOC 43 Ferrous Chloride Aboveground Product Tank (active), and
- AOC 50 Petroleum Product Pipelines (active).

In correspondence dated February 24, 2015, the Ohio EPA concurred with Jewel's evaluation and requested the addition of two SWMUs and one AOC to the RFI:

- SWMU 9 Mill Scale Pile Area (inactive) and
- SWMU 13 Steel Binding Collection area (inactive), and
- AOC 35 Scrap Steel Roll-off Box Area (active).

The Ohio EPA requested the addition of SWMU 13 based on information contained in the U.S. EPA's PA/VSI Report (PRC, 1993), which identified mill scale visible on the concrete ramp. AOC 35 has historically been used to store scrap steel in roll-off boxes prior to transport for off-site recycling. SWMU 9, operated in the same gravel area used to store scrap steel; consequently, both SWMU 9 and AOC 35 were evaluated as one unit.

The following table includes the SWMU and AOCs that were assessed/investigated during the Jewel Corrective Action process. Based on the U.S. EPA's PA/VSI Report, the DOCC Report, and facility operations, constituents to be investigated were proposed by Jewel and approved by the Ohio EPA. The list of chemical constituents to be analyzed included target compound list-volatile organic compounds ("TCL-VOC"s); TCL for semi-volatile compounds ("TCL-SVOC"s); target analyte list ("TAL") metals and hexavalent chromium, and polychlorinated biphenyls ("PCBs").

The results of the laboratory analyses were compared to U.S. EPA's Regional Screening Levels for risk evaluation.

Table 1RCRA Corrective Action Solid Waste Management UnitsAnd Areas of Concern Identified for AssessmentDuring the RFI at Jewel Acquisition, LLC

| SWMU | Description of the SWMU | Operating Status | COPCs Target Analytes |
|------|---|--------------------------|--|
| 6 | Baghouse Dust Collectors/Shot Blast Dust Collection area | 1970s-present | Metals such as As |
| 9 | Mill Scale Pile Area | 1950s to early 2000s | Metals such as As |
| 10 | Mill Scale Roll-off Box Dewatering Area | early 1980s to present | SVOCs and Metals such as As |
| 12 | Waste Oil Cracker System | mid-1970s to early 2000s | VOCs, SVOCs, Metals PCBs. In 2014: Oily |
| 13 | Steel Binding Collection Area | 1992-2014 | Wastewater |
| | | 1002-2014 | Metals such as As |
| AOC | Description | Operating Status | COPCs |
| 23 | Fuel Storage Tanks | Active | |
| 35 | Scrap Steel Roll-off Box Area | | VOCs, SVOCs |
| 12 | Ferrous Chloride Aboveground Product | Active | Metals such as As |
| 43 | Tank | Active | Metals such as As |
| 50 | Petroleum Product Pipeline | Active | VOCs, SVOCs, and Metals such as As |

VOCs = Volatile organic compounds COPC = Constituents of potential concern SVOCs = Semi-volatile organic compounds As = Arsenic

AOC = Area of Concern PCB = polychlorinated biphenyl SWMU = Solid Waste management unit

3.1 Facility Operational History

The Jewel facility is a specialty metals finishing facility (SIC Code 3316) located in the city of Louisville, Stark County (Figure 2). The facility encompasses approximately 44 acres with approximately 15.5 acres under roof. Plant buildings include the main facility building, offices, an oil storage building, and two buildings associated with the wastewater treatment plant. A security building with a guard is located north of the main building; the security guard monitors access to the site. The entire facility is secured by a chain link fence with monitored entrance gates.

Jewel finishes specialty steel. Various processes at the facility include the Z mill (aka rolling mill), bright anneal line, annealing and sulfuric and nitric/hydrofluoric pickling, and slitting. The steel coils start at the annealing and pickling line and then customer specifications determine the rest of the process. The facility has hot and cold annealing and pickling lines (Hot Line #2 and Cold Line #2).

Two (2) former annealing and pickling lines (Hot Line #1 and Cold Line #1) were removed from service prior to Jewel's purchase of the property; the area is now used for storage. The equipment and machines were removed by J&L. Hot Line #1 had above grade tanks. Cold Line #1 had two below grade tanks in a pit; these tanks were removed and the space backfilled. The cleanup was completed circa 2014/2015, when Jewel removed the remaining parts and cemented the floor. The bricks and debris generated by the closing of the Hot and Cold Lines #1 were analyzed by the facility and disposed properly.

Jewel downsized and revamped operations at the facility shortly after it was purchased. Since that time, the quantity and type of waste generated has changed. Whereas J&L was a large quantity generator of hazardous waste, Jewel generates used oil; universal waste (batteries and lamps); spent ink in small quantities; occasional drums of Kolene®¹ bottoms that is characteristically hazardous for chromium (D007); and sludge (K062) from the clean-out of their waste acid cisterns² which are cleaned on average, every twelve years. As of 2017, Jewel is classified as a small quantity generator of hazardous waste.

3.2 Physical Setting

The Jewel facility is bordered to the north by Penn Central Railroad tracks and beyond by a parking lot and vacant land. It is bordered to the east, south, and west by industrial property.

The facility is located at an elevation of approximately 1,103 feet above mean sea level (MSL). The topography is relatively flat with elevations falling to approximately 1,092 feet south of the facility along the East Branch Nimishillen Creek and rising to approximately 1,160 feet above MSL approximately 0.6 miles northwest of the facility. The topography generally slopes downward from north to south (DOCC, 2015).

The regional lithology surrounding the facility is characterized by the occurrence of glacial deposits with thicknesses ranging from tens to hundreds of feet. Various logs for wells advanced in Louisville identify a significant thickness of sand and gravel deposits while other logs identify minimal thickness with bedrock occurring within ten (10) feet of the surface. According to the Ohio Department of Natural Resources ("ODNR"), bedrock in the vicinity of the facility is expected at depths of 100 to 150 feet below ground surface (bgs; ODNR, 1982).

Bedrock underlying the facility belongs to the Pennsylvania-aged Allegheny and Pottsville Groups, undivided. The Allegheny Group consists of a complex, repeating succession of coal, limestone, and clastics ranging from claystone or underclay to siltstone (Bedrock Geology, USGS). In Louisville, particularly along the Nimishillen Creek boundaries, bedrock is buried by glacial deposits over 60 feet thick (Watershed Inventory, 2011).

Investigatory activities at the facility conducted by Groundwater & Environmental Services in 2015, indicate the property is underlain by approximately one to five feet of fill, followed by sand, clay and silt to depths of at least 25 feet bgs. Bedrock was not encountered during drilling activities. Based

¹ Kolene is a proprietary salt used for de-scaling and cleaning stainless steel.

² Evaluated in RFI (SWMU 1). No further action was indicated.

on a boring log for a production well drilled by J&L in 1964, subsurface lithology near the northeast corner of the facility consists of approximately ten feet of fill overlying 25 feet of sand, gravel and clay. Sand and gravel variants were identified from 35 to 84 feet bgs (Screening Site Inspection Report, 1991).

There are no surface water bodies on the facility's property. The nearest surface water body is the East Branch Nimishillen Creek which is downgradient and approximately 300 feet east and southeast of Jewel. It flows south and then west just south of the site boundary, where it joins Middle Branch Nimishillen Creek about 4.5 miles southwest of the facility. Keim's Run, an intermittent stream, is located approximately 600 feet west/southwest of the facility. It flows south and west and discharges into the East Branch Nimishillen Creek. Groundwater discharges to the Nimishillen Creek watershed.

The Ohio EPA completed the Biological and Water Quality Study of the East Branch Nimishillen Creek and Keim Run in 2012 (see references). The study focused on a 2.5-mile section of the East Branch Nimishillen Creek and a 0.8-mile section of Keim Run, and was designed to assess water resource conditions upstream, adjacent to, and downstream from the former J&L. The study concluded that the entire 2.5-mile section of the East Branch Nimishillen Creek was in partial attainment of Warm Water Habitat aquatic life use, and Keim Run was in full attainment of the Limited Resource Water use designation. The study also concluded that the former J&L property did not cause impairment to the biological communities in the East Branch Nimishillen Creek and Keim Run. Several elevated metal concentrations were reported in bottom sediments in the East Branch Nimishillen Creek and Keim Run; however, the elevated concentrations did not contribute to biologic impairment. The study also confirmed the Primary Contact Recreation use for the East Branch Nimishillen Creek and the Secondary Contact Recreation use for Keim Run.

