**State of Wisconsin**
**DEPARTMENT OF NATURAL RESOURCES**
**3911 Fish Hatchery Road**
**Fitchburg WI 53711-5397**

**Tony Evers, Governor**
**Adam N. Payne, Secretary**
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July 23, 2024

**-Sent by email-**

EnPro Holdings, Inc.
C/O Ms. Fern Paterson, Director Environmental Sustainability and Deputy General Counsel
5605 Carnegie Boulevard, Suite 500
Charlotte, North Carolina 28209

Subject: Conditional Approval of the Site Investigation Workplan for the Former Trent Tube Property 2811 Church Street, East Troy, Wisconsin BRRTS #02-65-245827

Dear Ms. Paterson:

The Department of Natural Resources (Department) reviewed the "Site Investigation Work Plan" (Plan) for the Former Trent Tube Property in East Troy, Wisconsin. The Plan was prepared by GeoEnvironmental Inc. (GZA) and submitted to the Department on EnPro Holdings, Inc.'s (EnPro) behalf on April 22, 2024. A Wis. Admin Code ch. NR 749 review fee was included with the submittal. The Department held off reviewing the plan until the working group of stakeholders could convene for the site visit on June 21, 2024.

The Department is conditionally approving the Plan, as described in this letter.

At least one additional deep groundwater monitoring location (aka "piezometer") is required as a condition of this approval. The piezometer is needed in the area to the south of the area of consolidation (AOC; sometimes also denoted as "area of contamination"). The deeper monitoring is needed to check for the presence of TCE contamination at depth down-gradient of the AOC. Based on the preliminary review of the historic record, thousands of pounds TCE, including dense non-aqueous phase liquid (DNAPL), were reportedly disposed in the AOC (see two attached records), and the location of TCE disposal within the AOC is not clearly documented. More than one additional piezometer downgradient of the AOC could seem prudent after a full reading of the historical site record.

GZA's proposed plan to physically test for the presence of DNAPL is acceptable, however other means of assessing DNAPL presence should be added to the evaluation. One means is comparing the groundwater chemistry to product solubility. Another is mapping likely DNAPL migration pathways along the purported confining layer; a map showing the top of the confining layer would be helpful in this regard. Additionally, reviewing the location of known DNAPL (RW-3, RW-8, Honey Creek, and the flume vault – see attached excerpts) for other lines of DNAPL evidence may help the DNAPL evaluation.

The Department recognizes that the amount of TCE disposal at the AOC could be a surprise to many of the site's stakeholders, and we are ready to discuss the ramifications of site cleanup and re-use at our upcoming working group meeting.

Other technical considerations that are conditions of this approval, and which Jeff Ackerman (Department) has already discussed with Kevin Hedinger (GZA), include:

- Honey Creek must be sampled for volatile organic compounds both immediately upstream and immediately downstream of the site property.

- The site survey of the new monitoring wells must tie in the elevations at least three of the existing site wells.
- Monitoring wells shall be developed in accordance with ch. NR 141, Wis. Adm. Code, with removal of at least 10 borehole volumes of water, or until the water is sediment free.
- Surging as part of development may only be performed only on wells that can't be purged dry, per code.
- Hydraulic conductivity testing is required at all new monitoring wells.
- All site wells with above-grade protective pipes should be fitted with vented caps.

The Department appreciates the clarifying comments presented in Appendix B of the workplan. A full Department response to all issues addressed needs to wait until more data are collected. For now:

- The Department understands EnPro will provide maps with the non-industrial (aka "residential") residual contaminant levels (RCLs). The RCLs will aid in evaluating the need for performance standards and establishing continuing obligations at the site, and are not necessarily to be viewed as restoration goals.
- GZA's analysis and presentation supports the concept that arsenic in the channel and lagoon area is the result of imported fill and as such, the issue is adequately delineated for the purposes of remedial planning.
- The plan for refining the polychlorinated biphenyl (PCBs) sampling grid is acceptable.
- The appropriate RCLs for polycyclic aromatic hydrocarbons are based on non-industrial use. As stated above, performance standards (such as capping) may be effective in mitigating the risk to human health and the environment.
- The TCE issue near MW-17R is adequately addressed by the Plan.

