

March 13, 2017

Mr. Chris Swain
Environmental Specialist
Bureau of Remediation and Waste Management
Maine Department of Environmental Protection
17 State House Station
Augusta ME 04333

**Subject: Monthly Progress Report – February 2017
Orrington Remediation Site
Orrington, Maine**

Dear Mr. Swain:

This Monthly Progress Report is submitted to Maine Department of Environmental Protection (DEP) 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 DEP dated November 24, 2008. This Report covers the period from **February 1 – 28, 2017**, 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
Remediation Program Manager

cc: (all electronic copies)
Patricia Duft – Mallinckrodt US LLC
Susanne Miller – Maine DEP, Bangor
Audrey Snowden – Orrington Town Library
Paul White – Town of Orrington
David Wright – Maine DEP

**MONTHLY PROGRESS REPORT
ORRINGTON REMEDIATION SITE
Orrington, Maine
February 2017**

Report Date: March 13, 2017

This Monthly Progress Report is submitted to the Maine Department of Environmental Protection (DEP) 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.

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

- Held monthly conference call with DEP on Feb 1, 2017 to discuss various topics.
- The on-site DEP oversight inspector continued to participate in weekly construction meetings in which current activities as well as a two-week look ahead are discussed.
- Continued operation of the perimeter air monitoring system and meteorological station, including quarterly calibration, and submitted weekly PAM reports to DEP.
- Continued operation of the on-site lab in compliance with DEP certification.
- Continued stockpile management of excavated materials and loading railcars for off-site shipment.
- Permitting (Upland)
 - No new activity.
- Short-Term Comprehensive Monitoring Plan (Revised ST CMP Feb 24, 2017)
 - The Short-Term CMP includes monitoring of potential remediation impacts as well as ongoing monitoring of groundwater, the IES and Landfill 5.
 - Submitted a response to DEP comments and a Revised Short-Term CMP on Feb 24, 2017.
 - Conducted short-term monitoring of the Scrap Metal Yard and Southerly Stream areas as well as ongoing groundwater & IES monitoring per the Revised Short-Term CMP.
- Landfill Ridge Area (CMI Plan Rev 1 Oct 28, 2015; DEP Approval Dec 10, 2015)
 - Continued to maintain erosion and sediment control measures.
 - Submitted the Landfill Ridge CMI Closure Report on Feb 3, 2017.
- Landfill 1
 - Continued preparing the Draft Landfill 1 CMI Plan including a work plan for additional field work.
- Landfill 2 (CMI Plan Rev1 Oct 7 & Addendum 1 Nov 29, 2016; DEP Approval Feb 2, 2017)
 - Received DEP approval of Landfill 2 CMIP Addendum 1 on Feb 2, 2017
 - Submitted Sheet Pile design and revised Contractor Excavation Work Plan to DEP on Feb 17 and received DEP comments on Feb 27, 2017.
 - Initiated planning to begin remediation in this area once the North Ditch work is complete.
- Landfills 3, 4 and 5 (CMI Plan – Rev 1, May 26, 2016; DEP Approval, Jul 12, 2016)
 - Continued to inspect and maintain winter erosion control measures.
 - Began preparation of the Landfills 3-5 CMI Closure Report
- Plant Area (Draft CMI Plan Feb 13, 2017)
 - Submitted the Draft Plant Area CMI Plan on Feb 13, 2017. This Draft CMIP included Appendix K – the field work plan for additional sampling and Appendix M – the construction work plan for the construction of TSSA #3.