Ohio EPA's 2012 Biological and Water Quality Study revealed no current unacceptable impacts to Nimishillen Creek or Keim's Run. Jewel is upgradient of both surface water bodies. In addition, the Final VAP Phase II Property Assessment (July 2014) of the former J&L Lagoon property (Groffre property) confirmed the former J&L Lagoon conditions were not impacting surface water or biological communities in either water body. Jewel is also upgradient of the former J&L Lagoon property.

4.0 CORRECTIVE ACTION INVESTIGATIONS AND REMEDIATION

The facility has RCRA Corrective Action obligations and has been working with Ohio EPA to fulfill these obligations. A DOCC Report dated February 11, 2015 was generated by GES using existing information. The report evaluated the potential for release of contamination with respect to active and historic SWMUs and AOCs. Thirteen (13) active and inactive RCRA SWMUs and 38 active and inactive AOCs have been identified on the portion of the J&L footprint that is currently owned by Jewel.

Based on the information contained in the DOCC Report, there was no evidence of imminent releases or threats of releases that would adversely affect human health or the environment. Consequently, the implementation of Corrective Action Interim Measures was not necessary for any of the identified SWMUs or AOCs.

Ten SWMUs and 34 AOCs were recommended for "No Further Action" based on the DOCC Report and a facility inspection conducted by Ohio EPA on August 15, 2013. Jewel recommended the further investigation of three SWMUs and three AOCs. Ohio EPA recommended two additional SWMUs and one AOC be included in the investigation.

Following Ohio EPA's review and approval of the DOCC Report, Jewel submitted a RFI Work Plan

to the Ohio EPA in April 2015. The RFI listed the SWMUs and AOCs to be investigated, what media (soil and groundwater) would be sampled, what constituents would be analyzed for, and the procedures to be used in the investigation. The workplan also included groundwater and soil sampling protocols and methodologies, decontamination procedures, and the procedures for management of investigation derived waste. In response to Ohio EPA comments, a RFI Work Plan Addendum was submitted in July 2015.

The RFI field investigation consisted of advancing soil borings in those areas suspected of contamination. Four of the soil borings were converted to groundwater monitoring wells in select areas to investigate the potential for groundwater contamination and to produce a groundwater flow map for the property.

In August 2015, because of labor/management contract disputes, Jewel's union represented employees went on a work stoppage and the company initiated a lock-out. At that time, the work on the RFI was suspended. The investigation resumed in April 2016. The RFI report, dated August 2016, was approved on February 12, 2018 by the Ohio EPA.

4.1 Areas Assessed/Investigated During the RCRA Facility Investigation ("RFI")

The areas assessed/investigated include:

- SWMU 6-Baghouse dust collectors/shot blast dust collection areas;
- SWMU 9-Mill scale pile area;
- SWMU 10-Mill scale roll-off box dewatering area;
- SWMU 12-Waste oil cracker system;
- SWMU 13-Steel Binding Collection Area;
- AOC 23-Fuel storage tanks;
- AOC 35-Scrap Steel Roll-Off Box Storage Area;
- AOC 43-Ferrous chloride aboveground product tank; and
- AOC 50-Petroleum product pipelines.

See Figure 3 for locations of these SWMUs/AOCs.

SWMU 6 - Baghouse dust collector and shot blast dust collection areas. This unit is active.

The shot blast baghouses are the air pollution control devices for the shot blast system for the Hot Anneal and Pickle Line #2. Under Jewel operations, the dust from the baghouse is collected in steel roll-off boxes located directly beneath the baghouse. The roll-off boxes are located on a concrete pad in an enclosure. The shot blast dust has been characterized and is not a hazardous waste.

Because of historical releases in this area, Jewel advanced surface soil borings near the baghouse to evaluate potential impacts to surface soil. The soil samples were analyzed for metal contamination including hexavalent chromium.

<u>SWMU 9-Mill scale pile area.</u> The 1993 PA/VSI reported that SWMU 9 was occasionally used by the former J&L to stage piles of mill scale (directly on the ground) before it was sent off-site. The practice of storing mill scale in this area terminated prior to possession of the site by Jewel. See AOC 35, below. SWMU 9 and AOC 35, located in the same gravel area, were evaluated as one unit.

<u>SWMU 10 - Mill scale roll-off box area.</u> The unit is active, but Jewel changed the operational process.

Non-hazardous mill scale is generated through the anneal and quench process on Hot and Cold Anneal and Pickle Lines #2. Although the concentration of chromium is high in mill scale, Toxicity Characteristic Leaching Procedure ("TCLP") testing indicated the chromium leached from the material is in non-hazardous concentrations. The Mill Scale Roll-Off Box Area consists of a bermed concrete pad that measures approximately 25 feet by 25 feet. The former J&L used the area to store and dewater mill scale from the Mill Scale Settling Lagoon. Jewel uses this area to stage tarped, plastic lined roll-off boxes prior to transporting the material off-site for beneficial re-use.

Because of the historical use of this area, soil borings were advanced to evaluate potential impacts to surface soil. The soil samples were analyzed for metal contamination including hexavalent chromium.

Investigation results for SWMU 10 and SWMU 6. Soil samples collected from SWMU6 and 10 were used to assess soil proximal to the baghouse dust collectors/shot blast collection area (active) (SWMU 6) and the mill scale roll-off box dewatering area (inactive)/mill scale roll-off box staging area (active) (SWMU 10). Ten soil samples, including one duplicate sample, were analyzed for volatile organic compounds ("VOC"s), semi-volatile organic compounds ("SVOC"s), and metals including hexavalent chromium.

Due to their proximity, one set of samples was collected to represent the conditions at SWMUs 6 and 10. Of the soil samples collected, one contained a COPC (arsenic) above the U.S. EPA Commercial/Industrial Regional Screening Level ("RSL") standard used to evaluate risk. Arsenic was found in one sample at 14 – 15 ft depth at a concentration of 73.4 mg/Kg; the RSL is 30 mg/Kg.

Groundwater was collected from groundwater monitoring well MW-04 (centrally located within the facility) and analyzed for VOCs, SVOCs and metals including hexavalent chromium. The analysis revealed exceedances for iron (189,000 μ g/L vs the tap water RSL of 14,000 μ g/L) and manganese (2,740 μ g/L vs the tap water RSL of 430 μ g/L) in groundwater³.

<u>SWMU 12 - Waste oil cracker system.</u> This unit and its operation has been modified and is no longer used to "crack" oil; it is currently used for water/oil separation.

Historically, this unit consisted of three aboveground steel tanks, ancillary piping, and associated sumps. The former J&L hard-piped waste oil, generated from different processes, to the storage tank. From the storage tank, the waste oil was pumped to the heating tank, where it was heated for separation. The subnatant water effluent was hard-piped to the head of the Waste Pickle Liquor Treatment Unit (WMU 1). The "cracked" oil was stored in the third tank until it was transported off-site for recycling. Jewel never operated this unit and properly cleaned and removed all but one storage tank in this area in 2006. Currently, Jewel uses the 25,000-gallon aboveground storage tank ("AST") for gravity separation of water and oil generated from various processes throughout the facility. Oils are transported off-site and water is treated at the on-site wastewater treatment plant (WMU #2).

³ Note that both iron and manganese have a U.S. EPA Health Advisory Level of 300 µg/L but are not considered Hazardous Constituents under the RCRA regulations.

The unit was constructed with a concrete base and containment walls which were in good condition when inspected by Ohio EPA in 2014. The unit had no documented history of releases; however, during the 1993 PA/VSI, dark oil stains were noted on the gravel outside the dike. Due to the historical use of this area and the PA/VSI report, soil borings were advanced outside the containment walls of the former waste oil cracker unit to evaluate potential impacts to surface soil. Seven soil samples were analyzed for select VOCs, SVOCs, and metals including hexavalent chromium. An integrity evaluation of the former Waste Oil Cracker containment sumps was performed on July 28 and 29, 2015, by filling the sumps full of water. After a 24-hour period, the was no loss of liquid in any of the sumps demonstrating that the sumps are structurally sound.

Analytical results of the soil revealed no exceedances of U.S. EPA commercial/industrial RSLs for the COPCs associated with the soils. Constituents were detected at concentrations above laboratory reporting limits or at estimated values below laboratory reporting limits and above method detection limits.

