

June 8, 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

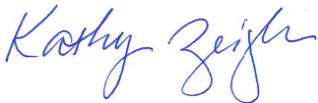
**Subject: Monthly Progress Report – May 2015
Orrington Remediation Site
Orrington, Maine**

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 **May 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
May 2015**

Report Date: June 8, 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

- Participated in the DHHS audit on May 7, 2015 regarding the on site laboratory certification for the DMA and responded to comments on May 14, 2015.
- Initiated work on the Perimeter Air Monitoring Plan
- Prepared the following permit applications/requests:
 - USACE Category 1 for all Pre-Design tasks (Tidal and Non-Tidal)
 - USACE Jurisdictional Determination for several areas at the site
 - DEP/NRPA Permit By Rule for the Landfill Ridge remediation
 - USACE Category 1 for the Landfill Ridge remediation
 - Town of Orrington Shoreland Permit for Landfill Ridge remediation
- Facility Dismantling Plan
 - Received MEDEP approval on May 1, 2015 to restore the Leach Field area to a flat area (with appropriate storm water runoff) instead of backfilling the excavations to the original elevations.
 - Submitted confirmation sample results and proposed additional excavation of Leach Field Bed D to MEDEP, completed additional excavation and collected final confirmation samples. All results were less than the Media Protection Standards therefore the area was surveyed and final grading was completed.
 - Cleaned out former chlorate building sumps.
 - Submitted a request to MEDEP on May 1, 2015 to eliminate the sealant originally proposed for the laboratory and former chlorate building foundations and place tarps over the foundations; received MEDEP approval of the request the same day and this task has since been completed.
- Comprehensive Monitoring Plan
 - Received MEDEP Conditional Approval Letter (CAL) for the Ferry Road Current Conditions Assessment Work Plan on May 6, 2015.
 - Received MEDEP Conditional Approval Letter (CAL) for the Landfill 2 Current Conditions Assessment Work Plan on May 20, 2015.
 - Met with MEDEP representatives on-site on May 27 to review and select well locations associated with the Ferry Road Current Conditions Work Plan (April 15, 2015).
- Landfill Ridge Area
 - Submitted storm water calculations related to the request for approval for pre-construction activities (temporary soil stockpile area, rail loading area and repair of access roads) to MEDEP on May 15, and revised pre-construction drawings on May 21, 2015.
 - Issued a Request for Proposal for the Landfill Ridge remediation and conducted the contractor pre-bid meeting on site.
- Landfills 1-5
 - Submitted Response to Comments and Revised Landfills 1 & 2 Phase II Pre-Design Work Plan on May 15, 2015.
 - Initiated design activities and CMI Plan preparation for the caps on Landfills 3, 4, and 5.
- Plant Area
 - Submitted additional figures on May 19, 2015 as requested by MEDEP associated with the Plant Area Pre-Design Phase I Work Plan.

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- Southern Cove
 - Submitted modification request related to the Southern Cove Pre-Design Work Plan on May 19, received MEDEP Conditional Approval Letter (CAL) for the Southern Cove Pre-Design Work Plan on May 20 and approval of the modification on May 21, 2015.
- Groundwater
 - Submitted the April 2015 Interim Extraction System operation summary, including laboratory EGAD EDDs, to MEDEP on May 18, 2015.
 - Collected grab groundwater samples from the five extraction wells on May 6, 2015, and submitted for laboratory analysis of mercury, chloropicrin, and chloride.
 - Downloaded and reviewed pressure transducer data, and assessed water level elevations during operation of the interim extraction well system.
 - Conducted an on-site review of interim extraction system operations on May 7 and updated programming of pump controls and adjusted flow rates.
 - Submitted the First Quarter 2015 Groundwater Sampling Report to MEDEP and the Town of Orrington on May 12, 2015.
 - Continued updates to the three-dimensional groundwater model.
- Groundwater Treatment Plant (GWTP) Operation
 - Submitted the April 2015 eDMR to MEDEP on May 12, 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.
 - Note that beginning June 2015, chloropicrin analyses will be completed by Katahdin using EPA Method 8011. Previously, Katahdin contracted this analysis to Eurofins who used EPA Method 551. This change was approved by Tanya Hovell via email on May 26, 2015 based upon Katahdin's recent certification from MEDEP for use of Method 8011 for chloropicrin analyses.
 - Collected additional samples on May 6, 2015 for volatiles, semivolatiles, herbicides, and manganese in compliance with the "new waste stream" requirements in the MEPDES permit. Samples were sent to Katahdin for analysis. This is the 5th month of the minimum 10 months required under the new wastestream sampling requirements.
 - Collected weekly samples from Outfall 003 and the Southerly Stream and transported to Katahdin for analysis. Per previous protocol, all samples are analyzed for mercury using USEPA Method 245.1. If analytical results are ≤ 200 ng/L, the applicable sample will be re-analyzed using USEPA Method 1631.
 - Participated in the planned GWTP visit/audit by MEDEP (Tanya Hovell) on May 5, 2015 and received the Inspection Report on May 22, 2015.
 - At the request of Tanya Hovell on May 19, 2015, initiated completion of forms to provide previously reported DMR data (August 2013 to present) to MEDEP. The "Toxsheet" will report analytical results for each organic and mercury sample collected, and the "Effluent Mercury Test Report" will be completed for each mercury sample collected. Because over 550 forms will require completion, clarification has been requested from MEDEP regarding this request. Going forward, these additional forms will be submitted along with the eDMR on a monthly basis.
 - It is our understanding the purpose of these forms is to allow MEDEP to complete a statistical RP (Reasonable Potential) analysis using the additional effluent data required with the installation of the interim extraction well system.

