

January 6, 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

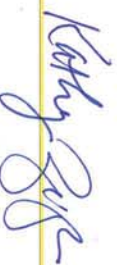
**Subject:      Monthly Progress Report – December 2015**  
**Orrington Remediation Site**  
**Orrington, Maine**

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 **December 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  
         Paul White – Town of Orrington  
         Audrey Snowden – Orrington Town Library

# MONTHLY PROGRESS REPORT ORRINGTON REMEDIATION SITE

Orrington, Maine  
December 2015

Report Date: January 6, 2015

This Monthly Progress Report is submitted to the Maine Department of Environmental Protection (MEDEP) documenting the activities completed by Malinckrodt US LLC (Malinckrodt) 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

- Met with the MEDEP on December 15, 2015 to discuss various site remedial issues.
- Held a meeting on December 16, 2015 with adjacent neighbors and Town of Orrington officials to provide an update on remedial activities and present the perimeter air monitoring system equipment and criteria.
- Continued operation of the perimeter air monitoring system and meteorological station.
- Permitting
  - Continue drafting permit applications for the Southern Cove and Upland Areas.
- Facility Dismantling Plan
  - Submitted sampling results from the temporary groundwater monitoring wells in the Leach Field area and requested MEDEP approval to abandon the wells since all parameters were below MPS criteria.
- Current Conditions / Comprehensive Monitoring Plan
  - Landfill 2 Current Conditions Assessment (MEDEP CAL May 20, 2015)
    - Collected water quality samples from newly-installed monitoring wells and downloaded pressure transducers from staff gauge locations the week of December 7.
  - Ferry Road Current Conditions Assessment (MEDEP CAL May 6, 2015)
    - Drilled and installed MW-707-B1, MW-708-B1, and MW-708-O1 between November 30 and December 2, 2015 and developed MW-707-B1 and MW-708-B1.
    - Collected water quality samples the week of December 7, 2015 as outlined in the approved work Plan.
    - Collected water quality samples from MW-707-B1 and MW-708-B1 during the weeks of December 15 and December 21.
    - Compiled and reviewed groundwater density measurements.
  - Manufacturing Area Current Conditions Assessment (MEDEP CAL September 25, 2015)
    - Submitted validation comprehensive groundwater quality analytical data to MEDEP.
- Landfill Ridge Area Corrective Measures Implementation (MEDEP CAL Dec 10, 2015)
  - Received MEDEP Conditional Approval of the Landfill Ridge CMI Plan – Revision 1 (Oct 28, 2015) on December 10, 2015.
  - Continued to implement corrective measures and have excavated and backfilled Excavation Areas (cells) LR1, LR4 and a portion of LR5.
  - Received memo from MEDEP on December 8, 2015 recommending additional confirmation sampling locations beyond those on the Confirmation Sampling Plan submitted November 30, 2015. Submitted revised Confirmation Sampling Plan to MEDEP on December 11, held additional discussions with MEDEP, submitted a revised Confirmation Sampling Plan on December 17 and received MEDEP approval on December 18, 2015.
- Landfill 1
  - Continued evaluation of pre-design data collected per the Pre-Design Phase II Work Plan.
  - Continued developing the conceptual design for the removal of Landfill 1, including the evaluation of additional data needed to address issues associated with the depth of excavation.



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Orrington, Maine  
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- Landfill 2
  - Continued drafting the Draft CMI Plan for the removal of Landfill 2.
- Landfills 3-5
  - Awaiting bids for the geosynthetic liner installation, due January 8, 2016.
- Plant Area (MEDEP CAL Pre-Design WP October 22, 2015)
  - Continued step-out borings in the North Ditch with MEDEP approval.
  - Continued Stage 1 and Stage 2 borings in the Plant Area.
  - Awaiting bids for the Scrap Metal Yard remedy, due January 14, 2016.
  - Continued drafting the design and the Draft CMI Plan for the Southerly Stream remedy.
  - Continued drafting the design and the Draft CMI Plan for the North Ditch remedy.
- Southern Cove
  - Continued developing the design and the Draft CMI Plan for the Southern Cove remedy.
- Groundwater
  - Interim Extraction System:
    - Collected grab samples from the five extraction wells on December 7, 2015 for analysis of mercury, chloropicrin, and chloride; collected samples again on December 21, 2015 for chloropicrin analyses only.
    - Downloaded and reviewed pressure transducer data, and assessed water level elevations during operation of the interim extraction well system.
  - Three-dimensional Groundwater Model:
    - Continued updates to the three-dimensional groundwater model according to action items established during the July 20 meeting and continued drafting model report.
  - Pre-Design Groundwater Control Work Plan for Landfills 3, 4, 5 (MEDEP CAL Sept 18, 2015)
    - Downloaded data logging pressure transducers deployed in monitoring wells and piezometers in and around Landfills 3, 4, and 5.
- Groundwater Treatment Plant (GWTP) Operation
  - Submitted the November 2015 eDMR to MEDEP on December 14, 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 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  $\leq 200$  ng/L, the applicable sample will be re-analyzed using USEPA Method 1631.
  - Received MEDEP's decision on December 17, 2015 that remedial excavation/construction water from the Landfill Ridge Area discharged to the GWTP is considered a "new waste stream", and therefore resumed increased monthly Outfall 001 effluent monitoring and reporting per the MEPDES permit in December.
  - Confirmed with MEDEP (Tanya Hovell) that the 10-month permit-specified monitoring requirement for the additional extraction wells (new waste stream) was satisfied and this data is currently under review by MEDEP (Gregg Wood).
  - Submitted an updated Waste Profile and Notice of Intent to Export Hazardous Waste to Canada to provide flexibility for future disposal options.
  - Submitted the November 2015 Toxsheet and Effluent Mercury Test Report forms to MEDEP on December 14, 2015.
  - Submitted annual Chapter 530 Toxicity Notification letter to MEDEP on December 10, 2015
  - Completed routine maintenance activities.