SWMU 13-Steel Binding Collection Area. This unit is currently inactive.

The unit consisted of a concrete paved loading area and an adjacent graveled area where the former J&L collected steel binding in several roll-off boxes. At the time of the PA/VSI, material that appeared to be mill scale was visible on the concrete pad, indicating that mill scale and perhaps other solid wastes may have been managed at the unit. During the RFI, due to overhead and underground utility locations and guide wires, the initially proposed sample and groundwater monitoring well location for this unit was relocated approximately 75 feet south.

Because of the historical use of this area, a soil boring was advanced to evaluate potential impacts to surface soil. One soil sample was collected and analyzed for metal contamination. The soil boring (SWMU13-02) was advanced and converted to groundwater monitoring well MW-01 in order to collect a downgradient groundwater sample in the proximity of the western property boundary. There were no exceedances of COPCs detected in the soil above U.S. EPA commercial/industrial regional screening levels.

During the first monitoring event, thallium was detected above the U.S. EPA tap water RSL (4.1 μ g/L vs the Maximum Contaminant Level ("MCL") of 2 μ g/L) in groundwater monitoring well MW-01. Consequently, the monitoring well was resampled, and the groundwater was filtered prior to lab analysis. The results of this sampling event recorded thallium below the U.S. EPA tap water RSL.

AOC 23-Fuel storage tanks. This unit is currently active.

Due to the frequent use of this unit, it was not investigated during the RFI. As of 1996, two 2,000gallon ASTs were stored in this area. Each tank has its own secondary containment system. The area is located outside and west of the main building. The fuel is transferred via underground piping to a fuel island located at the northwest corner of the building. There are no reports of current (as reported in the 2014 DOCC Report) or historical releases from this unit.

The fuel storage tanks are equipped with secondary containment. The transfer lines are located underground; it is unknown if they have secondary containment. As part of the investigation, the integrity of the transfer lines was tested during the RFI and reported as intact. No further action is required at this time.

<u>AOC 35/SWMU 9 – Scrap Steel Roll-Off Box Storage Area and former Mill Scale Pile Area.</u> The Scrap Steel Roll-Off Box Storage Area is still actively used. The former Mill Scale Pile area has not been used for this application since prior to Jewel's purchase of the property in 2004.

The scrap steel is non-hazardous and is not considered a source of contamination. SWMU 9,

former Mill Scale Pile Area, was located within the current, existing roll-off box gravel storage area. The 1993 PA/VSI reported that SWMU 9 was occasionally used by the former J&L to stage piles of mill scale (directly on the ground) before it was sent off-site. The practice of storing mill scale in this area terminated prior to possession of the site by Jewel.

Historically, mill scale was shipped off-site by J&L for chromium reclamation as the total chromium concentration in the material was high. TCLP testing indicated that chromium leached from the material was in non-hazardous concentrations. Because of the historical use of this area, soil borings were advanced to evaluate potential impacts to surface soil. The soil samples were analyzed for metal contamination including hexavalent chromium. Ten soil samples from soil borings AOC35-01 through AOC35-10, collected at a depth of two-feet bgs, were analyzed for metals including hexavalent chromium. One soil sample collected from AOC35-10 at 12-14 feet bgs was analyzed for VOCs, SVOCs, and metals including hexavalent chromium. Soil samples collected from this area showed no concentrations of COCs exceeding commercial/industrial RSLs.

The boring at AOC35-10 was converted to a groundwater monitoring well (MW-02). Metal contamination of the groundwater was reported. Arsenic was reported at 21.6 μ g/L (vs the MCL⁴ of 10.0 μ g/L), cobalt at 11.2 μ g/L (vs the tap water RSL of 6.0 μ g/L), iron at 26,500 μ g/L (vs the tap water RSL of 14,000 μ g/L), lead at 21.9 μ g/L (vs the Drinking Water Action Level of 15 μ g/L), and manganese at 3,480 μ g/L (vs the tap water RSL of 430.0 μ g/L)⁵. The reported COCs have not been detected in the facility's downgradient monitoring well (MW-1) or in monitoring well data from the property located south of Jewel (*Final VAP Phase II Property Assessment of the Former J&L Lagoon property*, 2014). Consequently, this plume of groundwater contamination is believed to be stable.

<u>AOC 43-Ferrous chloride AST</u>. This unit is currently active. The ferrous chloride is a wastewater treatment chemical used by Jewel. As of 1996, the 10,500-gallon ferrous chloride AST was present on-site with no secondary containment. In 1996, spillage was observed as reported in the DOCC Report. According to the Emergency Response Notification System ("ERNS") list, the release to the soil was small (5 ft. by 10 ft.) because the majority of the spill entered a secondary containment area. At the time of the Jewel Acquisition, the tank had secondary containment which remains in place currently.

No soil borings or monitoring wells were completed in this AOC. Additional investigation activities included laboratory analysis of the ferrous chloride to determine if the product contained hexavalent chromium. The analytical results were reported to be less than method detection limits. No further action required at this time.

AOC 50-Petroleum product pipelines. This unit is currently active.

Underground pipelines transfer virgin and used oil between the operating facility and the oil storage building (SWMU 11). There are no reports of current or historic releases from this unit.

The integrity of the underground portion of the transfer lines were pressure tested during the RFI. The results indicate the integrity of the petroleum product pipelines in AOC 50 were intact. Based on the results of the pressure testing, it is probable a release of petroleum product(s) has not

⁴ If an MCL is listed for an analyte, the MCL was used for comparison purposes. If an MCL does not exist, the tap water RSL was used. Lead is unique in this report – It has an Action Level, not an MCL.

⁵ Note that cobalt, iron and manganese are not Hazardous Constituents as defined by the RCRA regulations. However, exceedances of the Tap Water RSLs are a cause for potential concern if the groundwater is being used for human consumption.

occurred. Because the lines are underground, may not have secondary containment, and are greater than 20 years old, the unit should be evaluated again, when the facility takes the unit out of service.

4.2 Results of the RFI

The RFI was conducted in 2015 - 2016 and the report was submitted in August 2016. The results of the investigation found no contamination of the soil or groundwater by volatile organic compounds ("VOC"s). Based on findings reported in the RFI, additional information (subsequent sampling) was collected in October 2016, May 2017, and August 2017 to more fully characterize the facility.

Table 2 RCRA Corrective Action Solid Waste Management Units And Areas of Concern Investigated During the RCRA Facility Investigation

| Well Soil MW-4 As MW-2 As, Pb |
|---|
| /W-2 As. Pb |
| |
| AW-4 As |
| o GW nitoring None detected in soils Installed |
| /W-1 None detected |
| 1W-2 As, Pb |
| IW-3 bis(2ethylhexyl) phthalate, LNAPL, 1-Methylnapthalene |
| |

LNAPL = Light non-aqueous phase liquid

Figure 3 illustrates the locations where soil boring and groundwater samples were collected.

Eighteen soil borings and four groundwater monitoring wells were employed during the initial field investigation. Soil borings were advanced to depths between two and 25 feet BGS. A total of 28 soil samples were submitted for laboratory analysis of target compound list-volatile organic compounds ("TCL-VOC"s); TCL for semi-volatile compounds ("TCL-SVOC"s); target analyte list ("TAL") metals and hexavalent chromium. Impacts were not observed in surface soil at concentrations above applicable US EPA industrial RSLs. Arsenic was reported in one soil boring at a depth between 14 to 15 feet bgs at a concentration (73.4 mg/kg) above the U.S. EPA Commercial / Industrial soil RSLs (30.0 mg/mg).

Four soil borings, converted to two-inch diameter monitoring wells, were installed to a depth of 20 or 25 feet bgs. Groundwater level measurements indicate groundwater flow is to the southwest. This coincides with regional shallow groundwater flow direction reported in an investigation conducted on the southern adjoining property (Groffre) which is south-southwesterly.

Approximately 0.47 feet of light non-aqueous phase liquid ("LNAPL") was reported in MW-3 during 12

GW = Groundwater MW = Monitoring well

the August 10, 2015 well development event; the April 2016 sampling found no LNAPL. MW-3 was gauged for LNAPL on October 25, 2016; 0.36 feet was recorded. The May 31, 2017 sampling event showed no evidence of LNAPL; however, on August 14, 2017, 0.05 feet was recorded.

