VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

STATEMENT OF BASIS

Wilson Jones Company

Crozet, Virginia

EPA ID NO. VAD003124989
November 2019

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ATTACHMENTS

1.0 INTRODUCTION

1.1 Facility Name

The Virginia Department of Environmental Quality (VDEQ) has prepared this Statement of Basis (SB) for the Wilson Jones Company (formerly known as ACME Visible Records) Facility located at 5327 Three Notch'd Road, Crozet, Virginia 22932 (hereinafter referred to as the Facility, Site, or "WJC".)

The Facility is subject to the Corrective Action (CA) Program under the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA) of 1976, and the Hazardous and Solid Waste Amendments (HSWA) of 1984, 42 U.S.C. §§ 6901 et seq. (Corrective Action Program.) The Corrective Action Program is designed to ensure that certain facilities subject to RCRA have investigated and cleaned up any releases of hazardous waste and waste constituents that have occurred at their site.

Information on the Corrective Action Program can be found by navigating https://www.epa.gov/hwcorrectiveactionsites/corrective-action-resources-specific-epas-region-3.

VDEQ has prepared this Statement of Basis (SB) in cooperation with the United States Environmental Protection Agency (EPA) and is providing the opportunity for public comment and review on its proposed decision.

1.2 Proposed Decision

This Statement of Basis explains VDEQ's proposed decision that further actions to remediate soil and groundwater, also known as corrective measures, are necessary to protect human health and the environment given current and reasonably anticipated future land use. VDEQ's proposed decision requires the Facility to perform In-Situ Chemical Oxidation (ISCO) application to treat groundwater, perform long term groundwater monitoring, and maintain certain property mechanisms known as Institutional Controls (ICs) and Engineering Controls (ECs.) ICs are generally non-engineered mechanisms such as administrative and/or legal controls that minimize or eliminate the potential for human exposure to contamination. Engineering Controls are generally engineered mechanisms such as protective covers or caps. The proposed corrective measures objectives are discussed in Section 4.0 and the proposed remedy and controls are discussed in Section 5.0 below.

1.3 Public Participation

Interested persons are invited to comment on VDEQ's proposed decision by reviewing this SB and the documents contained in the Administrative Record (AR). The information presented in this SB can be found in greater detail in the work plans and reports submitted by the Facility to VDEQ and EPA. To gain a more comprehensive understanding of the RCRA activities that have been conducted at the Facility, VDEQ encourages the public to review these documents, which are found in the AR. A copy of the AR is available for public review from the VDEQ contact person, for which contact information is provided in Section 9.0 below.

When making a determination regarding the proposed decision, VDEQ will consider all written comments received during the comment period (see Section 9.0.) If VDEQ determines that new information or public comments warrant a modification to the proposed decision, VDEQ will modify the proposed decision or select other alternatives based on such new information and/or public comments. Each person who has submitted comments will receive a written response from VDEQ. VDEQ will then incorporate the applicable portions of the final remedy into the Permits after comments have been addressed.

2.0 FACILITY BACKGROUND

The Wilson Jones Company (WJC) facility, which shall interchangeably be referred to as "the site" or "the facility," is located at 5327 Three Notch'd Road (Virginia State Route 240) in the community of Crozet, Virginia. The site is positioned south of Virginia State Route 240 and approximately 1 mile east from the intersection of Virginia State Routes 240 and 810 and 1.5 miles west from the intersection of Virginia State Routes 240 and 250. This property is currently zoned light industrial/commercial (as defined in the Crozet Master Plan – Albemarle County, August 2010.) A site location map is included as Figure 1.

The site is 62 acres in area and is bisected by an active railway and an easement owned and operated by the former Chesapeake and Ohio Railway Company, now integrated with CSX. The local rail corridor in this area is currently leased from CSX by Buckingham Branch Railroad. The entire property consists of seven parcels each identified with a unique parcel identification (ID) number (see Figure 1.) The northern portion of the site historically included several structures, which have been demolished incrementally over time. Most notably, demolition activities were completed for the final three buildings during years 2013 and 2014, which included the former main manufacturing building, a separate warehouse formerly utilized as an assembly and manufacturing area (i.e., most recently leased by a private carpentry business), and a former residential structure formerly used as a credit union. The concrete foundation slabs and below-ground infrastructure currently remain for both the former main manufacturing building and the former assembly and manufacturing building. Additional minor demolition activities were performed during June and July 2018 to remove several surface structures located on the south side of the WJC site. These structures were associated with the former small wastewater treatment facility and were removed in order to facilitate the soil Interim Measures excavation and disposal task.

Solid Waste Management Units (SWMUs) 1 through 5 and Areas of Concern (AOCs) 1 through 4 (former Production Well No. 2) and AOC 6 are located on the northern portion of the property (see Figure 1.) The southern portion of the site includes SWMU 6 (former Wastewater Lagoon) and associated (abandoned) process piping, SWMU 7 (former Incineration Ditches 1, 2a/b, 3, and a "burn pit"), AOC 4 (former Production Wells No. 1 and No. 3), and AOC 5 (former Sand Filter Beds 1 through 4.)

To the north of Virginia State Route 240 across from the WJC site are several light industrial and commercial properties and also several residential properties. Light industrial and commercial businesses border the site to the west and the north-northwest.

The southern portion of the site is bordered by an undeveloped wooded area. Farther to the southeast, south, and southwest of the site there is an expanding housing development. Currently this residential area border has expanded to the southeastern, southern, southwestern, and western site boundaries.

2.1 History of Facility Ownership and Operation

Prior to 1950, when the main manufacturing building was constructed, the property was zoned residential/agricultural. In 1954 the facility, operating under the name Acme Visible Records (AVR), began manufacturing records storage and retrieval equipment. In 1984, AVR merged with WJC. AVR continued to manufacture office/record storage equipment until December 1988 when the building assets were sold by WJC to AVR, Inc. Subsequently, metal-handling operations ceased and production shifted to manufacturing of printed folders. The facility was operated by AVR, Inc., from 1989 until December 1992, when the property was purchased a second time by WJC and all business assets were purchased by Acme Design Technology Co. Note that WJC remains the landholder of record.

Manufacturing operations at the site ceased in approximately 2001. All production equipment associated with the former manufacturing operations was demobilized and/or removed from operation. Subsequently, portions of the former main manufacturing building were periodically leased for

storage/warehousing. WJC also leased the former smaller adjacent warehouse building (referred to as the carpentry building) located to the east of the former main manufacturing building to Blue Ridge Builders, LLC. Subsequently, this smaller warehouse was leased to two independents for woodworking operations related to craftsman cabinetry, furniture, and stair production.

From November 2013 through March 2014, the three remaining aforementioned buildings were demolished and the building materials and debris were subsequently recycled and/or disposed off-site. Both the former main manufacturing building and the small adjacent warehouse building were demolished to their respective concrete slabs. The former credit union building was demolished below grade and backfilled with clean fill dirt to match the surrounding grade and seeded for stabilization.

2.2 Solid and Hazardous Waste Generation, Storage, and Disposal

Process residuals (i.e., paint-related solvents and spent-paint products) and other solid wastes were historically disposed of and also incinerated at SWMU 7 (former Incineration Ditches) from 1954 to 1975. From 1975 to 1981, solid wastes were disposed of at the Albemarle County Landfill. After 1981, the dumpster located on the eastern side of the main manufacturing building was used for containerization of solid wastes. In 1983 the WJC site was designated as a Large Quantity Generator (LQG) (United States Environmental Protection Agency [U.S. EPA] Identification [ID] VAD003124989) under RCRA regulations.

From 1954 to 1975, process wastewaters were discharged to SWMU 6 (former Wastewater Lagoon), which was located in the southern portion of the site. The process wastewaters were derived from sources in the former main manufacturing building, including but not limited to paint spray booth waterfalls, hot- and cold-stripping rinse activities, the metal fabrication area, and various sinks and floor drains. Outfall from the lagoon into an on-site tributary (sometimes referred to as Powells Branch Creek) to Lickinghole Creek was permitted under State Water Control Permit No. 836 by the Virginia State Water Control Board from 1954 to 1976.

