

August 12, 2025

Mr. Mark Domaracki, P.G.
New York State Department of Environmental Conservation
625 Broadway
Albany, NY, 12233-7014

**Subject: Interim Remedial Measure Work Plan
Plantasie Creek 100-Year Floodplain Soil
Hercules, LLC. Site #356001
Port Ewen, New York**

Dear Mr. Domaracki,

This *Interim Remedial Measure Work Plan* (“IRMWP”) has been developed by EHS Support LLC (“EHS Support”) on behalf of Hercules LLC (“Hercules”), a wholly owned subsidiary of Ashland, Inc. (“Ashland”), and Dyno Nobel, Inc. (“Dyno Nobel”; collectively, “the Parties”), to present the approach for an interim remedial measure (IRM) to address potential exposures to mercury and copper in surface soils adjacent to Robert Graves Elementary School (**Figure 1**) as requested by the New York State Department of Environmental Conservation (NYSDEC) and the New York State Department of Health (NYSDOH) in a letter dated May 7, 2025. These surface soils are located within the 100-year floodplain adjacent to Plantasie Creek downstream of the Hercules/Dyno Nobel Port Ewen Site (“Site”), which is currently being investigated by the Parties in accordance with New York State Department of Environmental Conservation (NYSDEC) Administrative Order on Consent (Consent Order [CO]) Index # CO 3-20180508-85 effective August 3, 2018. The Site is located at 161 Ulster Avenue, approximately 1 mile south of the Village of Port Ewen in Ulster County, New York (**Figure 1**) and is listed on the New York State Inactive Hazardous Waste Site Index as Site No. 356001.

This request by NYSDOH and NYSDOH is the result of surface soil samples collected by NYSDOH adjacent to Plantasie Creek and Robert Graves Elementary School that contained concentrations exceeding residential soil cleanup objectives (SCOs) for copper and mercury as shown in **Attachment A**. It should be noted that in the sampling figure provided by NYSDOH (**Attachment A**), the residential SCO shown and used for comparison is the residential use SCO for elemental mercury [Hg(0)] of 0.8 milligrams per kilogram (mg/kg). It has previously been established through multiple lines of evidence that the mercury released at the Site is in the form of inorganic salts of divalent mercury [Hg(II)], not Hg(0). Based on the use of inorganic mercuric salts at the Site, the residential SCO for Hg(II) of 1.2 mg/kg is used for comparison in the ongoing Site investigations.

As discussed in NYSDOH’s *Soil Cleanup Guidance* (CP-51), SCOs will be used as a screening tool to identify the extent of soil contamination. However, the exceedance of one or more applicable SCOs alone does not trigger the need for remediation or identify unacceptable concentrations of target metals. However, at the request of NYSDOH and NYSDOH, and in an abundance of caution, the Parties agree to implement an IRM to prevent potential exposure to those surface soil sample locations adjacent to Robert Graves Elementary School where target metals concentrations exceed the residential use SCOs until a risk assessment can be completed.



Interim Remedial Measure Proposal

Based on the aforementioned surface soil sampling results, the Parties propose to place approximately 450 linear feet (ft) of 6-ft high, black, chain-link fence around the potential exposure area as shown on **Figure 2**. The fencing will look similar to that shown in the following image.



An access gate will be installed to allow for lawn equipment to enter for lawn maintenance purposes. Following fence installation, the fence location will be recorded with a sub-meter geographic positioning system (GPS) unit.

Any soil removed during fencing will be containerized, property labeled and stored at the Hercules/Dyno Nobel pending characterization for off-site disposal. Results of the soil characterization will be provided to NYSDEC for approval prior to off-site disposal or re-use

Project Health and Safety Planning

Field activities will be conducted in accordance with the *Health and Safety Plan (HASP) Hercules, Inc. Site #356001* (EHS Support, 2021). A review of the proposed field investigation activities will be completed prior to the start of field sampling activities. Field activities will be conducted in accordance with the HASP and any addenda that are approved for the Site at the time of sampling.

