

February 5, 2015

Ms. Stacy Ladner  
Unit Manager  
Division of Oil & Hazardous Waste Facility Regulation  
Bureau of Remediation and Waste Management  
Maine Department of Environmental Protection  
17 State House Station  
Augusta ME 04333

**Subject: Monthly Progress Report – January 2015  
Orrington Remediation Site  
Orrington, Maine**

Dear Ms. Ladner:

This Monthly Progress Report is submitted to Maine Department of Environmental Protection (MEDEP) in compliance with reporting requirements in the Board of Environmental Protection (BEP) Order (Order) effective April 3, 2014 for the Orrington Remediation Site (Site) in Orrington, Maine, which incorporates, with modifications, the Compliance Order issued by the MEDEP dated November 24, 2008. This Report covers the period from **January 1 – 31, 2015**, and is submitted on behalf of Mallinckrodt US LLC.

If you have any questions regarding this report please feel free to contact me at 314-281-5947.

Sincerely,



Kathy Zeigler  
Director, Environmental Remediation

cc: Patricia Duft – Mallinckrodt US LLC  
Melanie Loyzim - Maine Department of Environmental Protection  
Paul White – Town of Orrington  
Audrey Snowden – Orrington Town Library

**MONTHLY PROGRESS REPORT  
ORRINGTON REMEDIATION SITE  
Orrington, Maine  
January 2015**

**Report Date: February 5, 2015**

This Monthly Progress Report is submitted to the Maine Department of Environmental Protection (MEDEP) documenting the activities completed by Mallinckrodt US LLC (Mallinckrodt) and/or its representatives at the Orrington Remediation Site (the Site) along with a description of upcoming activities.

**1. A discussion of all tasks and actions completed during the reporting period toward achieving compliance with the Order**

- Held monthly conference call with MEDEP on January 7, 2015 to discuss activities associated with the Order.
- Submitted a summary of analytical laboratories being used for various field investigations per MEDEP request on January 2, 2015.
- Met with MEDEP on January 5, 2015 to discuss data from the interim extraction well program and proposed approaches to assess current conditions at Landfill 2 and the Ferry Road area.
- Participated in a site audit by the Department of Health and Human Services (DHHS) on January 7, 2015 to certify the Direct Mercury Analyzer as an on-site analytical lab. Submitted follow-up information to DHHS on January 20, 2015 in response to questions during the audit.
- Met with MEDEP on January 22, 2015 to discuss the Southern Cove Pre-Design Work Plan, the confirmatory sampling approach and other site issues.
- Facility Dismantling Plan
  - Completed backfill of the Administration Building area.
  - Completed the Leach Field excavations and collected confirmation samples from the sidewalls and bottom of the excavations. Based on confirmatory sampling data, identified two areas in which to extend the excavations and completed the additional soil removal.
  - Completed excavation and confirmatory sampling of two hot spots in the area of the former Nitromethane Building and final clean-up activities in this area.
- Landfill Ridge Area
  - Continued development of the Corrective Measures Implementation Plan (CMIP), or remedial design, for the Landfill Ridge Area.
- Landfills 1-5
  - Continued evaluation of the pre-design data collected in accordance with the Revised Landfills Phase 1 Pre-Design Work Plan (December 10, 2014) conditionally approved by MEDEP on December 12, 2014.
  - Submitted a response to the MEDEP conditional approval letter on January 15, received additional MEDEP follow-up comments on January 21 (via email), and responded to those comments on January 28, 2015 (via email).
  - Began drafting the Landfills Phase 2 Pre-Design Work Plan.
- Southern Cove
  - Submitted the Southern Cove Pre-Design Work Plan to MEDEP on January 5, 2015.
- Comprehensive Monitoring Plan
  - Began preparation of a work plan to assess current conditions in the Landfill 2 area.
  - Began preparation of a work plan to assess current conditions between the Site and the Ferry Road area.