From 1976 to 1981, on-site treatment of industrial and sanitary wastewaters was conducted, which included effluent discharge into the on-site tributary to Lickinghole Creek under National Pollutant Discharge Elimination System (NPDES) Permit VA0003522. The NPDES permit was reissued in November 1985 and was revoked in 1987, at which point all wastewater was diverted to the regional sewer system via Industrial Waste Discharge Permit Number 012. From 1986 to the present day, SWMU 6 (former Wastewater Lagoon) has been classified as a closed hazardous waste surface impoundment and it is currently regulated by the facility's *Hazardous Waste Management Permit* (US EPA ID No. VAD003124989.) The current *Hazardous Waste Management Permit for Corrective Action* was issued for the WJC site with a corresponding effective date of August 4, 2010, through August 4, 2020.

The WJC site has historically been a Very Small Quantity Generator (VSQG) of hazardous waste. Between 2009 and the present, the WJC site has transitioned between VSQG status and large quantity generator (LQG) status a number of times. The LQG status was requested to manage RCRA characteristic hazardous waste as part of interim corrective measures related to soil and groundwater Interim Measures (IM.)

2.3 Former Underground Storage Tanks

Petroleum products (i.e., gasoline and fuel oil) and reclaimed solvents (i.e., xylenes), which were utilized in former site operations, were historically stored in seven underground storage tanks (USTs) previously located on the northern portion of the site, as shown on Figure 1. They included the following:

- Two 1,000-gallon USTs for containment of gasoline were initially installed in 1965 near the eastern side of the main manufacturing building, and a third 1,000-gallon UST for unleaded gasoline was subsequently added to this tank pit (Tank Pit No. 1);

- Two USTs were installed in 1975 adjacent to the east side of the main manufacturing building near SWMU 3 (Solvent Reclamation Still), which included a 10,000-gallon fresh solvent (i.e., xylene) UST and a 2,000-gallon UST used for reclaimed solvents (Tank Pit No. 2);
- A 500-gallon UST, which contained heating oil, was installed adjacent to a former guard house near Three Notch'd Road/State Route 240 (Tank Pit No. 3); and
- A 20,000-gallon heating oil UST was installed in 1950 within the main manufacturing building, directly underlying the paint shop (Tank Pit No. 4.)

3.0 SUMMARY OF ENVIRONMENTAL HISTORY

3.1 Environmental Investigations

Below is a summary of the Facility's environmental investigations.

3.1.1 1988-1992 Trenches Investigation (i.e., SWMU 7)

In 1988 the site began an investigation of the suspected ditch area and trenches associated with the Former Incineration and Disposal Trenches. The suspected area was initially investigated in 1988 by conducting a soil gas survey and magnetometer to identify the location of the ditches. A follow up sampling effort consisting of three test pits was then conducted. Observations from this sampling event identified stained materials and other solids in these areas. Analysis of soil samples collected from the suspected ditch disposal area indicated the presence of VOCs.

Between 1991 and 1992 additional soil and groundwater investigation were conducted. Twenty-eight (28) soil borings were advanced to evaluate the vertical extent and nature of buried residual material in the trenches. Twenty-six (26) test pits were installed. Additionally, six (6) monitoring wells were installed to characterize the groundwater quality in the area of the trenches.

Results of the soil and groundwater sampling indicated elevated levels of VOCs and metals, which in most cases, coincided with the location of waste material.

3.1.2 RCRA Facility Investigation

During the performance of the Phase I and Phase II Resource Conservation and Recovery Act (RCRA) Facility Investigations (RFIs), 13 Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) were identified on the WJC site. SWMUs 1 through 5 and AOCs 1 through 4 and 6 are located on the northern portion of the property. The southern portion of the site includes SWMU No. 6, SWMU No. 7, AOC 4, and AOC No. 5.

A site layout map is included as Figure 1 showing the location of each SWMU and AOC at the WJC Site. The following table lists each SWMU and AOC.

Table 1: SWMU and AOC Identification Table

Identification	SWMU/AOC Name
SWMU #1	**Former Hazardous Waste Storage Area**
SWMU #2	**Former Solid Waste Storage Area**
SWMU #3	**Former Solvent Reclamation Still**
SWMU #4	**Former Spray Paint Booths**
SWMU #5	**Former Plant Trash Dumpster**
SWMU #6	**Former Wastewater Lagoon**
SWMU #7	**Former Incineration and Disposal Trenches (1, 2A/2B, 3, Burn Pit)**
AOC #1	**Former Degrease and Caustic Bath**
AOC #2	**Former Sumps (1 and 2) in Main Plant**
AOC #3	**Former USTs (Tank Pits 1, 2, 3, 4)**
AOC #4	**Former Potable Wells (groundwater)**
AOC #5	**Former Sand Filter Beds**
AOC #6	**Former Metal Fabrication Area**

Throughout the course of the related manufacturing operations, undocumented spills and/or leaks (predominantly chlorinated solvents) occurred. Concentrations of contaminants of concern (COCs) such as trichloroethene (TCE) were first detected within the three bedrock production wells in 1988. TCE was detected at an average concentration of 700 micrograms per liter (µg/L.) These detections resulted in ceasing the use of the production wells for potable consumption and manufacturing operations. Chlorinated solvent impacts were focused within two primary areas including AOC No. 6 (former Metal Fabrication Area) and the area surrounding Environmental Indicator (EI) monitoring well EI-2, located down-gradient of Tank Pit No. 1 (AOC 3.) In brief, the site impacts were documented as follows:

- Soil and groundwater analytical data presented within the *Phase I RFI Work Plan–Revision 1* identified that AOC 6 was impacted by PCE, TCE, and cis-1,2-DCE within unsaturated soils, the saturated overburden, and fractured bedrock as deep as 110 feet below land surface (bls.) Dissolved-phase impacts of PCE, TCE, and cis-1,2-DCE were also observed within down-gradient nested monitoring well locations MW-19 and MW-20;

- Four rounds of groundwater data collected during 2007, which were detailed within the *Phase I RFI Report–Groundwater*, confirmed that the primary chlorinated solvent source areas (and resultant groundwater impacts) were derived from AOC 6 and the area around monitoring well EI-2;

- Deeper monitoring wells were installed within AOC 6 in accordance with the *IMPMP–Revision 1*. As reported in the *IM Implementation Report–Volume I*, groundwater analytical results indicated that the greatest concentrations of chlorinated solvents within AOC 6 were located within the saturated overburden and upper portion of competent bedrock and that concentrations decreased with depth. In the EI-2 area, TCE impacts were observed to a depth of 100 feet bls within three remediation wells installed surrounding well EI-2. In addition to chlorinated solvent impacts, soil and shallow groundwater petroleum impacts were identified within the EI-2 area, which is directly down-gradient of the three former gasoline USTs associated with AOC 3; and

- As reported in the *IM Implementation Report–Volume II*, additional soil borings, well installations, and investigative activities were conducted within the EI-2 area and between the EI-2 area and AOC 6. The results from these investigations indicated that the EI-2 area and AOC 6 were separate source areas, which commingle within the overburden. Further petroleum impacts were observed in shallow soils within the EI-2 area and at nested monitoring wells MW-53. Chlorinated solvent impacts within the

EI-2 area were detected in fractured bedrock but at concentrations significantly less than what was observed in the overlying saprolite.

3.1.3 Environmental Indicators (EIs)

WJC was required to document the status of the EIs for the site, including *Current Human Exposures Under Control* (Human Health EI) and *Migration of Contaminated Groundwater Under Control* (Groundwater EI.) The EIs were originally submitted to VDEQ on March 28, 2002. The Human Health EI was designated as "Under Control" during 2008; however, the Groundwater EI was classified as "IN," which indicated that there was insufficient information to determine whether conditions were "Under Control." VDEQ issued a letter dated August 30, 2002, stating that the following items were necessary in order to reach an "Under Control" classification for the Groundwater EI:

- Provision of supplemental data to document stabilized migration of contaminated groundwater;
- Quantification of discharges to surface water and the concentrations of contaminants in the surface water; and
- Confirmation of the groundwater flow direction and water quality at the southeast portion of the property, in the vicinity of SWMU 7 (former Incineration Ditches.)