The Department also appreciates the analysis and additional information presented in Appendix C. The Department's additional review of the characterization of the site geology and hydrogeology will be made after the findings of the proposed work have been presented.

If you have questions, please contact me at 608-219-2302 or at jeffrey.ackerman@wisconsin.gov

Sincerely,

Jeff Ackerman, P.G.
Hydrogeologist
Remediation & Redevelopment Program
Fitchburg DNR Service Center – Fitchburg, WI

ec: Bruce Keyes, Foley and Lardner
Kevin Hedinger, GZA

Attachments:
Mass calculation spreadsheet from Symbiont (a 5-5-2009 email attachment)
State lead recommendation form (a 4-16-2010 email attachment)
Excerpt from the Streambank and Area of Consolidation Report, rec'd 2-11-2010
Excerpt from the Limited Site Investigation report, dated 11-08-2012

Former Trent Tube Plant Number 1
Estimated Mass of Contaminants of Concern Removed from Honey Creek and Adjacent Bank
2188 Church Street
East Troy, Wisconsin

| | Volume Soil/Sediment Removed (kg) | Average [COC] mg/kg | Mass in Soil (mg/kg) | Product (mg) | Product (kg) | Product (lbs) |
|---|---|---|---|---|---|---|
| | | | | | | |
| **Bank - 10,000 cubic yards** | 18,140,000 | | | | | |
| Naphthalene | | 41 | 40.2216 | 729,619,824 | 730 | 1,605 |
| TCE | | 12 | 10.0028 | 181,450,792 | 181 | 399 |
| | | | | | | |
| **Sediment - 4200 cubic yards** | 6,856,920 | | | | | |
| Naphthalene | | 161 | 159.4571 | 1,093,384,578 | 1,093 | 2,405 |
| TCE | | 121 | 110.0170 | 754,377,768 | 754 | 1,660 |
| | | | | | | |
| **Total lbs of TCE and Naphthalene Removed from the Bank and Honey Creek** | | | | | | **6,069** |
| **Total Mass of Constituents of Concern** | | | | | | **7,283** |

**Notes:**
kg = Kilogram
mg = Milligram
lbs = pounds
[COC] = concentration of constituent of concern
TCE = Trichloroethylene
**Assumptions:**
It is assumed that TCE and Naphthalene comprise 80 % of the total mass of Constituent of Concern. The other 20% is comprised of degradation daughter products.
Volume of soil assumes 1 cubic yard of soil = 2 tons based on assumed saturation with 40% porosity
Volume of sediment assumes 1 cubic yard of soil = 1.8 tons based on assumed saturation with 25% porosity

# State Lead Project Recommendation Form

**Project name:** Trent Tube Plant # 1 (FID # 265005510)

**Location (City and County):** East Troy, Walworth County

**Project Manager:** Scott Ferguson

**RP:** Crucible Materials Corp, 575 State Fair Rd, Syracuse, NY 13201, Contact: Donia Zilles, ph (315)470-9014, and Crucible Development Corp; both companies in chapter 11 liquidation

**Site Background:**

Trent Tube Plant #1 manufactured stainless steel parts from 1941 to 1997. In 1998 the building was demolished with the concrete foundation remaining in place and the site perimeter fenced. The southern property line abuts Honey Creek. Site investigations identified impacts to soil and groundwater – chlorinated solvents, nickel, chromium and select petroleum constituents. The groundwater plume discharges to Honey Creek and free-product TCE is found underneath a silt layer beneath the water line of Honey Creek. More than 1,500 gallons of TCE free-product have been hand bailed from monitoring wells installed adjacent to, or within, the creek itself. In light of DNR concerns regarding the health of Honey Creek, a groundwater recover and treatment system has been in operation since 1999 and consists of 26 vertical extraction wells designed to provide hydraulic control and minimize migration of groundwater from the southern site boundary. The groundwater treatment system consist of a DNAPL separator, settling tank, air stripper, sump tank, two multimedia particulate filters, bag filter system, three carbon vessels, and system control panels. Approximately 1,925 pounds of VOCs were removed from the groundwater since system startup. An Area of Contamination ("AOC") was engineered and constructed to allow excavated soil and sediment containing hazardous substances to be consolidated on site over a former mill pond area. Plant #1 system performance monitoring consists of annual site-wide groundwater monitoring, bi-annual sampling in the AOC, and quarterly WPDES monitoring and reporting. To comply with the current OM&M of the groundwater treatment system is estimated to be $270,000 for 2009 and $245,000 for 2010.