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- Scrap Metal Yard (CMI Plan – Rev 1, June 22, 2016; DEP Approval, July 22, 2016)
 - Continued to inspect and maintain winter erosion control measures.
 - Began preparation of the Scrap Metal Yard CMI Closure Report
- Southerly Stream (CMI Plan – Rev 1, Oct 14, 2016; DEP Approval Nov 7, 2016)
 - Continued implementation of the remedial action including confirmation sampling and backfilling activities.
- Northern Drainage Ditch (CMI Plan – Rev 1, Aug 23, 2016; DEP Approved upon submittal; Final Addendum 1 Oct 27, 2016;)
 - Continued implementation of the remedial action including confirmation sampling and backfilling activities.
- Southern Cove (Draft CMI Plan, Jun 8, 2016; DEP Comments Aug 26 & Sept 27, 2016)
 - Continued discussions with DEP regarding the post-dredging sampling protocol.
 - Received confirmation that NRPA (Jim Beyer) has no comments on the Southern Cove Draft CMIP, and MDIFW will defer to the NRPA review process.
 - Continued discussion with the US ACE and NOAA-NMFS regarding the permit.
- Groundwater
 - Submitted the Landfill 5 2016 annual report to MEDEP and USEPA on Feb 28, 2017.
 - Submitted the Ferry Road Current Conditions Assessment report to DEP on Feb 24, 2017.
 - Interim Extraction System (IES):
 - Continue operation of extractions wells and quarterly monitoring and reporting.
 - Groundwater Model (submitted Feb 22, 2016, DEP comments Jan 6, 2017)
 - Discussed response to DEP comments on the GW Model.
 - Pre-Design for Groundwater at Landfills 3,4,5 (WP Aug 3, 2015; DEP CAL Sept 18,2015)
 - Submitted a letter to DEP outlining a revised schedule for conducting the pump test at Landfills 3-5 in order to evaluate the impact of the new caps on the groundwater levels and quality beneath all three landfills.
- Groundwater Treatment Plant (GWTP) Operation
 - 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.
 - Continued monthly Outfall 001 effluent monitoring and reporting (volatiles, semivolatiles, herbicides and manganese) per the MEPDES permit requirements for a “new wastestream” to address additional water being treated in the GWTP from remedial construction activities.
 - February was month 3 for the Northern Drainage Ditch construction water and month 1 for the Southerly Stream construction water which are “new wastestreams” and thus require expanded monitoring for 10 months per the permit.
 - The average daily flow through the GWTP was 46,000 gpd with 94,000 gallons of construction-related water.
 - Submitted the January 2017 NetDMR and Toxsheet and Effluent Mercury Test Report forms to DEP on Feb 14, 2017.
 - Completed routine GWTP maintenance activities.

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- Other Site Activities
 - Completed routine site maintenance activities

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. Weekly reports are submitted to DEP.
- Quarterly groundwater monitoring data and Interim Extraction System monitoring data is reported in quarterly reports and EGAD EDDs to DEP.
- Validated EGAD EDDs and laboratory reports are submitted to DEP via the automated database system or the ftp site (for large laboratory reports) as they are available.
 - Submitted water quality data from newly-installed monitoring wells in the Landfills 3-5 area was submitted Jan 12, 2017.
 - Submitted surface water quality data was submitted Jan 12, 2017.
 - Submitted 4th quarter December 2016 IES monitoring data and EGAD EDDs to DEP on Jan 13

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 DEP on Mar 1 if needed, and meet with DEP via WebEx on Mar 16, 2017 to discuss ongoing remediation topics.
- Continue operation of the perimeter air monitoring system and weekly PAM reports to DEP.
- Continue operation of the on-site lab in compliance with DEP certification.
- Continued stockpile management of excavated materials and loading railcars for off-site shipment.
- Permitting (Upland)
 - No activity planned
- Short-Term Comprehensive Monitoring Plan (Revised ST CMP Feb 24, 2017)
 - Continue monitoring of the Scrap Metal Yard as outlined in the Revised Short-Term CMP
 - Continue short-term monitoring of the Scrap Metal Yard and Southerly Stream areas as well as ongoing groundwater & IES monitoring per the Revised Short-Term CMP.
- Landfill Ridge Area (CMI Plan Rev 1 Oct 28, 2015; DEP Approval Dec 10, 2015)
 - Continue inspections and maintenance of erosion and sediment control measures.
 - Respond to any DEP questions regarding the Landfill Ridge CMI Closure Report.
- Landfill 1
 - Continue developing the remedial design and the work plan for additional field work.
- Landfill 2 (CMI Plan Rev1 Oct 7 & Addendum 1 Nov 29, 2016; DEP Approval Feb 2, 2017)
 - Receive and respond to DEP comments on Sheet Pile design
 - Begin installing sheet piles in Landfill 2 area
 - Final restoration is expected to be complete by early summer 2017.