In response to the "IN" classification of the Groundwater EI, Groundwater & Environmental Services, Inc. (GES) performed Phase I and Phase II EI Investigations to collect additional data to support a reevaluation of the Groundwater EI as "Under Control." The results of these investigations and a proposed justification for the "Under Control" designation of the Groundwater EI were submitted to VDEQ in January 2005 and August 2005, respectively. However, in October 2005, VDEQ provided comments to the *Phase II EI Site Investigation Summary Report* and also indicated that VDEQ still could not support the reclassification of the Groundwater EI to "YES" at that time.

Additional assessment activities conducted at the site from 2005 to 2009 were incorporated into a *2009 Groundwater EI Update* letter, which was submitted to VDEQ in September 2009. Subsequently, VDEQ stated they still could not support reclassification of the Groundwater EI to "YES" at that time.

GES performed interim measures from 2008 through 2012 in order to reduce the VOC concentrations in below-grade soils at the suspected source areas (AOC 6 and EI-2 area) for groundwater contamination. In addition, at the request of VDEQ, a comprehensive EI groundwater sample collection event was conducted in July 2010 at the site. Groundwater impacts were reported in a *2010 Environmental Indicator Update* and were consistent with those presented in the previous *2009 Groundwater EI Update* letter. GES prepared a *2012 Environmental Indicator Update*, which included data derived during the interim measures activities. Following regulatory review of the *2012 Environmental Indicator Update*, a positive response of "YES" was received from VDEQ, via letter correspondence dated November 6, 2012.

3.2 Closure and Environmental Remediation/Remedial Activities

Below is a summary of the Facility's closure activities and remedial action activities.

3.2.1 Former Wastewater Lagoon (SWMU 6) Closure

In accordance with the approved Lagoon Closure, Contingent Closure, and Contingent Post-Closure Plans (or Closure Plan) for the AVR, Inc., Facility Located in Crozet, VA, closure of SWMU 6 (Former Wastewater Lagoon) occurred on April 12, 1993. Closure of SWMU 6 consisted of the removal of residual sludge and subsoil and the construction of a final cover system containing a 30-millimeter polyvinyl chloride synthetic membrane liner, a polyethylene synthetic drainage net, non-woven geotextile, and two feet of soil cover. Following closure, a Post Closure Care Permit (VAD003124989) (VDEQ, 1999) was issued to WJC in 1999

to address residual environmental impacts associated with SWMU 6 and groundwater monitoring. SWMU 6 is now managed under the current Hazardous Waste Management Permit for Corrective Action.

3.2.2 Underground Storage Tanks [AOC 3 (Tanks Pits 1, 2, 3, and 4)] Closures

The former USTs described in Section 2.0 above have been identified as AOC 3 and are grouped by the four associated tank pits.

On January 26, 1993, a formal *30-Day Notification of UST Closure* was submitted to the Virginia State Water Control Board UST Program and a fire prevention application/permit was submitted to the County of Albemarle Fire-Rescue Administration. Closure activities (excavation and removal) for these USTs were conducted from June 7 to June 14, 1993, by SCA Environmental Technology, Inc. The 20,000-gallon heating oil UST, which is located beneath the concrete foundation pad for the former main manufacturing building, was abandoned in place by filling with a cement-grout slurry.

3.2.3 Interim Measures (IMs)

The following summarizes interim corrective measures that have been completed at the WJC site.

3.2.3.1 February 2011 to March 2012

IMs were performed (February 2011 to March 2012) with the objectives to remediate/ reduce chlorinated solvent impacts within AOC 6 and the EI-2 area and petroleum impacts in the EI-2 area.

In AOC 6 a combination of soil vapor extraction (SVE) and Enhanced Bioremediation technologies were operated to reduce the chlorinated ethene impacts within the underlying vadose zone, saturated overburden, and fractured rock. SVE operation extended from February 2011 to March 2012, and removed approximately 251 pounds of target constituents of concern (COCs.)

Enhanced Bioremediation activities commenced in May 2011, and included quick-release electron donor injection into the saturated overburden, via dedicated injection wells, and into underlying fractured rock via a groundwater recirculation system. In the fractured rock, reducing conditions were established in the recirculation zone, chlorinated ethene reductive dechlorination was observed, and reductive dechlorination potential extended from the treatment zone to down-gradient monitoring wells in fractured rock.

In the area surrounding environmental indicator well EI-2, chemical oxidation was conducted from May to June 2011 to reduce concentrations of petroleum constituents and chlorinated ethenes in the saturated overburden, reduce the associated mass flux, and promote decreasing trends of site COCs in down-gradient monitoring wells. In the petroleum-affected, shallow, saturated overburden; reductions in target COCs were observed to decrease 54% to 75% by six (6) months following oxidation by ozone and hydrogen peroxide. Decreases of chlorinated ethenes were also detected in the deep saturated overburden following permanganate treatment.

3.2.3.2 April 2018 through April 2019

Additional IMs for soil were initiated and performed during April through August, 2018 at select AOCs and SWMUs. These IM tasks included the excavation and disposal of soil removed from both the north side (SWMU 2, AOC 1, AOC 2, and AOC 3) and the south side (AOC 5 and SWMU 7) at the WJC site. In total 16,752.49 tons of both solid and hazardous waste material were removed from the site during this time period. These areas were backfilled with clean soil after confirmatory soil samples indicated the limits of contaminated soil had been removed to below industrial screening levels. The remedial actions completed for these AOCs and SWMUs are documented in the *1st and 2nd Quarterly Interim Measures Reports*.

Also, IMs for soil were performed during October 2018 through April 2019 for AOC 6 and SWMU 3. Soil blending processes using chemical oxidation was performed in these areas and confirmatory sampling

indicated that constituent concentrations had been reduced to industrial screening levels. The IM activities completed for these areas are documented in the *Interim Corrective Measures Soil Summary Report*.

3.3 Current Environmental Conditions

The following section presents the current environmental conditions at the site.

3.3.1 Soil

At the WJC property, there are seven SWMUs (1 through 7) and 5 AOCs (1, 2, 3, 5, and 6) identified with COCs in soil. Based on the current concentrations of the COCs, when compared to the industrial soil regional screening levels (RSLs), it has been determined by VDEQ that industrial RSLs have been achieved site-wide for soil and no further investigation is or will be necessary.

3.3.2 Groundwater

Semiannual groundwater and surface water sampling is being conducted in accordance with the VDEQ approved *Groundwater Monitoring Plan Rev 02*. The groundwater and surface water sampling locations are shown in Figure 2.

The most recent 2017 groundwater sampling data indicates concentrations of total chlorinated VOCs appear to be stable when compared to previous total chlorinated VOCs contaminant plume mapping. The area of highest total chlorinated VOCs continues to be located in the vicinity to AOC 6. This contaminant plume extends to the south, west, and east along the observed groundwater potentiometric surface gradient and extends toward the perennial stream to the southwest and the intermittent stream to the southeast. Figure 3 illustrates the extent and concentrations of the chlorinated VOCs contaminant plume as of October 2018.

Table 2: COCs Detected Above Maximum Contaminant Level (MCLs)

Constituent	MCL (µg/L)	2017 Maximum Conc. (µg/L)	Exceed MCL in Well ID: (Well with Max Conc. in bold)
Benzene	5	42	**MW-63B**
Cis-1,2-DCE	70	420	MW-20A, **MW-20B**, MW-20C
1,1-Dichloroethene (1,1-DCE)	7	11	**MW-19C**, **MW-20B**, MW-20C
PCE	5	1500	MW-15, MW-17, MW-19A, MW-19B, MW-19C, **MW-20A**, MW-20B, MW-20C, EI-3
1,1,2-Trichloroethane (1,1,2-TCA)	5	180	MW-19A, MW-19B, **MW-19C**, MW-20B, MW-20C, MW-63B, EI-3
TCE	5	2300	MW-19A, MW-19B, MW-19C, **MW-20A**, MW-20B, MW-20C, MW-62B, MW-63A, EI-3
Vinyl Chloride	2	8.6	**MW-8i**

MCL exceedances of chlorinated VOCs are observed in groundwater samples collected from monitoring wells EI-3 and MW-17 and at monitoring well clusters MW-19A/19B/19C and MW-20A/20B/20C. These COC exceedances are attributable to the contaminated soil beneath the former Main Manufacturing Building's concrete floor slab at AOC 6 and also to the historical migration of the VOCs contaminant plume in groundwater.