A 100 year old wood retaining wall adjacent to Honey Creek and the Honey Creek dam at Plant #1 was failing. The replacement of the retaining wall, stabilization of the creek bank and wetland soil excavation and restoration, consolidation of all contaminated soil and sediment closure activity within the AOC, took place in 2008-2009. The continued hand bailing of free-product TCE from underneath the silt layer of Honey Creek proved impractical because more than 5,000 pounds of free-product remained *in situ*. The creek was routed and silt layer/TCE free-product layer was also dredged and placed within the AOC in 2008-2009. The creek bank and slope, wetland area, and east dredge area, was restored and seeded in 2009. The AOC was not lined at its base but was constructed to withstand a 100 year rain/flood plain event and operate as a phytoremediation systems within the AOC. The AOC was graded and capped with 6 inches of topsoil and seeded in 2009 but the phytoremediation system itself was not installed.

Future activities that should take place in the future in order to achieve closure include:

- Planting of phytoremediation system that will act as a supplemental soil and groundwater remedial system
- Additional recovery wells – the installation of five source wells,
- Chemical injections – ten re-injectable wells treated with RegenOx and HRC and 164 direct push points treated with HRC within source areas underneath the concrete slab.
- Possible reworking and chemical injection of soils and sediments within the AOC before planting of phytoremediation system within the AOC.

The estimated costs to undertake these additional remedial option activities range of $350,000 to $500,000 with additional miscellaneous remediation activities of $150,000.

The continued operation and maintenance of the groundwater treatment system ensures that the sediment and surface water of Honey Creek remains free of TCE. Failure to operate and maintain the groundwater treatment system will result in the recontamination of Honey Creek.

**Environmental Impacts / Impact of no action**

See files at:
\\milwauke\rrse\TrentTubeDocuments

**Recommended priority:** **Critical** High Medium Low

**Currently Funded:** **Yes** / No

**If yes,** PO # NMJ00000455

**Cost of Future Project Needs (Estimate or Actual)**

The costs are dependent upon the state response. For example, should the state decided to simply operate and maintain the groundwater treatment system, sample as required to document compliance with the WPDES permit, and nothing else, the annual cost is approximately $136,000. See May 2009 cost estimate "WDNR Costing.xlsx" at the above link.

Initial Cost (SI) _____ How Long to complete_____

Clean-up Cost _____ How Long to complete_____

O&M Cost _____ How Long to complete_____

Costs Already Expended _____

Total Project Cost_____

Potential funding sources other than State Lead?

Committee Priority_____

February 8, 2009

DEPARTMENT OF NATURAL RESOURCE

FEB 11 2010

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Dr. Martin Luther King Jr Drive
MILWAUKEE, WI 53212

PREPARED FOR:

Crucible Materials Corporation
575 State Fair Boulevard
P.O. Box 977
Syracuse, NY 13209

PREPARED BY:

Symbiont®
6737 West Washington Street, Suite 3440
West Allis, WI 53214
414-291-8840

# Construction Completion Report
# Stream Bank and Area of Consolidation Restoration Activities
# Former Trent Tube Plant No. 1 Property

Tina A. Reese
Project Manager

Todd R. Stelmacher, P.E.
Project Engineer

Nicholas J. Lohman
Construction Manager

Symbiont®
Project Nos. DW103976 and DW103983

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numeric values calculated for each exposure or migration pathway of concern (direct contact [ingestion and inhalation] and protection of groundwater) for each soil contaminant of concern (VOCs, PAHs, and metals) at the site or facility in accordance with chapter NR 720.09 to 720.19 of the Wisconsin Administrative Code (WAC). The protection of groundwater pathway RCL exceedances for chlorinated and petroleum VOCs, polynuclear aromatic hydrocarbon (PAHs) and metals were pervasive throughout the area south/southeast of the former facility, as well as the Former Impoundment area and Existing Lagoon and Channel. Direct contact RCL exceedances were generally coincident with the protection of groundwater RCL exceedances.