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- Landfills 3-5 (CMI Plan – Rev 1, May 26, 2016; DEP Approval July 12, 2016)
 - Continue inspections and maintenance of caps and erosion and sediment control measures.
 - Continue preparation of the Landfills 3-5 CMI Closure Report
 - Complete final restoration in Spring 2017.
- Plant Area (Draft CMI Plan Feb 13, 2017)
 - Receive and respond to DEP comments on Appendix K – the field work plan for additional sampling and Appendix M – the construction work plan for the construction of TSSA #3.
 - Conduct additional sampling in the plant area as outlined in Appendix K and in accordance with DEP comments.
- Scrap Metal Yard (CMI Plan – Rev 1, June 22, 2016; DEP Approval, July 22, 2016)
 - Continue inspections and maintenance of caps and erosion and sediment control measures.
 - Continue preparation of the Scrap Metal Yard CMI Closure Report
 - Complete final restoration in Spring 2017.
- Southerly Stream (CMI Plan – Rev 1, Oct 14, 2016; DEP Approval Nov 7, 2016)
 - Continue implementation of the remedial action including confirmation sampling and backfilling.
 - Construction is expected to be completed in Spring 2017 including final restoration of both the northern and southern segments of the Southerly Stream.
- Northern Drainage Ditch (CMI Plan Rev 1, Aug 23, 2016; DEP Approved upon submittal; Final Addendum 1 Oct 27, 2016;)
 - Complete construction of the remedial action including confirmation sampling and backfilling.
 - Final restoration is expected to be completed in Spring 2017.
- Southern Cove (Draft CMI Plan, Jun 8, 2016; DEP Comments, Aug 26 & Sept 27, 2016)
 - Submit responses to DEP comments on the Draft Southern Cove CMI Plan and the Draft Construction Plan and Environmental Monitoring Plan, including a revised Sampling Protocol.
 - Coordinate with USACE and NOAA-NMFS on permit application reviews
 - Receive DMR comments (or confirmation there are none) on the Draft CMIP and Environmental Monitoring Plan.
 - Construction in the dry is expected to start late Summer 2017. The start date for in-water work will be established in agency permits.
- Groundwater
 - Address questions and/or receive comments from DEP on Ferry Road Current Conditions Assessment report
 - Interim Extraction System (IES):
 - Continue operation of extractions wells and quarterly monitoring and reporting.
 - Groundwater Model (submitted Feb 22, 2016, DEP comments Jan 6, 2017)
 - Submit a response to DEP comments, including results of modifications and sensitivity analyses on the GW model, by Mar 31, 2017.
 - Pre-Design for Groundwater at Landfills 3,4,5 (WP Aug 3, 2015; DEP CAL Sept 18,2015)
 - No current activity other than ongoing monitoring of groundwater levels and quality.

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- Groundwater Treatment Plant (GWTP) Operation
 - Continue compliance sampling of Outfall 001 and 002 as described above.
 - Submit March 2017 NetDMR and Toxsheet and Effluent Mercury Test Report forms to DEP.
 - Continue maintenance activities and routine GWTP maintenance.
- Other Site Activities
 - Complete routine site maintenance activities.

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

The quantity of waste shipped to the various disposal locations

- As of the end of **February 2017**:
 - Leach Field: Soil excavation and off-site disposal is complete.
 - A total of 14 railcars, containing 1379 tons of non-hazardous Leach Field soils, have been shipped offsite to the Republic disposal facility in Niagara Falls, New York.
 - Landfill Ridge: Soil excavation and off-site disposal is complete.
 - A total of 564 railcars, containing over 55,158 tons of non-hazardous Landfill Ridge soils, have been shipped offsite to the Republic disposal facility in Niagara Falls, New York or the Stablex disposal facility in Quebec, Canada.
 - Scrap Metal Yard: Soil excavation and off-site disposal is complete.
 - A total of 413 railcars, containing 40,556 tons of non-hazardous Scrap Metal Yard soils, have been shipped offsite to the Republic disposal facility in Niagara Falls, New York or the Stablex disposal facility in Quebec, Canada.
 - Northern Drainage Ditch:
 - 19 railcars of Northern Drainage Ditch soils were shipped in February 2017.
 - A total of 130 railcars, containing over 12,500 tons of non-hazardous Northern Drainage Ditch soils, have been shipped offsite to the Republic disposal facility in Niagara Falls, New York.
 - Southerly Stream:
 - 21 railcars of Southerly Stream soils were shipped in February 2017.
 - A total of 21 railcars, containing over 2,000 tons of non-hazardous Southerly Stream soils, have been shipped offsite to the Republic disposal facility in Niagara Falls, New York.

Additional information regarding the progress of the work

- None