MCL exceedances of TCE in groundwater samples collected from monitoring wells MW-62B and MW-63A/63B and 1,1-DCE and benzene concentrations in groundwater samples collected from monitoring well MW-63B are also likely associated with AOC 6 and the EI-2 area. The MCL exceedance of VC concentrations observed in groundwater samples collected from monitoring well MW-8i are likely attributable to SWMU 6 (former Wastewater Lagoon.) VC is a daughter compound related to biodegradation of chlorinated volatile organics and is a probable remnant of previous remediation efforts using *in situ* anaerobic bioremediation during the late 1990s. The groundwater in this area continues to exhibit anaerobic conditions (low to no dissolved oxygen concentrations and low to negative ORP measurements), which supports dechlorination of PCE and TCE to VC.

Where a specific COC does not have an MCL, the groundwater sample analytical data are compared to the corresponding Tap Water Regional Screening Level (RSLs), where relevant.

Table 3: COCs Detected Above Tap Water Regional Screening Level (RSLs)

Constituent	Tap Water RSL (µg/L)	2017 Maximum Conc. (µg/L)	Exceed RSL in Well ID: (Well with Max Conc. in bold)
1,1-Dichloroethane (1,1-DCA)	2.4	43	**MW-12D**, MW-66C
1,2-Dichloroethene (1,2-DCE)	130	420	MW-20A, **MW-20B**, MW-20C
2-Methylnaphthalene	27	35	MW-62B
1,4-Dioxane	0.67	9.5	MW-8D, **MW-12D**, MW-19C, MW-20B, MW-20C, MW-66C
Naphthalene	0.14	26	MW-12D, **MW-62B**, MW-63B, MW-66C
beta-BHC	0.022	0.03	MW-10
Iron	11000	35000	MW-8, MW-8D, MW-10i, **MW-11i**
Manganese	320	39000	MW-5, MW-7, MW-8, MW-10i, MW-11i, MW-12D, MW-62B, **MW-63B**

3.3.3 Surface Water

There are seven surface water sampling stations (SW-1A, SW-1B, SW-1, SW-2, and SW-3, SW-East-2, and SW-East-3) (see Figure 2.) Surface water sampling stations SW-1, SW-1A, and SW-1B are located in two (2) small tributaries that flow down gradient to Lickinghole Creek. These two (2) tributaries are located to the west and south along the southern portion of the WJC site. Surface water sampling stations SW-2 and SW-3 are located farther down gradient to the south of surface water sampling station SW-1. Surface water sampling stations SW-East-2 and SW-East-3 are located in an intermittent stream located to the east-southeast trending along the southern portion of the WJC site.

Historical surface water analytical data for samples collected during 2004 indicate that PCE concentrations of approximately 80 micrograms per liter (µg/L) and TCE concentrations greater than 1,000 µg/L were detected. These surface water samples were collected along the west-southwest boundary of the southern portion of the property near surface water sample station SW-1B. However, the most recent analytical data (2017 data) continue to reflect lower concentrations of PCE (72 µg/L) and TCE (4.3 µg/L) in the surface water sample collected near sampling station SW-1B.

PCE and TCE were also detected in the 2017 surface water samples collected from down gradient sampling station SW-1 at concentrations of 18 µg/L and 1.1 µg/L, respectively. Analytical data for surface water samples collected from SW-1A indicate that no COCs were detected above applicable risk based screening levels (RBSLs) for VOCs, SVOCs, or metals. Both surface water sampling stations SW-1 and SW-1A are located in close proximity to SW-1B and the confluence of two distinct stream tributaries for Lickinghole Creek.

Sampling station SW-2 is located approximately 250 feet downstream from sampling station SW-1. PCE was also detected in surface water samples collected from down gradient sampling station SW-2 at a concentration of 4.3 µg/L (below RBSLs.) No TCE was detected in surface water samples collected from SW-2.

Analytical data for surface water samples collected from farther down gradient sampling station SW-3 (located approximately 680 feet downstream) indicate that no COCs (VOCs, SVOCs, or metals) were detected above applicable RBSLs at this location. The 2017 annual (October) analytical data continue to indicate that concentrations of COCs diminish to below the applicable surface water standards between surface water sampling stations SW-2 and SW-3 prior to the stream waters leaving the southern portion of the WJC site's property.

3.3.4 Existing Institutional Controls

The current deed for the WJC property includes a deed restriction, or "Notice of Environmental Closure" identifying an area of 'restricted use'. This area of restricted use is related to the environmental closure of the former wastewater surface impoundment (SWMU 6.) This portion of the property was used for the treatment of wastes, including wastes deemed hazardous by the VDEQ.

WJC submitted a Land Use Assumption document (June 2013) to the VDEQ which provided the basis for an industrial land use assumption. The Crozet Master Plan – Albemarle County (August 2010) identifies the zoning for the WJC property as light industrial/commercial property. Subsequently, the VDEQ provided their concurrence (December 2013) that the corrective action activities for WJC property could move forward based on an industrial use scenario for the facility.

4.0 CORRECTIVE ACTION OBJECTIVES

A. Soil and SWMU 6

VDEQ has determined that industrial risk-based levels are protective of human health and the environment for individual contaminants at this Facility provided that the closed RCRA unit (SWMU 6) and the specific parcels noted below are not used for residential purposes. Deed restrictions prohibiting residential use will be imposed by the Facility's Permit or a future Uniform Environmental Covenants Act (UECA) covenant. Accordingly, VDEQ's Corrective Action Objectives for these Facility areas are the following:

1. To control exposure to the hazardous constituents remaining in place by requiring compliance with and maintenance of land use restrictions at the Facility. This restriction will only apply to parcel IDs: 056A3-00-00-01200, 05600-00-00-08300, and 05600-00-00-09400;
2. An agency approved Materials Management Plan will be required for any soil excavation and/or management within the Facility parcel IDs noted above; and
3. To prevent infiltration of stormwater and control exposure to the hazardous constituents remaining in place in the closed RCRA unit (SWMU 6) by requiring existing RCRA cap to be maintained at the Facility. This restriction is currently imposed by the Facility's Permit.

B. Groundwater

VDEQ has determined that drinking water standards, namely Maximum Contaminant Levels (MCLs) or Tap-Water Regional Screening Levels (RSLs) for constituents that do not have an MCL, for COCs in groundwater at the Facility are protective of human health and the environment. VDEQ's Corrective Action Objectives for Facility groundwater are the following:

1. To control exposure to the hazardous constituents in the groundwater by requiring compliance with and maintenance of a groundwater use restriction at the Facility as long as drinking water standards are exceeded. This restriction will be imposed by the Facility's Permit or a future UECA covenant;
2. To reduce and/or stabilize constituent concentrations in groundwater using in-situ chemical oxidation (ISCO) technology or other groundwater remediation technology approved by the VDEQ; and
3. To monitor stability and/or attenuation of concentrations of the following hazardous constituents in groundwater until drinking water standards are met.