A Project Safety Analysis (PSA) will be performed by the project manager prior to field mobilization to ensure that predictable hazards are identified and addressed before work begins. A PSA form will be completed by the project manager and sent to the field team prior to the start of work. The project manager will hold a health and safety kickoff meeting with the field team before field mobilization to review the PSA form together and address any questions.

Once the field team mobilizes to the Site, a daily tailgate meeting will be held at the start of each field day. The field team leader will discuss work being performed that day, the potential hazards associated with those tasks, and how the field team will mitigate those hazards. The field team leader will also



address any changes to methodology, based on observations from the previous day, to reduce potential hazards.

In addition, air monitoring in accordance with the Site-specific Community Air Monitoring Plan (CAMP), provided in **Attachment B**, will be performed during all ground intrusive work such as placement of fence posts. Monitoring results will be provided to NYSDEC on a daily basis.

Work Plan Implementation

The following subsections provide information on key contacts for the project, access agreements, and implementation schedule.

Project Organization

The IRM will be implemented for the Parties by EHS Support, an environmental contractor (“Contractor”), who will provide an on-site field representative(s) to oversee all subcontractors under the direction of NYSDEC. Key contacts for this project are as follows:

- *Hercules Project Manager*
Ian McCary
Hercules LLC
Ashland Research Center
500 Hercules Road
Wilmington, DE 19808-1599
Telephone: (802) 578-9615
Email: Ian.McCary@ashland.com
- *Dyno Nobel Project Manager*
Tina Maniatis, PE
Dyno Nobel, Inc.
6440 S. Millrock Drive, Suite 150
Salt Lake City, UT 84121
Telephone: (801) 922-0913
Email: tina.maniatis@am.dynonobel.com
- *Contractor Project Director/Project Engineer*
Kristin A. VanLandingham, P.E.
EHS Support LLC
Telephone: (850) 251-0582
Email: k.vanlandingham@ehs-support.com



Access Agreements

EHS Support will use its best efforts to obtain an access agreement from the Kingston City School District. EHS Support will reach out to the Kingston City School District by mail, email, and telephone to request access. If access agreements are unable to be obtained, EHS Support will notify NYSDEC. NYSDEC may need to assist in reaching out to the owners to obtain access approval.

Implementation Schedule

Within 30 days of NYSDEC approval of the IRMWP, the Parties will develop an implementation schedule, in cooperation with the NYSDEC project manager, for submittal to NYSDEC. If possible, it is the Parties' goal to complete the delineation efforts and fence installation prior to the start of school on September 3, 2025. The Parties and their technical consultants will establish routine communication with the NYSDEC technical staff to assist in resolving any issues that may delay the schedule. However, the Parties cannot be held responsible for any delays due to inclement weather, NYSDEC review and approval time, applicable citizen participation requirements, property access, or any other delays outside of the Parties' control.

We appreciate your time in review of this report. Please contact me at 850-251-0582 or k.vanlandingham@ehs-support.com regarding any questions.

Sincerely,

Kristin A. VanLandingham, P.E.
Project Manager/Senior Project Engineer

cc:

Kerry Maloney, NYSDEC

Sean Madden, NYSDEC

Kristin Kulow, NYSDOH



Enclosures

List of Figures

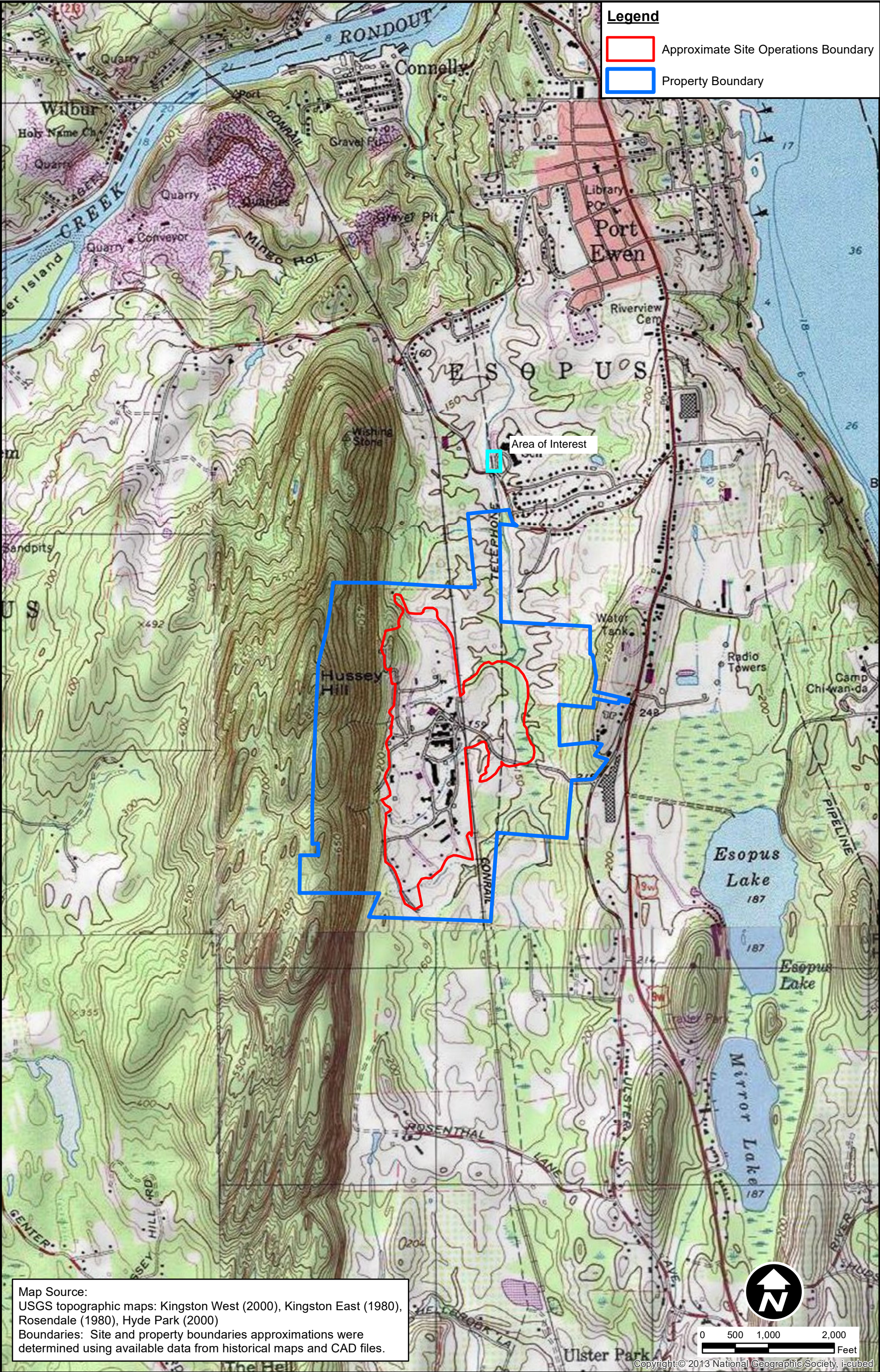
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|----------|-----------------------|
| Figure 1 | Site Location Map |
| Figure 2 | Proposed IRM Location |

List of Attachments

- | | |
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| Attachment A | NYSDEC Mercury and Copper Analytical Results |
| Attachment B | Community Air Monitoring Plan |



Figures



Reviewed By: K. VanLandingham

Notes:

Restricted Residential Use SCO (ppm)