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- Other Site Activities
  - Completed pavement sweeping and submitted report to MEDEP on December 29, 2015.
  - 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.
  - Air monitoring and meteorological data is collected continuously by the perimeter air monitoring system and stored in the computer system. The format for the weekly report for this data has been finalized and the data collected since the start of the Landfill Ridge CMI will be submitted by mid-January. Weekly reports thereafter will be submitted to MEDEP each Monday via email.
  - Quarterly groundwater monitoring data is reported in the quarterly groundwater reports and/or the annual Landfill 5 monitoring report.
  - Data submittals this month included:
    - Daily EGAD EDDs submitted to MEDEP via the automated database system.
    - Validated EGAD EDDs and laboratory reports submitted to MEDEP via the automated database system or the fip site (for large laboratory reports) as they are available.
- 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 January 6, 2016 to discuss site activities.
  - Receive MEDEP comments on the draft Logistics Work Plan (April 15, 2015).
  - Continue operation of the perimeter air monitoring system and meteorological station.
  - Permitting
    - Continue drafting permit applications for the Southern Cove and Upland Areas.
  - Facility Dismantling Plan
    - Receive MEDEP approval to abandon the temporary wells in the Leach Field area per the request submitted on December 28, 2015.
  - Current Conditions / Comprehensive Monitoring Plan
    - Landfill 2 Current Conditions Assessment (MEDEP CAL May 20, 2015)
      - Collect the second round of samples from newly-installed Landfill 2 monitoring wells.
    - Ferry Road Current Conditions Assessment (MEDEP CAL May 6, 2015)
      - Submit data report summarizing drilling program and analytical results.
    - Manufacturing Area Current Conditions Assessment (MEDEP CAL September 25, 2015)
      - Submit data report summarizing monitoring program and analytical results.
    - Landfill Ridge Area Corrective Measures Implementation (MEDEP CAL Dec 10, 2015)
      - Continue implementation of the corrective measures, including submitting confirmation sampling results and backfill approval requests to MEDEP.
    - Landfill 1
      - Continue evaluating data need and remedial design options for Landfill 1.
    - Landfill 2
      - Submit the Draft CMI Plan for the removal of Landfill 2 to MEDEP on January 13, 2016.
    - Landfills 3-5
      - Receive contractor bids for the geosynthetic liner installation.
      - Receive and review MEDEP comments on the Landfill 3-5 Cap CMI Plan (August 6, 2015), originally due Oct 28, 2015 per the current site-wide remediation schedule.



**MONTHLY PROGRESS REPORT  
ORRINGTON REMEDIATION SITE**

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- Plant Area
  - Complete pre-design activities in the Southerly Stream, North Ditch and the Plant Area.
  - Submit the Draft CMI Plan for the Southerly Stream remedy to MEDEP on January 12, 2016.
  - Submit the Draft CMI Plan for the North Ditch remedy to MEDEP in late January 2016, originally scheduled for January 12, 2016 per the current site-wide remediation schedule.
  - Receive MEDEP comments on the Draft Scrap Metal Yard CMI Plan (Nov 9, 2015), due January 15, 2016 per the current site-wide remediation schedule.
  - Receive contractor bids on the Draft Scrap Metal Yard CMI Plan.
- Southern Cove
  - Hold conference call with USACE, NOAA and MEDEP on January 8, 2016 to discuss turbidity control options and water quality monitoring.
  - Receive comments on the Sediment Removal Area Delineation Technical Memorandum submitted to MEDEP on November 1, 2015, which describes the proposed removal areas in the Southern Cove and the technical basis for each.
  - Finalize the dredge prism (removal areas) with MEDEP concurrence .
  - Continued developing the design and the Draft CMI Plan for the Southern Cove remedy, to be submitted to MEDEP on March 28, 2016.
- Groundwater
  - Continue sampling and water elevation monitoring of the Interim Extraction System.
  - Submit the draft groundwater model report to MEDEP for review.
- Groundwater Treatment Plant (GWTP) Operation
  - Continue compliance sampling of Outfall 001 and 002 as described above including the additional new wastestream sampling requirements.
  - Submit December 2015 eDMR to MEDEP.
  - Submit the December 2015 Toxsheet and Effluent Mercury Test Report forms to MEDEP.
- Other Site Activities
  - Complete routine maintenance activities.
- 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**
  - Numerous documents are being submitted to MEDEP for review, MEDEP comments are then due to Mallinckrodt, and responses to these comments are then due back to MEDEP. The dates associated with the various submittals and comment/responses are noted in the specific areas above.
- 5. **The quantity of waste shipped to the various disposal locations**
  - Shipped 14 railcars of excavated soil from the Leach Field Area and 43 railcars from the Landfill Ridge Area to the Republic disposal facility in Niagara Falls, New York.
- 6. **Additional information regarding the progress of the work**
  - None.