Table 4: Remedial Cleanup Goals

Constituent	Remedial Goal * (ug/L)	Basis
Benzene	5	MCL
cis-1,2-Dichloroethene (cis-1,2-DCE)	70	MCL
1,1-Dichloroethene (1,1-DCE)	7	MCL
Tetrachloroethene (PCE)	5	MCL
Trichloroethene (TCE)	5	MCL
1,1,2-Trichloroethane (1,1,2-TCA)	5	MCL
Vinyl Chloride (VC)	2	MCL
1,1-Dichloroethane (1,1-DCA)	2.4	Tap Water RSL
1,2-Dichloroethene (1,2-DCE)	130	Tap Water RSL
2-Methylnaphthalene	27	Tap Water RSL
1,4-Dioxane	0.67	Tap Water RSL
Naphthalene	0.14	Tap Water RSL
beta-BHC	0.022	Tap Water RSL
Iron	11000	Tap Water RSL
Manganese	320	Tap Water RSL

* The Facility may elect to establish site-specific background concentrations in accordance with established procedures, and utilize the site-specific background concentrations as the remedial goal upon approval by VDEQ. Alternatively, VDEQ may approve other risk-based criteria as the remediation goal.

ug/L = micrograms per liter

C. Indoor Air

VDEQ's Corrective Action Objective for indoor air is to control exposure to volatile hazardous constituents in indoor air by requiring the use of vapor mitigation in or beneath existing and any newly constructed totally enclosed structures designed for occupation within 100 feet of the foot print of groundwater having site-related VOCs and SVOCs identified above protective levels (MCLs/RSLs), unless it is demonstrated to VDEQ that vapor mitigation is not necessary to protect human health. This requirement will be imposed by the Facility's Permit or future UECA covenant.

5.0 SUMMARY OF PROPOSED REMEDY

A. Summary

Under this proposed remedy, VDEQ is requiring the following actions:

1. Maintain existing engineering controls consisting of a RCRA cap at SWMU 6 (former wastewater impoundment.) Continue to conduct routine inspections, documentation, and maintenance of the controls and cap;
2. Conduct active groundwater remediation using in-situ application or other remediation technology approved by VDEQ;
3. The Facility shall continue to monitor groundwater pursuant to an approved groundwater monitoring plan, and any revisions thereto, until such time as it can be shown that the concentrations of hazardous constituents have met the remedial goals or until such time as it can be shown that the concentrations of hazardous constituents demonstrate a generally stable or decreasing trend. The Facility shall continue the groundwater monitoring program to confirm stabilization and/or reductions in hazardous constituents on site, and to confirm hazardous constituents do not migrate beyond the Facility boundary at concentrations above their respective standards. The groundwater monitoring program will include sampling and analysis of hazardous constituents necessary to confirm the above conditions, taking into consideration previous groundwater data collected from the site; and
4. Maintain compliance with land use restrictions and institutional controls. Institutional controls will be imposed by the Facility's Hazardous Waste Management Permit or future UECA covenant, and include the following:

    a. The following Facility parcels shall not be used for residential purposes or for children's (under the age of 16) daycare facilities, schools, or playground purposes: parcel IDs 056A3-00-00-01200, 05600-00-00-08300, and 05600-00-00-09400;
    b. Groundwater beneath the property shall not be used for any purposes except for environmental monitoring and testing, or for non-contact industrial use as may be approved by VDEQ. Any new groundwater wells installed at the Facility must be approved by VDEQ;
    c. Excavation and disturbance of the RCRA capped area (SWMU 6) shall be prohibited without prior approval from the VDEQ;
    d. Future modifications at the property, that could be reasonably understood to adversely affect or interfere with the integrity or protectiveness of the final remedy, will be evaluated by VDEQ to identify and address unacceptable potential impacts or interferences with corrective measures or Facility environmental conditions. VDEQ shall approve any requested removal, disturbance, or alteration at the property, including, but not limited to groundwater monitoring wells, unless the removal, disturbance, or alteration violates a deed restriction or creates unacceptable risk to human health or the environment; and
    e. Vapor intrusion mitigation measures shall be installed in any existing or newly constructed totally enclosed building(s) designed for occupation within 100 feet of the footprint of groundwater having site-related VOCs and SVOCs identified above protective levels, unless it is demonstrated to VDEQ that vapor mitigation is not necessary to protect human health. The method of assessment will be based on current VDEQ and/or EPA risk assessment guidance. Vapor intrusion mitigation measures may be waived with VDEQ

approval based upon a demonstration that mitigation measures are not necessary for protection of human health.

B. Implementation

VDEQ proposes to implement the remedy through the Facility's Hazardous Waste Management Permit or future UECA covenant. Therefore, VDEQ does not anticipate any regulatory constraints in implementing its remedy.

C. Reporting Requirements

Compliance with and effectiveness of the proposed remedies and engineering and institutional controls at the Facility shall be evaluated and included in groundwater monitoring and corrective measures implementation reports. The Facility shall report to the Department whether the engineering and institutional controls are being observed.

6.0 EVALUATION OF VDEQ'S PROPOSED DECISION

This section provides a description of the criteria VDEQ used to evaluate the proposed decision for the WJC site, consistent with EPA guidance. The criteria are applied in two phases. In the first phase, VDEQ evaluates three decision threshold criteria as general goals. In the second phase, VDEQ then evaluates seven balancing criteria to determine if the proposed decision provides the best relative combination of attributes.

RCRA Threshold Criteria:

- Remediation/Control of Sources of Releases
- Overall Protection of Human Health and the Environment
- Compliance with Media Standards and Objectives

RCRA Balancing/Evaluation Criteria:

- Long-term Effectiveness and Permanence
- Toxicity, Mobility, and Volume Reduction
- Short-term Effectiveness of Remedy and Human Exposure
- Implementability
- Capital Cost/Operations and Maintenance Costs
- Community Acceptance
- State/Support Agency Acceptance

6.1 RCRA Threshold Criteria

6.1.1 Remediation/Control of Sources of Releases

The WJC Facility is no longer in operation and no ongoing potential production process sources remain. All buildings have been demolished down to their concrete slabs and equipment associated with the former operations has been removed from the site. Recent completed Interim Measures (IMs) performed during 2017 into 2019 have successfully removed soil related source materials to their respective screening levels (Industrial Direct Contact.)

Concerning AOC 4 (groundwater plume) - ISCO is a proven technology for source area treatment of chlorinated VOCs in groundwater. The prior use of in-situ treatment at the Facility to date (SWMU 6) has demonstrated its effectiveness for the groundwater plume conditions at the WJC site. Based on the groundwater monitoring conducted to date, the groundwater plume has not migrated off-site. The potential for future migration of the impacted area will be controlled through targeted treatment of the impacted groundwater. Site-wide groundwater monitoring will continue to be performed in accordance with the *Groundwater Monitoring Plan*, with VDEQ approved revisions as necessary.

6.1.2 Overall Protection of Human Health and the Environment

Based on the results of investigations all known sources of contamination have been characterized. The completed IMs have addressed significant contamination including the source material. The proposed remedy includes institutional controls which protects human health and the environment from potential exposure to remaining hazardous constituents in groundwater, indoor air, and in soil. The proposed remedy also includes further groundwater remediation which will further reduce the concentrations in groundwater and ultimately provide additional protection to human health and the environment.

6.1.3 Compliance with Media Standards and Objectives

The target remediation standards (industrial direct contact) for soils have been achieved through completion and documentation of the IMs.

The target remediation objectives established by VDEQ for organic constituents in groundwater (see Section 4.0 above) can be reasonably achieved in selected locations by the proposed ISCO remedy when combined with long-term natural attenuation processes. Ongoing and long-term groundwater monitoring will be utilized to confirm that the remedy is effective in reducing constituent concentrations. The technology is proven to be effective in remediating and reducing organic constituents in groundwater.

6.2 RCRA Balancing/Evaluation Criteria

6.2.1 Long-Term Effectiveness and Permanence

The completed excavations (at previously specified AOCs and SWMUs) and ISCO soil blending (at AOC 6 and SWMU 3) activities have removed constituent exceedances of the Industrial Direct Contact in soil (above the water table.) The excavation and off-site disposal of soils and debris in the previously specified AOCs and SWMUs provides a permanent solution since contaminated material was disposed off-site in engineered and monitored disposal facilities.

The proposed ISCO solution for groundwater treatment serve as a permanent solution by destroying contaminants that come into contact with the oxidant. In addition, the ISCO injections to occur in AOC 4 can be repeated if future groundwater monitoring events indicate increasing or static concentrations. Routine groundwater monitoring will be employed to evaluate continued effectiveness until requiring modifications or being deemed unnecessary. In addition, natural attention of organic constituents is expected to occur long-term and further reduce groundwater concentrations.