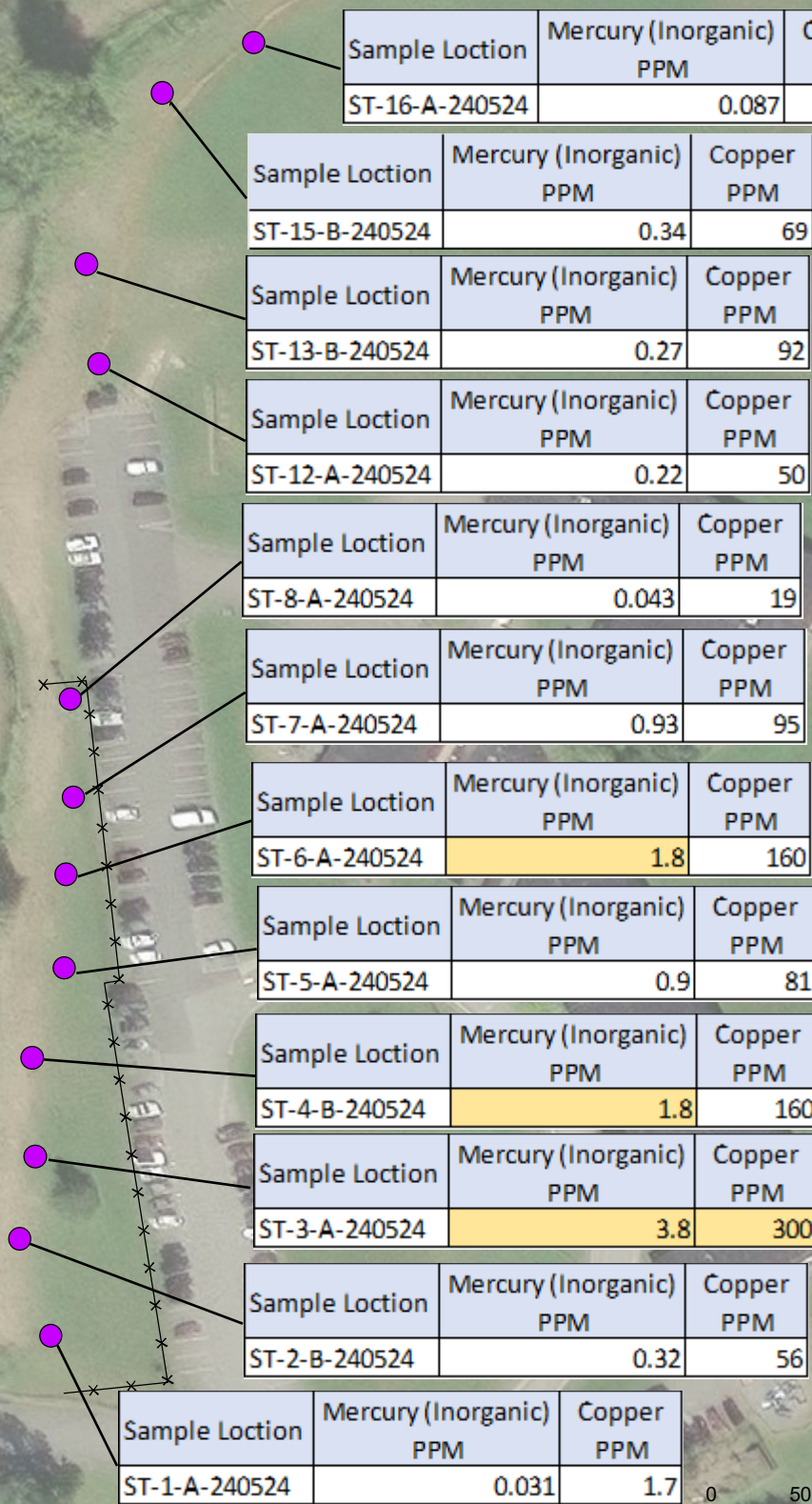
Mercury: 1.2

Copper: 270

Legend

● Sample Location

x—x— Proposed Chain Link Fence



Service Layer Credits: Source: Esri, Maxar, Earthstar, Geographics, and the GIS User Community