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- Placed a third carbon bed online on May 19, 2015 as a precautionary measure in response to an April 8, 2015 detection of chloropicrin at 1.4 ug/L (well below the discharge limit) between the existing two carbon beds.
 - Provided a summary memo of the February 23, 2015 chloropicrin permit exceedance to MEDEP (Tanya Hovell) on May 20, 2015.
 - Supported ongoing site activities including treatment of approximately 1,500 gallons of water from the mercury and chlorite building sumps
 - Other Site Activities
 - Collected weather station data.
 - On May 29, 2015, the weather station was struck by lightning. The station was repaired on June 3, 2015 and is currently back in operation.
 - Completed routine maintenance activities including cleaning out the 70- and 300-foot interceptor trenches.
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. This will include the additional analyses for “new waste streams” as described above.
 - When applicable, 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 monitoring data is reported in the quarterly groundwater reports and/or the annual Landfill 5 monitoring report.
 - Analytical laboratory reports, including tables, laboratory EDDs, and complete EGAD EDDs, will be provided to MEDEP in a timely manner. These data packages will not be held until all data is received rather they will be provided to DEP on an ongoing basis so data can be reviewed and discussed as the work progresses.
 - Data submittals this month included:
 - April Interim Extraction System Operation EGAD EDDs – May 18, 2015
 - Phase 7 EGAD EDDs for Dec 2014 – Apr 2014 results - May 13
 - DEP Comments received May 19, response to comments May 29, 2015
 - Phase 7 EGAD EDDs for May 2015 results - May 27, 2015.
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 Jun 3, 2015 to discuss site activities.
 - Receive DHHS certification of the on-site laboratory for the DMA.
 - Discuss revisions to be made to the Logistics Work Plan (submitted to MEDEP April 15) prior to receiving MEDEP comments.
 - Begin second phase of onsite rail improvements.
 - Facility Dismantling Plan
 - Install temporary wells in Leach Field area and collect groundwater samples. If results are less than the MPS the wells will be abandoned, if the next steps will be coordinated with MEDEP.
 - Comprehensive Monitoring Plan (CMP)
 - Receive MEDEP’s assessment of data gaps for the Plant Area and Landfill 1 areas.
 - Install MW-701 and MW-702 according to the Ferry Road Current Conditions Work Plan (April 15, 2015), and develop and sample the wells after installation

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- Conduct tasks in the Landfill 2 Area Current Conditions Work Plan (April 23, 2015) including removing the pump and developing Well 8-8, installing staff gauges and pressure transducers in the Southerly Stream and former gravel pit, and conducting groundwater and surface water sampling in the Landfill 2 area the week of June 8, 2015.
 - Landfill Ridge Area
 - Respond to MEDEP comments on the request for approval of pre-construction activities associated with the Landfill Ridge CMIP (temporary soil stockpile area, rail loading area and repair of access roads).
 - Upon MEDEP approval, begin construction of support areas described above.
 - Receive MEDEP comments on the Landfill Ridge Area CMIP (April 15, 2015).
 - Landfills 1-5
 - Receive MEDEP approval of the Revised Landfills 1 & 2 Phase II Pre-Design Work Plan (May 15, 2015) and begin field work.
 - 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).
 - Plant Area
 - Receive MEDEP comments on the Plant Area Pre-Design Phase I Work Plan (April 3, 2015).
 - Southern Cove
 - Submit a Response to MEDEP's CAL (May 20, 2015) and a revised Southern Cove Pre-Design Work Plan (incorporating the modification approved on May 21, 2015).
 - Collect groundwater samples from monitoring wells near the Southern Cove for chloropicrin analysis in accordance with the condition in the CAL letter. (Update: sampling was completed on June 1).
 - Begin the revised Southern Cove Pre-Design Work Plan field work.
 - Groundwater
 - Collect grab groundwater quality samples from extraction wells, according to the revised Interim Extraction Well Work Plan and continue adjustments to system as needed.
 - Submit the May 2015 Interim Extraction System operation summary to MEDEP.
 - Conduct the second quarter groundwater monitoring event the week of June 8, 2015.
 - 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 May 2015 eDMR to MEDEP.
 - Submit the 2014 Annual Hazardous Waste Report and Universal Waste Reporting Form to MEDEP and USEPA (due date to be determined upon receipt of the Orrington Annual Hazardous Waste Report form from 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**
- None.
- 5. The quantity of waste shipped to the various disposal locations**
- None
- 6. Additional information regarding the progress of the work**
- None.