### 2.2.2 Sediment Impacts

In general, sediment samples collected in the area directly south of the Plant No. 1 building were the most highly impacted with VOCs including the presence of free product Dense non-aqueous phase liquid (DNAPL) and light non-aqueous phase liquid (LNAPL). Metals and PAH impacts are generally coincident with VOC impacts with one exception. Metal impacts were predominant in the area immediately downstream of the box culvert outfall located at the downstream end of the existing lagoon and channel.

### 2.2.3 Groundwater Impacts

The vertical extent of groundwater impacts were generally confined to shallow groundwater above the native silt unit. Chlorinated solvent, trichloroethene (TCE) and 1,1,1-trichloroethane (TCA), impacts to groundwater extended from under the former building located on the western half of the site into the wetland area south of Honey Creek.

A second area of VOC impacts extended from the former surface impoundments on the eastern half of the site south toward Honey Creek. Degradation products of TCE, cis-1,2-dichloroethene (DCE) and vinyl chloride, predominate in this area.

Inorganic constituent concentrations in groundwater (nickel, chromium, nitrate and fluoride) were elevated in the vicinity of the former pickling tanks on the west side of the site and at two localized areas within the Existing Channel and southeast of the former Plant No. 1 building.

Free product (DNAPL) has been detected in various areas of the site and includes the following:

- Beneath the building slab (RW-8),
- Within Honey Creek (WP-9), and
- At Recovery Well RW-3.

### 2.2.4 Surface Water Impacts

Surface water samples have historically been collected on an annual basis from six locations within Honey Creek and Mill Pond. Constituents detected in surface water samples were generally at concentrations below surface water quality standards for a Non-Public Water Supply Warm Water Sport Fishery as designated in chapters NR 102 and NR 105, WAC.

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Mr. Scott Ferguson
Wisconsin Department of Natural Resources
Southeast Region Headquarters
2300 North Martin Luther King Drive
Milwaukee, WI 53212

November 8, 2012

**RE: Limited Site Investigation**
**Former Trent Tube Plant No. 1**
**2188 Church Street**
**East Troy, Wisconsin**
**Symbiont Project No. W113896**

Dear Scott:

Symbiont was retained by the Crucible Materials Corporation Environmental Response Trust (CMERT) to complete a limited Site Investigation (SI) at the former Trent Tube Plant No. 1 (Plant No. 1) property (Site). The objective of the SI was to determine the source of free product, primarily trichloroethylene (TCE), discovered during flume vault abandonment activities conducted at the Site in July 2011.

The flume is a subsurface structure that historically (prior to the 1940's) was used to convey water from the Mill Pond located to the west of the Plant No. 1 property to a grist mill operation, a previous occupant of the Site, but has been bulk headed prior to Symbiont's involvement with the Site, circa 1990. The flume is constructed of a 36-inch clay pipe that bisects the former building footprint and trends from west to east. The eastern portion of the flume is comprised of a clay pipe that discharged to a series of two chambers. The east chamber was lined with concrete; the floor of the west chamber was unlined. These chambers were assumed to be remnants of the previous grist mill operations (Figure 2).

Based on information collected by Symbiont during multiple confined space entries of the flume vault area, it was determined that the sediment that had accumulated in the chambers of the vault through time was significantly impacted with chlorinated VOCs. In an effort to address source areas beneath the building slab, the sediment was excavated from the vaults and managed appropriately on-site in the area of consolidation (AOC). During the abandonment activities, free product was visually noted at the base of the western-most chamber of the vault. The visually impacted free product was removed from the vault and placed in the AOC.



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