Reviewed By: K. VanLandingham



Attachment A NYSDEC Mercury and Copper Analytical Results

Legend

● Sample Locations

Compound	Restricted Residential Use SCO (ppm)
Mercury	0.81
Copper	270

Sample Location	Mercury (ppm)	Copper (ppm)
ST-16-A-240524	0.087	44

Sample Location	Mercury (ppm)	Copper (ppm)
ST-15-B-240524	0.34	69

Sample Location	Mercury (ppm)	Copper (ppm)
ST-13-B-240524	0.27	92

Sample Location	Mercury (ppm)	Copper (ppm)
ST-12-A-240524	0.22	50

Sample Location	Mercury (ppm)	Copper (ppm)
ST-8-A-240524	0.043	19

Sample Location	Mercury (ppm)	Copper (ppm)
ST-7-A-240524	0.93	95

Sample Location	Mercury (ppm)	Copper (ppm)
ST-6-A-240524	1.8	160

Sample Location	Mercury (ppm)	Copper (ppm)
ST-5-A-240524	0.9	81

Sample Location	Mercury (ppm)	Copper (ppm)
ST-4-B-240524	1.8	160

Sample Location	Mercury (ppm)	Copper (ppm)
ST-3-A-240524	3.8	300

Sample Location	Mercury (ppm)	Copper (ppm)
ST-2-B-240524	0.32	56

Sample Location	Mercury (ppm)	Copper (ppm)
ST-1-A-240524	0.031	1.7

0 50 100 200 Feet



Department of
Environmental
Conservation

Figure 1
Mercury & Copper Analytical Results
Hercules Inc. (#356001)





Attachment B Community Air Monitoring Plan

Community Air Monitoring Plan

This Community Air Monitoring Plan has been designed to conform to the guidelines presented by the New York State Department of Health (NYSDOH) in Appendix 1A of the New York State Department of Conservation (NYSDEC), Division of Environmental Remediation (DER)-10, *Technical Guidance for Site Investigation and Remediation*.

This Community Air Monitoring Plan (CAMP) has been prepared for the Hercules/Dyno Nobel Site in Port Ewen, Ulster County, New York (NYS 356001). The purpose of the CAMP is to provide a measure of protection for the downwind community from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind communities from potential airborne contaminant releases as a direct result of investigative and remedial activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shut down. Additionally, the CAMP helps to confirm that work activities did not spread contaminants off-site through the air.

Activities completed under this scope of work include soil sampling, groundwater sampling, monitoring well installation, and investigation derived waste management (i.e., handling soil and groundwater in drums), as well as installation of fencing. The primary constituents of concern (COCs) onsite are volatile organic compounds (VOCs) and metals and the primary COCs off-site are metals (specifically copper, mercury, selenium, and zinc).

Real-time air monitoring for volatile compounds at the perimeter of the exclusion zone will be conducted when working onsite in the vicinity of the former Shell Plant. Monitoring for odors will also be conducted, and odor suppressant foams and water sprays will be readily available to address dust and odor emissions. The following procedures will be implemented during field activities as appropriate:

Continuous monitoring will be completed for all ground intrusive activities. Site specific continuous monitoring will be conducted with a flame ionization detector (FID) or photoionization detector (PID) within the work zone to monitor change in site conditions. Any sustained readings above background for greater than 15 minutes will require a stop work action.

Continuous monitoring will include screening soil cores, workers breathing zone, establishing background concentrations and downwind perimeter of the immediate work area.

Periodic monitoring will be completed during non-intrusive activities. Site specific non-intrusive activities include groundwater gauging, groundwater sampling and surveying. Periodic monitoring will be conducted with a FID or PID within the work zone during each sampling event to monitor changes in site conditions. Any sustained reading above background for greater than 15 minutes will require a stop work action. "Periodic" monitoring includes taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil monitoring during well bailing/purging and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC MONITORING, RESPONSE LEVELS, AND ACTIONS

VOCs will be monitored with the work zone and at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work will be performed using equipment appropriate to measure the types of contaminants known or suspected of being present (i.e., FID or PID). The equipment will be calibrated at a minimum daily. The equipment will be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.
2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.
3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shut down and corrective action taken.
4. All 15-minute readings must be recorded and be available for State (NYSDEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than micrometers in size (PM-10) and capable of integrating over a period of minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

- If the downwind PM-10 particulate level is 150 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.
- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

- All readings must be recorded and be available for the State (DEC and NYSDOH) personnel to review.