Groundwater samples were submitted for laboratory analysis of TCL-VOCs; TCL-SVOCs; TALmetals and hexavalent chromium. The following chemicals of concern ("COC") were detected in groundwater above maximum contaminant levels MCLs: bis(2-ethylhexyl) phthalate, arsenic, thallium, and lead. The following COCs were detected in groundwater above U.S. EPA tap water RSLs: cobalt, manganese, iron, 1-methylnaphthalene, and lead. The reported COCs have not been detected in the facility's downgradient monitoring well (MW-1) or in monitoring well data from the property located south of Jewel (*Final VAP Phase II Property Assessment of the Former J&L Lagoon property*, 2014). Consequently, this plume of groundwater contamination is believed to be stable.

Ohio EPA requested that Jewel conduct a subsequent sampling event, spring 2017. Objectives for this event were to investigate the presence of NAPL and to collect a groundwater sample from MW-01; field filter the sample and analyze for thallium. The results of the spring 2017 groundwater sampling revealed thallium in MW-01 at concentrations below the MCL. There was no evidence of NAPL in the groundwater in MW-03 during the resampling event in May 2017.

4.3 Contamination Remaining on Site

Groundwater contamination on site was identified as:

- LNAPL in MW-3 (south of AOC50) as well as low levels of two semi-volatile compounds (1-methylnaphthalene and bis(2-ethylhexyl) phthalate).
- (2) MW-2 (SWMU9/AOC35) with concentrations above the MCL for arsenic (21.6 ug/L vs 10 ug/L) and lead (21.9 ug/L vs an action level of 15 ug/L).

There are no production wells or drinking (potable) water wells within a 1-mile radius of the facility. The plant and the citizens in the community receive their drinking water from the city of Louisville. The southwestern downgradient well (MW-01) was not found to exceed applicable standards for any COCs. If groundwater did flow to a more southerly direction (heading more directly off-site), it is not likely that the existing levels of COCs would pose an off-site groundwater concern due to the mixed clay/silt/sand lithology observed during investigatory drilling at the facility.

The extent of groundwater contamination has been defined and wells located on offsite property (which has restrictions on the use of groundwater) immediately down gradient meet drinking water standards. Therefore, ingestion or direct contact with groundwater for any receptors off-site is not an issue. As discussed in more detail below the preferred remedy including a risk mitigation plan and an Environmental Covenant ("EC") will address risk associated with onsite contaminated groundwater.

Contamination in soil includes the arsenic reported in one soil boring, at a depth between 14 to 15 feet BGS, at concentrations above the U.S. EPA direct contact industrial soil RSLs. Because this contamination was detected only at this one location, and the contamination is below the ten-foot construction point-of-compliance, exposures for an industrial and construction worker are not considered likely. Instead, for arsenic, the preferred remedy for this COC will be to create a risk mitigation plan to ensure employees (permanent or temporary) do not come into contact with these soils without the proper training and personal protection equipment. Unacceptable exposure to other COCs (see table above) will be restricted via the EC and include restricting the facility to industrial/commercial land use.

5.0 RISK ASSESSMENT

5.1 Human Health Risk Assessment

In 2015, using all available data, the facility conducted a human health risk assessment. Potential current and future receptors evaluated during the risk assessment included on-site industrial workers, maintenance workers, and trespassers. After conducting the risk assessment, it was determined that the levels of COCs remaining in the soil are higher than would be acceptable for an unrestricted use property scenario (residential setting), but do not pose a human health risk based on exposure to on-site industrial workers, construction workers, or trespassers.

5.2 Ecological Risk Assessment

During a site visit, Ohio EPA conducted a scoping ecological risk assessment at the former J&L facility. Based on this assessment, it was determined that important ecological resources were not present at the site and that further ecological investigations were not necessary.

6.0 REMEDY EVALUATION AND SELECTION

6.1 Description of Remedies Considered

For a proposed remedy to be considered viable when implemented, it must meet the threshold criteria to be protective of human health and the environment.

Threshold Criteria:

- 1) <u>Protect human health and the environment</u>. Corrective measures shall be employed to determine if they can adequately protect human health and the environment, in both the short and long term, from unacceptable risks posed by environmental contaminants present at the facility.
- <u>Attain media cleanup standards set by the implementing agency</u>. Corrective measures shall be evaluated to determine if the final numerical standards for the subject environmental media will be protective.
- 3) <u>Control source of the release(s) to reduce or eliminate, to the extent practicable, further releases that may pose a threat to human health and the environment. A corrective measure shall be evaluated to determine if it is practicable to physically remove the source of environmental contamination as part or all the corrective measure.</u>
- 4) <u>Comply with applicable standards for management of waste</u>. Corrective measures shall be evaluated to determine if they meet all the applicable requirements of state, federal, and local environmental laws for waste management.

The following alternative remedies were considered by the facility and Ohio EPA to address corrective action.

- 1) <u>No Action</u>. This alternative is selected if the facility has no known exposures to human health and the environment such that environmental conditions meet the threshold criteria.
- 2) <u>Excavation to Meet Unrestricted Use.</u> This alternative would require the removal of all residual contamination in soil to meet the human health risk standards for unrestricted use of the

property.

3) <u>Institutional Controls.</u> This alternative consists of land use restrictions which may be recorded as an Environmental Covenant ("EC") between the facility and the regulatory agency, and ongoing controls to mitigate risks associated with direct contact with soils or groundwater. The purpose of these controls is typically to manage or limit human exposures at the site.

Based on the extent and nature of the releases of waste defined in the RFI, Ohio EPA proposes as a remedy that the facility owner and Ohio EPA enter into an Environmental Covenant ("EC"). An EC is a legally enforceable mechanism that would describe the facility and limit its use to designated purposes and/or restrict the use of groundwater. The EC would list appropriate current and future land use while also describing what uses would not be allowable. The EC would run with the land, be attached to the deed, and could not be changed without written agreement of both the facility owner and Ohio EPA, even if the facility was sold at some point in the future. Ohio EPA will monitor the facility to ensure that its use is consistent with the allowed uses listed in the EC.

To ensure invasive activities at the facility are performed in a protective fashion, and to ensure any materials generated by these activities are managed safely and legally, a Risk Mitigation Plan will be developed and implemented. This plan will be developed, implemented and enforced through consensual Director's Findings and Orders.

The units listed below remain in operation. They will be addressed upon being taken out of service, as will be stipulated in the consensual Director's Findings and Orders.

 Table 3

 Identified Areas of Concern Units in Operation in 2018

| Areas of Concern ("AOC") | Description of the Unit | Notes | COPCs in Groundwater and Soil |
|--------------------------------|---|---|-------------------------------------|
| 17 | Temper Mill – Located in a building; Unit is located under the Temper Mill and is currently inaccessible | 1999: during construction of the unit, drums containing black material (characterized as lead bearing, D008 hazardous waste) were discovered. Lead impacted soils and drummed material were removed; unit did not go through RCRA closure. | Metals; such as lead |
| 23 | Fuel Storage Tanks | 1996: one gasoline tank (2,000 gallons), one fuel oil tank (2,000 gallons) with separate secondary containment systems; ASTs have below ground product transfer lines which are periodically leak checked. Upon termination of operation, the unit should be accessed, and then investigated and remediated, if necessary. | VOCs and SVOCs |
| 43 | Ferrous Chloride Product Tank (AST) – Located outside, south side of Facility | One 15,000 – gallon tank. Upon termination of operation, the unit should be accessed, and then investigated and remediated, if necessary. | Metals; such as chromium |
| 50 | Petroleum Product Pipeline – underground pipelines between Oil House (SWMU 11) and the Plant | Pipes do not have secondary containment; are not periodically leak tested; and are greater than 10 years old as of 2000. The pipes were pressure tested during the RFI. Upon termination of operation, the unit should be accessed, and then investigated and remediated, if necessary. | VOCs, SVOCs, and metals |

VOCs = Volatile organic compoundsAOC = Area of ConcernCOPC = Constituents of potential concernAST = Above ground storage tankAOC = Area of ConcernRFI = RCRA Facility InvestigationSVOCs = Semi-volatile organic compoundsSWMU = Solid waste management unit

The Solid Waste Management Units/Areas of Concern included in Table 3 were not investigated during the 2016 RCRA Facility Investigation approved February 2018. The facility will be required to assess and evaluate the units upon termination of operation.