6.2.2 Toxicity, Mobility, and Volume Reduction

The completed excavations have removed COCs from the WJC site and reduced the toxicity, mobility, and volume of impacted soil media to concentrations at or below Industrial Direct Contact. In addition, the areas of ISCO soil blending and treatment (at AOC 6 and SWMU 3) have been reduced of the overall mass and concentrations of COCs, thereby reducing the related toxicity, mobility, and volume of the COCs. These COCs have been converted into inert breakdown products.

While destruction of COCs at the source areas will, over time, permanently reduce contaminant mass and the potential for mobility of the COCs throughout the WJC site in groundwater (AOC 4), a combination of

in-situ groundwater injections and routine groundwater monitoring will be employed to further control, reduce, and contain the contaminant plum on-site.

6.2.3 Short-Term Effectiveness of Remedy and Potential Human Exposure

The ISCO portion of the remedy provides immediate treatment of COCs in groundwater in the selected application locations. Through the process of ISCO injections for groundwater (AOC 4), impacted soil and groundwater media will be treated subsurface, thereby reducing the potential for human exposure to areas with contaminants. All site work will be conducted by trained OSHA 1910.120 workers, and direct contact with impacted soils and groundwater will be minimal.

6.2.4 Implementability

ISCO for groundwater remediation is a demonstrated technology that is readily implemented using specialized groundwater injection equipment to perform this remedial technique. This remedial technology has been effectively demonstrated by its previous successful application at the WJC site (SWMU 6) through injections into the groundwater. An ISCO groundwater injection system requires numerous controls to ensure effective and safe application. Experienced and capable personnel will be utilized to perform the ISCO applications. A hydraulic investigation/evaluation is also utilized to enhance the understanding of the subsurface hydrogeology of the site to be treated. Periodic groundwater monitoring is employed to determine suitable initial (and future) application points to enhance oxidant distribution within the target aquifer.

6.2.5 Capital Cost/Operations and Maintenance Costs

The Facility is already providing financial assurance for continued groundwater monitoring and post closure care activities required by the Facility's current *Hazardous Waste Management Permit* as related to SWMU 6. The estimated costs for the proposed final remedy and groundwater monitoring are reasonable in relation to the risk reduction provided to human health and the environment and in accordance with the future use of the land (zoned light industrial/commercial) and in accordance with the WJC sites *Land Use Assumption* document. These costs are also estimable based upon the completed IMs for soils and the proposed remedy for groundwater (AOC 4.)

The Facility has already incurred the majority of the initial costs associated with remedial action, with the exception of remedial actions required at AOC 4 (groundwater.)

Facility Asbestos and Hazardous Waste Removals and Structural Demolition:

The WJC sites former above ground industrial, maintenance, and operations structures, associated with the manufacturing facility, have been previously demolished and disposed of off-site as either hazardous waste, non-hazardous waste, asbestos related materials, or recycled at regulated facilities. These activities occurred during 2013 and 2014, and the associated costs have already been incurred.

Facility Excavations and Disposal – Pre-Construction Interim Measures:

Several preparation and construction tasks were performed as components of the subsequent soil Interim Measures corrective action. A 'temporary' railroad crossing and crushed stone/rock (construction aggregate) haul roads were installed to allow for heavy equipment and waste hauler access anticipated for the IM excavation and disposal process. In addition, it was necessary to remove vegetative undercover and lumber trees for access to AOC 5 and SWMU 7, to install silt fencing, and to subsequently perform excavation and minor demolition in these areas. These activities occurred during 2016 and 2017, and the associated costs have already been incurred.

Soil Excavation and Disposal activities were conducted at the following AOCs and SWMUs - AOCs 1, 2, 3, 5 and SWMUs 2 and 7:

The Facility has recently completed the excavation and disposal of non-hazardous and hazardous soil at AOCs 1, 2, 3, 5 and SWMUs 2 and 7. These activities were performed in a step-wise fashion and were effectively completed during 2018. The associated costs to perform these activities have already been incurred.

ISCO/Soil Blending activities were conducted at the following AOCs and SWMUs - AOC 6 and SWMU 3:

The Facility has recently successfully completed IM soil blending activities to treat VOCs at both AOC 6 and SWMU 3. These activities were initiated during 2018, and were completed during the spring of 2019. The associated costs to perform these activities have already been incurred.

Former Wastewater Lagoon Closure – SWMU 6:

The Facility has already incurred the majority of the costs associated with the SWMU 6 remedy since the cap has been constructed and is in place. Ongoing maintenance and applicable repairs, groundwater monitoring, and reporting costs will continue in accordance with the current *Hazardous Waste Management Permit*, or future revisions.

ISCO and Groundwater Monitoring – AOC 4:

The Facility plans to use ISCO technology to target the VOCs present in groundwater. The technology has been previously proven to be effective in destroying dissolved VOCs in the groundwater at the WJC site.

Although the oxidizing solution will interact with PCE and TCE (and its breakdown products) immediately upon contact and treat the PCE and TCE promptly, achieving area specific or site-wide concentration reduction for the respective compounds may take up to several years during the period where the oxidant remains viable in solution and migrates through the impacted fractured bedrock water-bearing zone. There are no meaningful adverse short-term impacts associated with the ISCO application, as demonstrated by application of the technology previously at SWMU 6.

The cost of the proposed remedy is reasonable in relation to the risk reduction provided to human health and the environment. The proposed measures are cost effective to implement now and in the predictable future, as needed. Required annual cost estimates to support financial assurance requirements will continue in accordance with the Facility's current RCRA Permit, or future revisions.

6.2.6 Community Acceptance

VDEQ will evaluate community acceptance of the proposed decision during the public comment period, which will last forty-five (45) calendar days. VDEQ's final decision will be described in the Facility's *Hazardous Waste Management Permit for Corrective Action*, which will be modified as necessary to address the final remedy components.

6.2.7 State/Support Agency Acceptance

VDEQ will evaluate EPA's acceptance of the proposed remedy during the public comment period. VDEQ's final decision will be set forth in the Facility's Permit, which will be modified as necessary to address the final remedy components.

7.0 ENVIRONMENTAL INDICATORS

Under the Government Performance and Results Act ("GPRA"), EPA has set national goals to address RCRA corrective action facilities. Under GPRA, EPA evaluates two key environmental indicators for each facility: (1) Current Human Exposures Under Control and (2) Migration of Contaminated Groundwater Under Control. The Facility met these indicators on March, 2002 and November, 2012, respectively.

8.0 FINANCIAL ASSURANCE

The Facility is already providing financial assurance for continued groundwater monitoring and post closure care activities required by the Facility's Permit. Updated cost estimates for VDEQ's final decision are required by that Permit and will be the basis for financial responsibility of the implementation and operation and maintenance of the final remedy.

9.0 PUBLIC PARTICIPATION

Before VDEQ makes a final decision on its proposed final remedy for the Facility, the public may participate in the decision selection process by reviewing this SB and documents contained in the Administrative Record for the Facility. The Administrative Record contains all information considered by VDEQ in reaching this proposed decision. Interested parties are encouraged to review the Administrative Record and comment on VDEQ's proposed decision. For additional information regarding the proposed remedy, please contact Mr. Ryan Kelly at (804) 698-4045 or ryan.kelly@deq.virginia.gov.

The public comment period will last forty-five (45) calendar days from the date notice of VDEQ's proposed final remedy is published in a local newspaper. Comments may be submitted by mail, fax, or email to Ms. Allyson Lackey at the address listed below.

Virginia Department of Environmental Quality
1111 East Main Street, Suite 1400
P.O. Box 1400
Richmond, VA 23218
Contact: Ms. Allyson Lackey
Phone: (804) 698-4421
Email: Kari.Lackey@deq.virginia.gov

VDEQ will make a final decision after considering all comments, consistent with applicable RCRA requirements, regulations, and guidance. If the decision is substantially unchanged from the one in this Statement of Basis, VDEQ will issue a final decision and inform all persons who submitted written comments or requested notice of VDEQ's final determination. If the final decision is significantly different from the one proposed, VDEQ will issue a public notice explaining the new decision and will reopen the comment period.