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- Groundwater
    - Met with MEDEP on January 5, 2015 to discuss:
      - the interim extraction well program implementation, findings and data report,
      - updates to the 3-D groundwater model, including geologic mapping for model input,
      - a proposed approach to assess data gaps and current conditions associated with Landfill 2, and
      - a proposed approach to current conditions between the site and the Ferry Road area.
    - Deployed pressure transducers in 15 piezometers and monitoring wells to monitor water levels in the area of the interim extraction system
    - Started up the new interim extraction wells on January 6 and adjusted pumping rates on January 9, 2015.
    - Collected grab samples from five interim extraction wells on January 8, 2015 and submitted for laboratory analysis of mercury, VOCs, chloropicrin, chloride, and hardness
    - Submitted the Third Quarter Groundwater Sampling Report to MEDEP on January 9, 2015.
    - Drafted the Fourth Quarter Groundwater Sampling Report for review.
    - Submitted a Data Transmittal Report for the Interim Extraction Well program to MEDEP on January 30, 2015 including tables and figures, field testing results and laboratory EDDs.
    - Began preparation of draft Landfill 5 Groundwater Monitoring Program 2014 Annual Report.
  - Groundwater Treatment Plant (GWTP) Operation
    - Submitted December eDMR to MEDEP on January 15, 2015.
    - Collected mercury compliance samples from Outfall 001 (3x/week with analysis per USEPA Method 1631) and Outfall 002 (one sample per discharge day with analysis per USEPA Method 245.1) for analysis by Katahdin Analytical Labs.
    - Collected monthly compliance samples from Outfall 001 (chloropicrin, carbon tetrachloride and hexachloroethane) for analyses by Katahdin Analytical Labs on January 7, 2015.
    - Started pumping the new interim extraction wells, increasing flow to the GWTP to 26 gpm.
    - Increased Outfall 001 effluent monitoring and reporting required for “new waste streams” per the MEPDES permit. Samples from Outfall 001 (volatiles, semivolatiles, herbicides, and manganese) were collected for transport to Katahdin for analysis on January 7, 2015 and the organics specified in the MEPDES permit will be included in the monthly reporting.
    - Drafted the 2014 Tier II Report for review which is due to the agencies by March 1, 2015.
    - Initiated development of the Site’s 2014 Annual Hazardous Waste Report.
  - Other Site Activities
    - Collected weather station data.
    - Completed routine maintenance activities.
2. **A detailed summary of all results of sampling, tests, shipments from the Site and other data received by Mallinckrodt in the prior (previous month) reporting period pursuant to this Order**
- Routine operational data is reported on the DMR per the MEPDES Permit.
  - Weekly air monitoring data (Lumex readings) are provided to MEDEP via email.
  - Monthly weather station data is maintained electronically and available upon request.
  - Quarterly groundwater sampling data is reported in the quarterly sampling reports.
  - Data from the Interim Extraction Well program was provided in the Data Transmittal Report submitted to MEDEP on January 30, 2015.

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- Analytical laboratory reports, including EGAD EDDs with minimum DEP required QA/QC, will be provided to MEDEP after the complete data package is received and validated. This data will generally be submitted in documents related to the specific investigation or remedial activity. Pending data includes results for:
  - Phase 7 data including samples of wastes going off-site, clean fill analyses, former Nitromethane Building foundation concrete and leach field confirmatory sampling results.
  - Analytical and geotechnical samples per the Landfill Ridge Pre-Design Work Plan
  - Analytical and geotechnical samples per the Landfills Phase 1 Pre-Design Work Plan.
  