6.2 Proposed Remedy Selection and Summary

Ohio EPA has evaluated alternatives in consideration of the threshold and balancing criteria. Balancing criteria are secondary considerations used to aid in remedy evaluation once the threshold criteria have been established. They are long term reliability and effectiveness, reduction in toxicity, mobility or volume of wastes, short term effectiveness, implementability, and cost. The evaluation is as follows.

- <u>No Action</u>. An alternative of "no action" at the facility is not acceptable to Ohio EPA. It had been determined that levels of contamination in the soil presented an unacceptable exposure or risk for unrestricted facility use. Therefore, corrective measures are required to achieve the corrective action threshold criteria listed above. Additionally, while the use of the facility currently is industrial, there is no legally enforceable mechanism in place to prevent the facility from being converted to residential use in the future.
- 2) Excavation to Meet Unrestricted Use Standards. The residual contamination at the site consists of metals that pose an unacceptable risk due to direct contact in an unrestricted use scenario. The general dispersed nature of contamination above unrestricted use risk standards would require extensive source removal. While this alternative meets the threshold criteria, the difficult implementability and foreseen high costs make this option unfeasible based upon current and reasonable anticipated future land use.

Institutional Controls. Institutional controls requiring property use restrictions and invasive activities risk mitigation meet the threshold criteria of protecting human health and the environment by restricting the property to industrial use through the negotiation of an Environmental Covenant ("EC") and developing and implementing a Risk Mitigation Plan.

Ohio EPA's preferred remedy for this portion of the former J&L facility includes Jewel (the current property owner) and Ohio EPA entering into an EC restricting future use of the facility. Ohio EPA proposes that the facility will have use restrictions through enactment of an EC, an enforceable mechanism under Ohio law that can be used to restrict land use. This restriction will run with the land and be binding upon all future property owners should the facility be transferred or sold.

The EC will include a legal description of the subject facility, as well as language to prohibit the facility from being used for residential or specific agricultural activities. In addition, groundwater use will be restricted to non-potable use and will not be permitted to be withdrawn except for the purposes of monitoring and remediation.

Jewel will submit a survey plat and legal description with the EC, which must be developed by a practicing attorney, specifying the entire facility will be restricted to industrial use. Ohio EPA will monitor the facility owner's adherence to the EC to ensure continued protection of human health and the environment. The EC will contain the following restrictions.

Land Use Limitations. The facility shall not be used for residential or agricultural activities but may be used for industrial/commercial activities. The term "industrial activities" shall include manufacturing, processing operations and office and warehouse use, including but not limited to production, storage and parking/driveway use. The term "residential activities" shall include, but not be limited to, the following:

- a. Single and multi-family dwelling and rental units;
- b. Day care centers and preschools;
- c. Hotels and motels;
- d. Educational (except as a part of industrial activities within the Property) and religious facilities;
- e. Restaurants and other food and beverage services (except as a part of industrial activities within the Property);

- f. Entertainment and recreational facilities (except as a part of industrial activities within the Property);
- g. Hospitals and other extended care medical facilities (except as a part of industrial activities within the Property); and
- h. Transient or other residential facilities.
- i. Soils from the site will not be used to produce food-chain products by outdoor agricultural means for animal or human consumption.
- j. Groundwater use will be restricted to non-potable use and will not be permitted to be withdrawn except for the purposes of monitoring and remediation.

In addition to the EC, the facility will be required to develop and implement a Risk Mitigation Plan. This plan will detail administrative processes and field procedures to be followed when invasive activities, such as excavation, are undertaken. The plan will cover such things as identifying risk associated with the work to be completed, worker health and safety, and soils and materials management. The plan will be reviewed and ultimately approved by Ohio EPA or approved with modifications. The plan will be developed and implemented pursuant to Consensual Orders, to be negotiated between Ohio EPA and the facility.

A plan will be developed and implemented pursuant to the Consensual Orders to address currently operating units (Table 3), that, upon termination of use, will need to be assessed, investigated, and remediated (if necessary) with Ohio EPA oversight. In addition to following a formal process evaluating the closure of each unit, the facility will be required to provide financial assurance for the estimated cost for the assessment and remediation of the deferred units.

Provisions will be required to provide on-going security to prevent trespassing. Finally, all groundwater monitoring wells on-site will be required to be abandoned in accordance with Ohio EPA guidance.

7.0 CONCLUSION

Jewel is an active industrial facility. The property is mostly paved preventing on-site workers from direct contact with contaminated soils that have been identified. The facility is fenced and has 24-hour security, so it is not likely that trespassing would occur. In addition, the facility will include in the Corrective Action remedy a Risk Mitigation Plan that will address the potential for worker contact with potentially contaminated soil and groundwater. Jewel will ensure a Risk Mitigation Plan is in place to be followed in any situation where the soil at the site is to be disturbed, excavation is planned, or groundwater may be encountered.

Groundwater flow direction is in a southwest direction. Groundwater contamination has been reported under three locations at the facility, i.e., SWMU 6/10 (MW-4) in the area south of the plant where baghouse dust and shot blast dust is collected on a concrete surface; south of AOC 50 (MW-3), the petroleum product pipelines; and SWMU9 and AOC35 (MW-2) in the graveled area where Jewel currently stores scrap steel, but historic use during previous ownership of the facility included the storage of mill scale directly on the ground. Groundwater investigations conducted by Brownfield Restoration Group (2014) on the property south and west of Jewel revealed no evidence of groundwater contamination.

There are no groundwater wells in the area serving as a source for potable water as drinking water is provided by the city of Louisville. Ohio EPA does not believe groundwater underlying the site requires neither mitigation nor on-going monitoring. Lastly, a designated area extending 300 feet from the Jewel fence line is under an existing legal covenant to serve as a buffer which cannot be developed or improved. See Figure 1 for the location of the buffer.

The Ohio EPA's preferred final remedy for the former J&L facility/Jewel Acquisition, LLC is an Environmental Covenant restricting the facility to industrial use, restricting the extraction of groundwater except for the purposes of monitoring or remediation, and the negotiation of consensual Director's Findings and Orders. The consensual orders will be used:

- to establish a Risk Mitigation Plan to ensure any disturbance of the soil, excavation of the facility surface, or extraction of groundwater is conducted in a safe and appropriate manner;
- to ensure existing groundwater monitoring wells will be properly abandoned;
- to ensure security will be maintained; and
- to ensure currently active SWMU/AOCs will be included in a financial assurance mechanism and, upon their termination or removal from service, evaluated and remediated (if necessary) with oversight by the Ohio EPA.

REFERENCES:

Preliminary Assessment/Visual Site Inspection Report ("PA/VSI"), prepared by PRC Environmental Management for the U.S. EPA, dated March 31, 1993.

Description of Current Conditions Report ("DOCC"), prepared by Groundwater & Environmental Services, Inc. for Jewel Acquisition, LLC, dated February 2015.

Final RCRA Facility Investigation ("RFI") Report, prepared by Groundwater & Environmental Services, Inc. for Jewel Acquisition, LLC, dated August 2016.

Biological and Water Quality Study of the East Branch Nimishillen Creek and Keim Run, 2012; Former J&L Steel, Louisville; prepared by Ohio EPA's Division of Surface Water Ecological Assessment Section; Ohio Technical Report EAS/2012-12-15, dated November 26, 2012.

Final Voluntary Action Program ("VAP") Phase I Property Assessment of the Former J&L Lagoons, 1500 West Main Street; Louisville, Stark County, Ohio; prepared by Brownfield Restoration Group, LLC, dated September 28, 2010.

Final VAP Phase II Property Assessment of the Former J&L Lagoon Property (Groffre property), 1500 West Main Street; Louisville, Stark County, Ohio, prepared by Brownfield Restoration Group, LLC, 2014.

Glacial Geology of Ohio, prepared by Richard Goldwaith, George W. White, and Jane L. Forsyth for Ohio Department of Natural Resources (ODNR), 1982.