Attachments

Figure 1 – Survey Plat

Three Notch'd Road
Former Credit Union
Parcel ID: 056A3-00-00-01300
NORTH GATE
North Entrance Exit #5
Shipping Entrance Exit #4
Wilson Jones Shipping Dock
EAST GATE
Former Guard Shack
Tank Pit #3
Parcel ID: 05600-00-00-08300
Parcel ID: 05600-00-00-08400
Former Carpentry Building
PW2/MW2
WEST GATE
Main Entrance Exit #6
Wash & Strip Room
A/C
Former Plant Room
Former Main Manufacturing Building
Transf.
Paint Mixing & Storage
East Entrance Exit #3
Tank Pit #2
Former Sanding & Grinding Area
Tank Pit #4
Parcel ID: 056A3-00-00-01000
Parcel ID: 056A3-00-00-01200
Former Apple Orchard Building
Former Water Tower
Parcel ID: 056A3-00-00-00800
FLOOR SUMP
South Entrance Exit #2
Plant Drainage Outfall
Tank Pit #1
RAILROAD
Gate
WJC A1W
WJC A2E
WJC A
Fomer Parking Lot
Parking Lot
Existing Access Road
IMHOFF Tank
Sludge Tank
WJC B
WJC C
Cinder Block Building
WJC D
M.U. Meters & Control
PW1/MW1
Pole Barn
PW3/MW3
Former Sand Filter Beds
Former Chlorinator
WJC E
WJC F
Parcel ID: 05600-00-00-09400
RESIDENTIAL COMMUNITY
Trench #1
Trench #2
Former Building
Flow
RWSSA 149
Former Wastewater Lagoon
Burn Pit
RWSSA 148
Trench #3
RWSSA 147

Legend

- Property Boundary

Solid Waste Management Units (SWMUs)

1. Hazardous Waste Storage Area
2. Solid Waste Storage Area
3. Solvent Reclamation Still
4. Spray Paint Booths and Associated Drains and Sewer System
5. Plant Trash Dumpster
6. Former Wastewater Lagoon
7. Former Incinerator Ditches

Areas of Concern (AOCs)

1. Degreaser/Caustic Bath
2. Sump in Main Plant
3. Former USTs
   - Heating Oil
   - Xylene
   - Gasoline
4. Former Potable Wells (PW)
5. Sand Filter Beds
6. Metal Fabrication Area

Note:
Property Boundary Lines and Parcel IDs taken from Abermarle County GIS Website

Graphic Scale
100 0 50 100 200
1 inch = 100 ft.

N

Atlanta Environmental Management, Inc.
Environmental Consulting, Engineering, Hydrogeologic Services
2580 Northeast Expressway • Atlanta, Georgia 30345
Phone: 404.329.9006 • Fax: 404.329.2057

Wilson Jones Company
5327 Three Notch'd Drive
Crozet, Virginia

PROJECT #: 1426-1306-1405-2	DRAWN BY: TL	Survey Plat	Figure 1
SCALE: 1:100	DATE: March 1, 2019	G:\DWG\1426-1306\1405\02\01 Survey Plat	

Figure 2 – Groundwater Monitoring Network

Three Notch'd Road
GATE
EAST GATE
Former Guard Shack
Tank Pit #3
EI-1
Former Credit Union
NORTH GATE
EI-6
North Entrance Exit #5
Shipping Entrance Exit #4
Wilson Jones Shipping Dock
Production Electronics
Carpentry Building
PW2/MW2
Assembly and Storage Area
Finished Parts and Stockroom
Dumpster
WEST GATE
Wash & Strip Room
A/C
Former Plant Room
Main Entrance Exit #6
Main Manufacturing Building
Sanding & Grinding
Transit
Finished Parts and Stockroom A
Paint Mixing & Storage
East Entrance Exit #3
Tank Pit #2
Former Sanding & Grinding Room
Tank Pit #4
Former Cleaning Room
Boiler Room
MW-62(A,B)
MW-63(A,B)
MW-61(A,B,C)
EI-A-4
EI-A-1
Plant Drainage Outfall
Tool & Die Shop
South Entrance Exit #2
Tank Pit #1
Former Apple Orchard Building
Former Water Tower
Engineering Area
Office Area
West Entrance Exit #1
SZA-1C
SZA-1B
SZA-2B
SZA-2C
EI-2
MW-64
MW-65A
MW-66(A,B,C)
EI-5
MW-48(A,B,C)
MW-49(A,B,C)
MW-52(A,B,C)
MW-53(A,B,C)
MW-65(B,C,D)
EI-7
RAILROAD
Gate
EI-4
WJC A1W
WJC A2E
WJC A
Fomer Parking Lot
Parking Lot
MW-45(A,B,C)
EI-3
MW-20A
MW-20(B,C)
MW-19(A,B,C)
MW-67(A,B)
Existing Access Road
IMHOFF Tank
Sludge Tank
WJC B
WJC C
Cinder Block Building
WJC D
M.U. Meters & Control
PW1/MW1
Former Sand Filter Beds
Pole Barn
PW3/MW3
MW-4
MW-11i
MW-11
SW-EAST-3
RESIDENTIAL COMMUNITY
EI-A-2
Former Chlorinator
WJC E
WJC F
Trench #1
MW-12D
Trench #2
MW-17
EI-A-3
SW-1B
SW-1A
SW-1
RWSSA 149
Former Building
MW-7
MW-6
MW-5
Burn Pit
Flow
SW-EAST-2
MW-15
Former Wastewater Lagoon
MW-12
RWSSA 148
MW-8i
MW-8
MW-8D
SW-2
MW-10
MW-10i
Trench #3
MW-13R
MW-9
MW-16
MW-14
RWSSA 147
SW-3
MW-18

Solid Waste Management Units (SWMUs)

1 - Hazardous Waste Storage Area
2 - Solid Waste Storage Area
3 - Solvent Reclamation Still
4 - Spray Paint Booths and Associated Drains and Sewer System
5 - Plant Trash Dumpster
6 - Former Wastewater Lagoon
7 - Former Incinerator Ditches

Areas of Concern (AOCs)

1 - Degreaser/Caustic Bath
2 - Sump in Main Plant
3 - Former USTs
  Heating Oil
  Xylene
  Gasoline
4 - Former Potable Wells (PW)
5 - Sand Filter Beds
6 - Metal Fabrication Area

Legend

- Overburden/Saprolite Groundwater Monitoring Well
- Bedrock Groundwater Monitoring Well
- Nested Groundwater Monitoring Wells
  Green Text Indicates Overburden/Saprolite Well
  Magenta Text Indicates Bedrock Well
- Angled Bedrock Groundwater Monitoring Well
- Surface Water Sample Location
- Manhole

N

Graphic Scale
100 0 50 100 200
1 inch = 100 ft.