- 3. A discussion of all tasks and actions scheduled for the coming reporting period including the date for initiating and completing such activities including percent completion where applicable.**
  - Hold monthly conference call with MEDEP on February 4, 2015 to discuss activities associated with the Order.
  - Meet with the US Army Corps of Engineers (ACE), MEDEP and NRPA to discuss permitting requirements for construction activities at the site on February 10, 2015.
  - Send Site Review Requests for the remediation activities at the site to the following agencies: Maine Department of Fisheries & Wildlife, Maine Department of Marine Resources, Maine Historic Preservation Commission and Maine Department of Agriculture, Conservation, and Forestry Natural Areas Program.
  - Submit the Logistics Work Plan to MEDEP on February 18, 2015.
  - After discussion with MEDEP, submit a Revised Remediation Schedule reflecting adjusted review times and revised dates for technical submittals and meetings.
  - Respond to any follow-up questions from the DHHS regarding the on-site lab certification.
  - Complete construction of the office trailer complex and installation of office complex utilities.
  - Respond to any questions from MEDEP concerning the pending draft HASP Framework (May 2014) and QAPP Framework (May 2014).
  - Facility Dismantling
    - Collect additional confirmation samples from the Leach Field excavations, backfill all excavations upon receipt of confirmation data below MPS criteria and complete final grading in the area. (weather permitting)
    - Clean concrete and place tarps on chlorate building and laboratory concrete pads (weather permitting).
    - Install temporary wells in the former Leach Field #1 area per the Phase 7 Addendum 1.
  - Groundwater
    - Collect grab groundwater quality samples from extraction wells, according to the revised Interim Extraction Well Work Plan.
    - Submit the 4<sup>th</sup> Quarter 2014 Groundwater Monitoring Report.
    - Submit the Landfill 5 Groundwater Monitoring Program 2014 Annual Report.
    - Respond to any comments on the Data Transmittal for the Interim Extraction Well program.
  - Comprehensive Monitoring Plan (CMP)
    - Submit Work Plan for Landfill 2 Current Conditions Assessment to MEDEP February 3, 2015.
    - Submit Work Plan for the Ferry Road Area Current Conditions Assessment to MEDEP on February 18, 2015.
    - Receive MEDEP's assessment of data gaps for the Plant Area and Landfill 1 areas.
    - Begin developing an outline for the Current Conditions CMP which will describe monitoring activities to establish current conditions at the site. This is expected to include the areas identified above as well as the Outfall 003 and Southerly Stream sampling.
    - Respond to MEDEP comments on the Revised Sediment Prevention Plan (July 2014).

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- Landfill Ridge Area
  - Continue development of the CMIP (remedial design) for the Landfill Ridge Area
- Landfills 1-5
  - Install the gas probes at Landfill 4 in accordance with the follow-up information submitted to MEDEP on January 21 and 28, 2015. (weather permitting).
  - Continue evaluation of the Phase 1 data and development of the Phase 2 Work Plan.
- Southern Cove
  - Submit sediment data from the Southern Cove collected by the court ordered Study Panel.
  - Respond to comments on the Southern Cove Pre-Design Work Plan.

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- Groundwater Treatment Plant (GWTP) Operation
    - Continue compliance sampling of Outfall 001 and 002 as described above.
    - Continue the expanded monitoring and reporting program under the “new waste stream” requirement in the MEPDES permit as described above.
    - Submit January 2015 eDMR to MEDEP.
    - Submit Tier II Report to appropriate agencies.
    - Submit the Site’s 2014 Annual Hazardous Waste Report to EPA and MEDEP.
  - Other Site Activities
    - Complete routine maintenance activities.
    - Collect weather station data.
- 4. Tasks not completed as required, original and revised completion dates, reasons for delay, actions taken to minimize the delay and any other problems or anticipated problems**
- The Logistics Work Plan submittal date was changed from January 9 to February 18, 2015 with MEDEP approval.
  - The February 23, 2015 meeting date was postponed to mid-March with MEDEP’s approval, the exact date to be determined. The purpose of this meeting will be to discuss the draft Logistics Work Plan, the Landfill Ridge Remedial Design (CMIP), and proposed pre-design work for the Landfills 1-5 (Phase 2) and the Plant Area.
- 5. The quantity of waste shipped to the various disposal locations**
- A list of materials sent off site as part of the Phase 7 dismantling and demolition work during January 2015 is shown below. A complete EGAD EDD data package for all waste disposal shipments is being finalized and will be submitted to MEDEP by mid-February 2015.
  - General Debris (Non-Hazardous) – Casella-Juniper Ridge
    - Roll-Off – 30,960 lbs, 1/29/15
      - Total Mercury Results: 0.480 mg/kg & 0.545 mg/kg (Samples 1014A&B)
    - Roll-Off – 6,000 lbs, 1/29/15
      - Total Mercury Results: 0.345 mg/kg & 0.432 mg/kg (Samples 1020A&B)
    - Roll-Off – 23,400 lbs, 1/13/15
      - Total Mercury Results: 2.66 mg/kg & 0.181 mg/kg (Samples 1021A&B)
  - Metals Recycled – AIM Recycle Metals
    - Roll-Off – 2,580 lbs, 1/22/15
      - Total Mercury Results: 1.12 mg/kg & 0.203 mg/kg (Samples 1022A&B)
- 6. Additional information regarding the progress of the work**
- None.