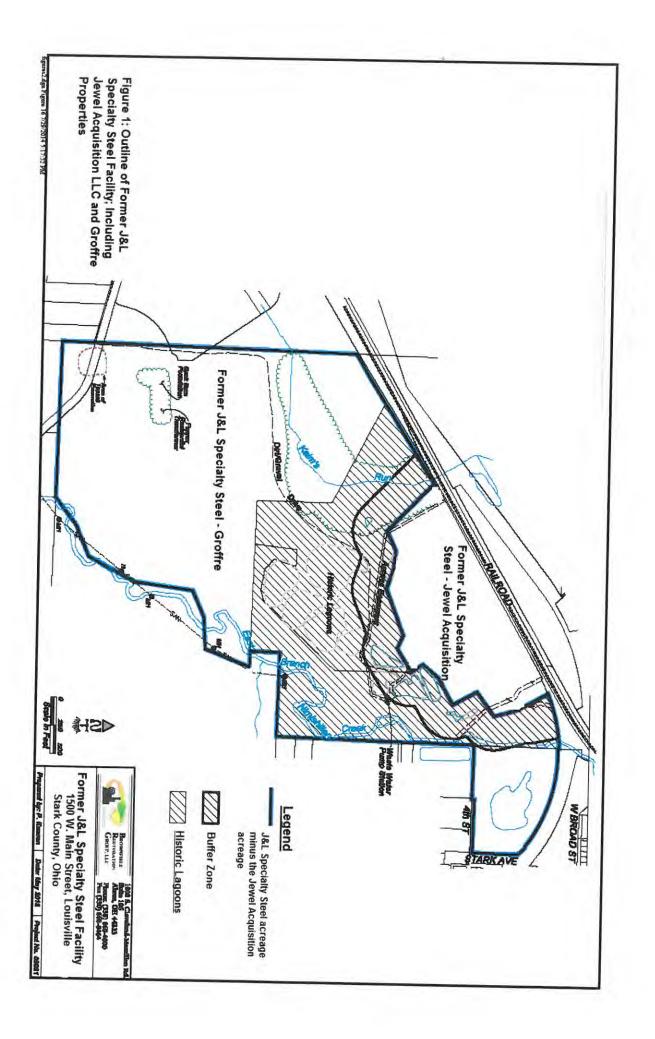
Geologic Map of Ohio, prepared by J.A. Bownocker for Ohio Department of Natural Resources (ODNR), 1981.

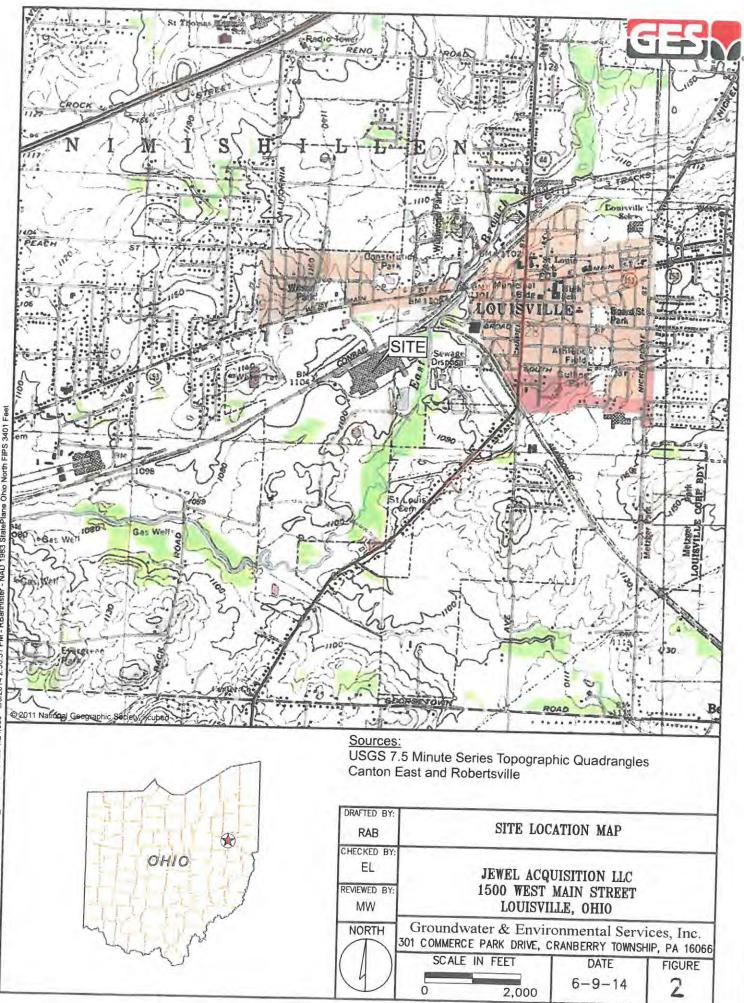
Screening Site Inspection ("SSI") Report for Jones & Laughlin Steel Corp, Louisville, prepared by Ecology and Environment, Inc., dated August 23, 1991.

Bedrock Geology, USGS Geologic Units in Stark County, Ohio <u>https://mrdata.usgs.gov/geology/state/sgmc-unit.php?unit=OHPAap%3B0</u>.

2007 Nimishillen Creek Watershed Inventory http://nefcoplanning.org/nim_creek_wap.html.

FIGURES





L'IProjects/ATNLouisvilleOH/GIS/ATT_LouisvilleOH_SLM.mxd - Scale 1:24,000 - 6/9/2014 2:50:51 PM - RBannister - NAD 1983 StatePlane Ohio North FIPS 3401

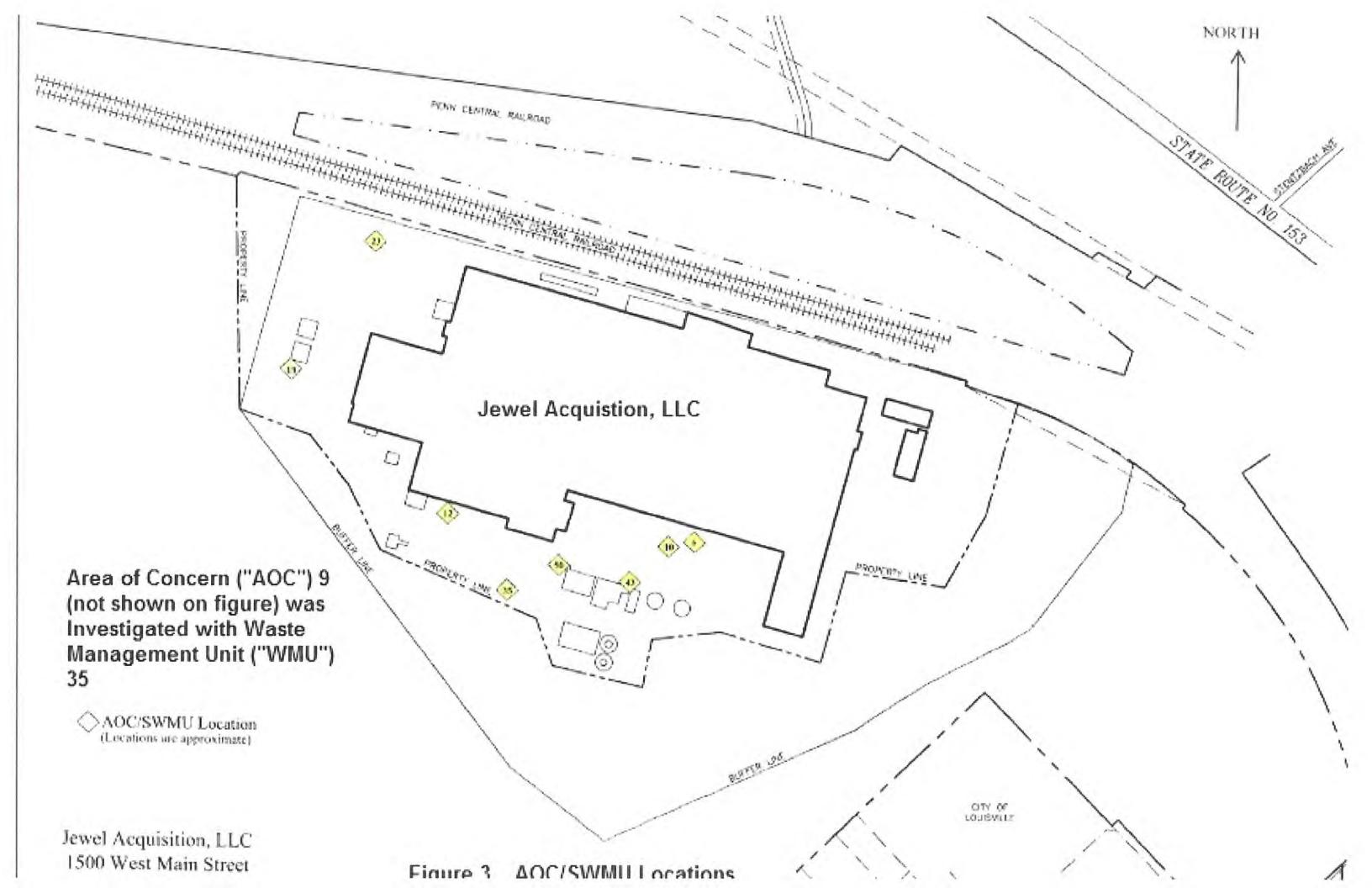




Legend

- MONITORING WELL Groundwater
- SOIL BORING LOCATION
 - APPROXIMATE PROPERTY BOUNDARY

Cources: Stark County Auditor's Office, 2014. Aerial: Esri and its data partners, 2014. DRAFTED BY: SAMPLE LOCATION MAP GKS HECKED BY: JEWEL ACQUISITION LLC 1500 WEST MAIN STREET LOUISVILLE, OHIO EL ENEMED BY: JS Groundwater & Environmental Services, Inc. 301 COMMERCE PARK DRIVE, CRANBERRY TOWNSHIP, PA 16066 NORTH DATE SCALE IN FEET FIGURE 4 5-24-16 150