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Former Wilson Jones Company
5327 Three Notch'd Road
Crozet, Virginia

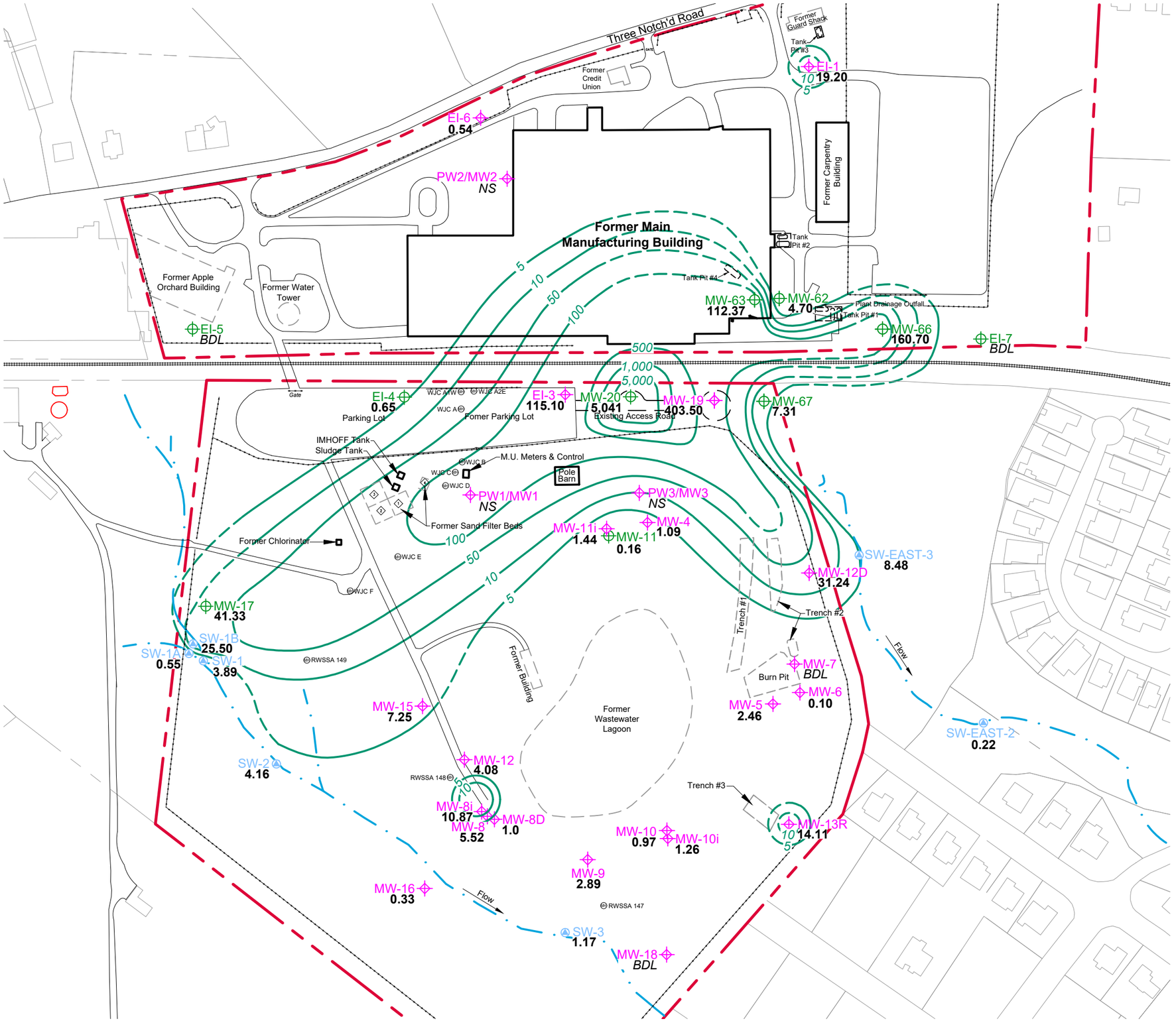
PROJECT #: 1426-1306-1405-2	DRAWN BY: TL
SCALE: 1:100	DATE: March 1, 2019

Groundwater Monitoring Network

Figure 2

G:\DWG\1426-1306\1405\02\02 Monitoring Well Network

Figure 3 – Groundwater Total Chlorinated VOCs
Isoconcentration Map



Legend

- ⊕ - Overburden/Saprolite Groundwater Monitoring Well
- ⊕ - Bedrock Groundwater Monitoring Well
- △ - Surface Water Sample Location
- (MH) - Manhole
- *Dry* - Location Dry, Not Sampled
- *NS* - Not Sampled
- *BDL* - Below Detection Limits
- VOC - Volatile Organic Compound
- µg/L - Micrograms per Liter
- **5,041** - Total Chlorinated VOC Concentration
- ——— - Total Chlorinated VOC Isoconcentration Contour (µg/L) (Dashed Where Inferred)

Notes:

1. Total chlorinated VOC concentrations are the sum of detections including:

Chloroethane	Methylene Chloride
Chloroform	Tetrachloroethene
cis-1,2-Dichloroethene	trans-1,2-Dichloroethene
1,1-Dichloroethane	1,1,1-Trichloroethane
1,2-Dichloroethane	1,1,2-Trichloroethane
1,1-Dichloroethene	Trichloroethene
1,2-Dichloroethene (Total)	Vinyl Chloride

2. For clustered monitoring wells (i.e., MW-19A/B/C), the highest total chlorinated VOC concentration values were used.

3. VOC concentrations validated with "B" flags were not included in Total VOCs.

N

Graphic Scale

200 0 100 200 400

1 inch = 200 ft.

AEM

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Environmental Consulting, Engineering, Hydrogeologic Services
2580 Northeast Expressway • Atlanta, Georgia 30345
Phone: 404.329.9006 • Fax: 404.329.2057

Wilson Jones Company
5327 Three Notch'd Road
Crozet, Virginia

Total Chlorinated VOCs
October 2018

PROJECT #:	1426-1306-1405-2	DRAWN BY:	TL
SCALE:	1:200	DATE:	August 2, 2019

G:\DWG\1426-1306\1405\02\03 TTL VOC-2018-October

Figure 3

Administrative Record – Index of Documents for Statement of Basis

Wilson Jones Company
EPA ID No. VAD003124989
Crozet, Virginia
Administrative Record
Index of Documents for Statement of Basis - November, 2019

This index includes documents that the Virginia Department of Environmental Quality (VDEQ) relied upon to develop and propose the final remedy selection determination described in the Statement of Basis. These documents were prepared for the Wilson Jones Company facility and are listed chronologically by document date.

1. January 1992, Lagoon Closure, Contingent Closure and Contingent Post-Closure Plans for the ARV, Inc. Facility Located in Crozet, VA – Revision No. 3, Weston Solutions, Inc.
2. August 30, 2002, Review of Environmental Indicator (EI) Form (CA750 – Migration of Contaminated Groundwater Under Control) Determination for the Former Wilson Jones Site, VDEQ.
3. January, 2005, Phase I Environmental Indicator Site Investigation Summary Report & Phase II Environmental Indicator Data Collection Work Plan, GES, Inc.
4. August 17, 2005, Phase II Environmental Indicator Site Investigation Summary Report, GES, Inc.
5. October 24, 2005, DEQ Response to Proposed Modification to the Groundwater EI Determination for the Wilson Jones Facility, VDEQ.
6. November 17, 2006, Phase I RCRA Facility Investigation Work Plan – Revision 1, GES, Inc.
7. March, 2008, Interim Measures Project Management Plan Revision 1, GES, Inc.
8. September 23, 2008, Documentation of Environmental Indicator Determination - Current Human Exposures Under Control, VDEQ.
9. September 30, 2009, Groundwater Environmental Indicator (EI) Update, GES, Inc.
10. September, 2009, Phase I RCRA Facility Investigation Report – Groundwater – Revision 0, GES, Inc.
11. September, 2009, IM Implementation Report – Volume I – Revision 0, GES, Inc.
12. August, 2010, IM Implementation Report – Volume 1I – Revision 0, GES, Inc.
13. August 4, 2010, Hazardous Waste Management Permit for Corrective Action, VDEQ.
14. October, 2010, 2010 Environmental Indicator (EI) Update, GES, Inc.
15. August 29, 2012, 2012 Environmental Indicator (EI) Update, GES, Inc.
16. November 6, 2012, Documentation of Environmental Indicator Determination – Migration of Contaminated Groundwater Under Control, VDEQ.
17. June 21, 2013, Land Use Assumption, AEM, Inc.
18. December 12, 2013, Land Use Assumptions – Concurrence, VDEQ.
19. July 17, 2018, Interim Corrective Measures Quarterly Report Soil Excavation and Disposal and Minor Demolition and Debris Removal, AEM, Inc.
20. October 31, 2018, Interim Corrective Measures Second Quarterly Report Soil Excavation and Disposal and Minor Demolition and Debris Removal, AEM, Inc.
21. July 31, 2019, Interim Corrective Measures Soil Summary Report, Soil Excavation and Disposal and Minor Demolition and Debris Removal and ISCO Soil Blending, AEM, Inc.