ATTACHMENT

RCRA Corrective Action Solid Waste Management Units and Areas of Concern Jewel Acquisition, LLC

Bold items are areas that required additional assessment/investigation.

WMUs. AOCs were identified through inspections and assessments such as: RCRA Hazardous Waste Compliance Inspections, RCRA Corrective Solid waste management units (WMU) were identified during the U.S. EPA's Preliminary Assessment/Visual Site Inspection (PA/VSI) dated March 31, 1993; no areas of concern (AOC) were identified at that time. As AOCs were identified, their numeration was made consecutive with the Action Facility Assessments, and the facility's Description of Current Conditions (DOCC) Report dated February 2015.

| SWMU | Description of the SWMU | Operating Status | cocs | Comments from PA/VSI or RFI Corrective Action Documents |
|------|---|-------------------------------------|------------------------------------|---|
| - | Waste Pickle Liquor Treatment Unit-Located Outside, S of Main Building and N of Wastewater Treatment System (aka WWTP) | Active: 1960s to present | Metals | Unit includes 2 waste acid cisterns (58,000 gallons), 2 neutralization tanks (11,800 gallons), and associated ancillary piping (in ground steel pipes in lined trenches carry the waste acids from process equipment to cisterns). Tanks and pipelines regularly inspected and maintained. PA/VSI's |
| 5 | Wastewater Treatment System ("WWTP")-Located on S Side of Facility Property | Active: Upgraded in 1982 | VOCs, SVOCs, Metals, PCBs | Upgrade eliminated need for lagoons; reduced solid waste generation; staffed 24 hr./day; discharge to city of Canton POTW under permit. PA/VSI's recommendation was NFA. |
| £ | Filter Cake Collection Area- Located on the S Side of Facility Property; associated with WWTP | Active: 1982 to present | Metals | Two concrete loading bays and adjacent gravel area. Filter cake collected inside using two 20 cubic yard semi-trailers. Once full, trailers are transported off-site for proper disposal or temporarily staged on the adjacent gravel area. Area is |
| 9 | Baghouse Dust Collectors/Shot Dust Collection Area-Located Inside an Enclosure, S of Main Building and N of WWTP | Active: 1970s to present | Metals | Two baghouse dust collectors collect dust from shot blasting of stainless steel. Dust collected in plastic lined roll-off boxes on a concrete pad. Investigated during the RFI |
| 2 | Satellite Accumulation Area for Waste Ink-Located Inside Building | Active: late 1980s to present | VOCs | Drum completely contained within secondary containment; routine inspections. PA/VSI's recommendation was NFA |

Page 1 of 6

| AOC | Description of the SWMU | Operating Status | cocs | Comments from PA/VSI or RFI/Corrective Action |
|-----|--|--|---|--|
| 14 | #1 Hot and Cold Annealing and Pickling Line-Located Inside Main Building | Currently Inactive; Active through 2004) | N/A | Prior to the acquisition by Jewel, J&L removed the #1 Hot Line and part of the #1 Cold Line. Jewel completed removal of the #1 Cold Line in 2006. Process tubs were removed, the space backfilled, and floor was finished with concrete |
| 15 | #2 Hot and Cold Annealing and Pickling Lines-Located Inside Main Building | Active | Metals | The lines are located inside a building & are constructed within containment or over concrete flooring. Wastewater transferred to WMU 1 via piping contained in lined, concrete trench |
| 16 | Bright Anneal Line-Located Inside Main Building | Active | N/A | Line transfers rinsewaters, wastewaters, waste potassium hydroxide rinsewaters; sloped concrete area under unit drains to under process lines |
| 17 | Temper Mill-Located in a Building AOC located under Temper Mill, currently inaccessible. | Active: 2000 to present | Metals | 1999: during construction of the unit, drums containing black materials (characterized as lead bearing, D008) were discovered. Lead impacted soils were removed during construction. Upon termination of operation, this unit should be accessed and investigated and consciouted is |
| 18 | Z Mill-Located in a Building | Active | Metals | Unit includes a series of rolls used to reduce thickness of steel. Oil recirculation system in basement-three tanks & two sumps on a concrete floor |
| 19 | Hazardous Waste Accumulation Area-Located Outside | Active: 1990 to present | Hazardous Waste and Universal Wastee | Concrete pad, enclosed on three sides; sump to collect releases/spills. |
| 20 | Nonhazardous Waste Accumulation Area-Located Outside, W of Main Building, S of AOC19 | Active: 1960s to present | AIN | Enclosed on three sides; enclosure and flooring maintained; currently used to store nonhazardous waste and empty totes; no releases reported. |
| 21 | Raw Acid Storage Tank-Located Outside, N of WWTP and E of Oil Storage Building | Active | Sulfuric, nitric, and hydrofluoric acids | Secondary Containment Installed in 1998-2000. ASTs located in diked containment area; concrete floor with internal sump; routine inspections and maintenance performed. |

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| AOC | Description of the SWMU | Operating Status | cocs | Comments from PA/VSI or RFI/Corrective Action |
|-----|--|---------------------|-------------------------------|--|
| 23 | Fuel Storage Tanks-Located Outside, W of Main Building | Active | VOCs, SVOCs | 1996: one gasoline tank (2,000 gallons), one fuel oil tank (2,000 gallons) with separate secondary containment system; ASTs have below ground product transfer lines which are periodically leak checked. Upon termination of operation, this unit should be accessed and investigated and |
| 24 | Parts Washers-Multiple Locations, Inside buildings | Active | Non- hazardous solvents | Serviced by Safety Kleen. |
| 25 | Furnace Muffle Tubes-Located in the SW Corner of Facility | Inactive | N/A | Two tubes, one on saddles over gravel and one sitting on |
| 26 | Former Truck Bay-Located Outside, W of Main Building | Inactive | Scrap Metal | Former truck bay where bands of steel coils were collected. Concrete ramp with three sides and a base ~8-10 feet below ground surface. Scrap steel would accumulate and |
| 27 | Former Tank-Located in NW Corner of Facility, Map Location Unknown | Inactive | VOCs | Contractor would pick up. Installed to store gasoline in case of shortage; no indication |
| 28 | Raw Product Storage Area- Located Outside, W of Main Building | Active | Raw Product Oils | Concrete pad near the dock; area stores product oil such as hydraulic and lubricating oils and glycol product. Drums stored on pallets under a roof; sump installed to contain |
| 29 | Kolene® Tank-Located Inside Main Building | Active | Waste Kolene® (D007) | releases. 10,000-gallon tank contains molten Kolene® which constantly circulates in a locked building. Solids collect on sides of steel tank and are periodically removed. The waste Kolene® is drummed, staged in the HW accumulation area |
| 30 | Empty Drum Storage Area- Outside, S of Main Building, Map Location Unknown | Inactive | NIA | and transported off-site for proper disposal. Location Unknown. |
| 31 | Grind Shop-Inside Temper Mill Building | Active | Water Soluble Oil | Area used to refinish rolls from temper mill; area routinely inspected |

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| AOC | Description of the SWMU | Operating Status | cocs | Comments from PA/VSI or RFI/Corrective Action |
|-----|---|-------------------------------------|-------------------------------|--|
| 32 | General Trash-Inside Main Building | Active | General Solid Waste | Trash compactor: solid waste transported of all |
| 33 | Former Laboratory-Inside a Building, Located on the E Portion of Property | Inactive: Dismantled in 2004 | Lab Waste | Former metallurgical laboratory; contents removed in 2004; currently used as meeting rooms & offices |
| 34 | 44 High Mill-Located Inside SW Corner of Building | Deactivated in 2002/2003 | Oils, Metals | Former 44 High Mill used synthetic oil/water mixture in its rolling process; the unit was deactivated and removed from |
| 35 | Located Outside, in the Gravel Area, W of the WWTP, on the S Side of Facility Near Fence Line | Active | Metals | There were multiple scrap steel roll-off box areas located both inside and outside the buildings. This unit was investigated during the RFI because historically, the area |
| 36 | Drum Crushing Area and Waste Drum Storage Area- Located Outside, S Side of Main Building Near WMU12 | Active | Scrap Metal | Crushed drums to recover scrap metal for recycling. Operated as needed on a concrete pad and the area is bermed. |
| 37 | Side Trimmer/Prep Line-Located Inside Main Building on the E Side | Inactive | Scrap Metal, used oil | This unit is the beginning preparation line of the operation; functions by trimming the sides of the steel coils. |
| 38 | Multiple Former Water Production Wells-Various Locations | Terminated use in early 1990s | Water | Used to provide production water to the plant. |
| 39 | Forklift Maintenance Area-Located Inside the Main Building | Active | Used oils & filters | Vehicles and tow motors are maintained in this area. No |
| 40 | Summer Acta Lote-Located Outside, SW Portion of Property | Inactive | Sulfuric Acid | Sulfuric acid metered into cooling tower to keep it clean. |
| 41 | Semi-Truck Staging Area-Located Outside, W of product Storage Area and N of AOC19 | Active | Fuel Oils, VOCs & SVOCs | Used for semi-truck staging as trucks enter the facility, load or unload at the bay on the NVV side of the facility, tarp their |
| 42 | Former Kerosene Tank-Located Inside in the Main Building by AOC14 (#1Hot & Cold Annealing and Pickling Line) | Inactive | | Jewel removed remaining portions of the #1 Cold Line (AOC14) in 2006; no tanks were left in place. All equipment, tanks, piping, and demolition debris from the removal of |

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| Ferrous Chloride Product Tank (AST)-Located Outside, S Side of Facility, Near AOC22 Active Metals Facility, Near AOC22 Side of Facility, Near AOC22 Active Metals Fuel Oil ASTs-Located Outside, S Edu of Main Building Not Outside, S Side of Plant Building VOCS and SVOCS VOCS and SVOCS Transformer Bank-Located Not Outside; N Side of Plant Building Not applicable PCBS PCBS Waste Storage Area - located Inactive Unknown Unknown Unknown PCBS Waste Storage Area - located Inactive Wot PCBS PCBS PCBS Waste Storage Area - located Unknown Inactive Unknown Unknown Information Waster/Glycol Fluid Tank-Location Unknown Not PCBS PCBS PCBS Water/Glycol Fluid Tank-Location Unknown Nater/Glycol Fluid Tank-Location Unknown Unknown Unknown Water/Glycol Fluid Tank-Location Unknown Millose (WMU 11) and Plant Metals VOCs, SVOCs, SVOCs, SVOCs, SVOCs, SVOCs, SVOCs, Not SVOCs, | | | Operating Status | cocs | Comments from PA/VSI or RFI/Corrective Action |
|--|----|--|----------------------------|---------------------------|---|
| Fuel Oil ASTs-Located Outside, SEInactiveVOCs and SVOCsof Main Buildingof Main BuildingVOCs and SVOCsVOCs and SVOCsTransformer Bank-LocatedNotPCBsTransformer Bank-LocatedNotPCBsOutside; N Side of Plant BuildingapplicablePCBsWaste Storage Area - locatedInactiveUnknownWaste Storage Area - locatedInactiveUnknownWaste Storage Area - locatedInactiveUnknownWater/Glycol Fluid Tank-LocationUnknown; noUnknownUnknownUnknownInformationUnknownPetroleum Product Pipeline- Underground Pipelines Between Oil House (WMU 11) and PlantActiveVOCs, SVOCs, MetalsMill Scale Release-Located Outside on N Side of WWTP, actual map location unknownInactiveMetals | 43 | Ferrous Chloride Product Tank (AST)-Located Outside, S Side of Facility, Near AOC22 | Active | Metals | Documents One 15,000-gallon tank. Upon termination of operation, this unit should be accessed and investigated and remediated if |
| Transformer Bank-LocatedNotOutside; N Side of Plant BuildingapplicablePCBsWaste Storage Area - locatedWaste Storage Area - locatedInactiveWaste Storage Area - locatedInactiveWater/Glycol Fluid Tank-LocationUnknown; noUnknownUnknownNater/Glycol Fluid Tank-LocationUnknown; noUnknownUnknownNater/Glycol Fluid Tank-LocationUnknown; noUnknownUnknownInderground Pipeline-ActiveUnderground Pipelines BetweenActiveNill Scale Release-LocatedInactiveMill Scale Release-LocatedInactiveOutside on N Side of WMTP,InactiveActual map location unknownInactive | 44 | Fuel Oil ASTs-Located Outside, SE of Main Building | Inactive | VOCs and SVOCs | 1996: Two 100,000, one 150,000, and one 20,000-gallon fuel oil ASTs depicted on map of property as it existed prior to 1949. ASTs removed, and area now covered with |
| Waste Storage Area - located unknown unknown Unknown Unknown Unknown Water/Glycol Fluid Tank-Location Unknown; no Unknown Unknown Unknown Unknown Water/Glycol Fluid Tank-Location Unknown; no Unknown Unknown Unknown Notocation Unknown Nater/Glycol Fluid Tank-Location Unknown; no Unknown Unknown Active Wocs, Nill Scale Release-Located Active Wocs, Mill Scale Release-Located Inactive Metals Outside on N Side of WW/TP, Inactive Metals | 46 | Transformer Bank-Located Outside; N Side of Plant Building | Not | PCBs | asphalt. PCB containing transformers were removed in stages from |
| Water/Glycol Fluid Tank-Location Unknown; no Unknown; no Unknown Unknown Unknown no Unknown Petroleum Product Pipeline- Underground Pipelines Between VOCs, Active VOCs, SVOCs, Metals Mill Scale Release-Located Mill Scale Release-Located Netals Outside on N Side of WMTP, actual map location unknown Inactive Metals | 48 | Waste Storage Area – located inside building; actual map location unknown | Inactive | Unknown | Numerous drums of baghouse dust from a cleanout were stored here at one time. This sectored here at one time. |
| Petroleum Product Pipeline- Underground Pipelines Between Oil House (WMU 11) and Plant VOCs, Active Mill Scale Release-Located Metals Mill Scale Release-Located Inactive Outside on N Side of WMTP, actual map location unknown Inactive | 49 | Water/Glycol Fluid Tank-Location Unknown | Unknown; no information | Unknown | 1996: one water/glycol fluid tank (4,000 gallons) |
| Mill Scale Release-Located Outside on N Side of WMTP, Inactive Metals actual map location unknown | 50 | Petroleum Product Pipeline- Underground Pipelines Between Oil House (WMU 11) and Plant | Active | VOCs, SVOCs, Metals | Pipes do not have secondary containment; are not periodically leak tested; and are greater than 10 years old as of 2000. The pipes were pressure tested during the RFI. Upon termination of operation, this unit should be |
| Outside on N Side of WMTP, Inactive Metals actual map location unknown | i | Mill Scale Release-Located | | | and investigated and remediated if necessary. |
| | 51 | Outside on N Side of WMTP, actual map location unknown | Inactive | Metals | Historically area where mill scale was stored; scale is currently managed in lined roll off boxed |

This table was created from information in the 1993 PA/VSI; the Voluntary Action Program's *Phase I Property Assessment of the Former J&L Steel Lagoons*, 1500 West Main Street; Louisville, Stark County, Ohio dated September 28, 2010; the facility's DOCC Report dated February 2015; the

UST = Under-ground storage tank RFI = RCRA Facility Investigation COC = Constituent of Concern

AST = Above-ground storage tank PCB = Polychlorinated biphenyl PA/VSI = Preliminary Assessment//Visual Site Inspection AOCs 27, 30, 45, 48, 49, and 51 could not be physically located for the purposes of the 2015 RFI.

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