

February 10, 2018

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

**Subject: Monthly Progress Report – January 2018
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 **January 1 – 31, 2018**, 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
Orrington Town Library
Paul White – Town of Orrington
David Wright – Maine DEP

**MONTHLY PROGRESS REPORT
ORRINGTON REMEDIATION SITE
Orrington, Maine
January 2018**

Report Date: February 10, 2018

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 conference calls with DEP and met on Jan 24, 2018 to discuss site remediation activities.
- 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. If a measurement that exceeds 50% of MPS occurs, Mallinckrodt will notify the DEP within 48 hours. An annual report of all data over the previous year will also be submitted to DEP.
- Continued operation of the Maine certified on-site lab.
- Data validation will be conducted in accordance with the Data Validation Protocol developed by DEP dated Jan 29, 2018.
- Continued stockpile management of excavated materials and loading railcars for off-site shipment.
- Permitting (Upland)
 - No new activity
- Landfill Ridge Area (CMI Closure Report Feb 3, 2017; DEP Acceptance Aug 21, 2017)
 - Continued to maintain erosion and sediment control measures.
- Landfill 1 (Final CMIP Oct 13, 2017)
 - Continued discussions with DEP regarding waste characterization and fill material and pending approval of the Landfill 1 CMIP.
- Landfill 2 (CMI Closure Report Dec 21, 2017)
 - Submitted the Landfill 2 CMI Closure Report to DEP on Dec 21, 2017.
 - Continued to maintain erosion and sediment control measures.
- Landfills 3, 4 and 5 (CMI Closure Report Jul 25, 2017; DEP Acceptance Oct 3, 2017)
 - Continued to maintain erosion and sediment control measures and cap inspections.
- Plant Area (Draft CMI Plan Feb 13, 2017; Phase 1 Excavation Memo Rev1 Jan 2, 2018; DEP Approval of Phase 1 Jan 9, 2018.)
 - Continue the installation of the SVE system including Phase 1 piping to the four shallow SVE wells.
 - Submitted the Plant Area Phase 1 Excavation Memo Rev1 and Response to Comments to DEP on Jan 2, 2018.
 - Received DEP Approval of Plant Area Phase 1 Excavation Memo Rev1 on Jan 9, 2018.
 - Completed the new rail spur construction and scale installation near former Landfill 2 area.
- Scrap Metal Yard (CMI Closure Report Jul 25, 2017; DEP Acceptance Oct 3, 2017)
 - Continued to maintain erosion and sediment control measures.

**MONTHLY PROGRESS REPORT
ORRINGTON REMEDIATION SITE
Orrington, Maine
January 2018**

- Southerly Stream (CMI Closure Report Nov 15, 2017)
 - Continued to maintain erosion and sediment control measures.
- Northern Drainage Ditch (CMI Closure Report Nov 27, 2017)
 - Continued to maintain erosion and sediment control measures.
- Southern Cove (CMI Closure Report Jan 14, 2018)
 - Submitted the Southern Cove Closure Report to DEP on Jan 14, 2018.
- 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.
 - Conducted ongoing monitoring of IES, Landfill 5 and Site Perimeter wells, and remediation monitoring in accordance with the Short-Term CMP.
- Groundwater
 - Final Extraction System at Landfill 1 (Final Design of GW Extraction System Oct 16, 2017; DEP Approval Jan 9, 2018):
 - Received DEP Approval of Final Design of Final GW Extraction System Jan 9, 2018.
 - Continued operation of extractions wells and quarterly monitoring and reporting.
 - Groundwater at Landfills 3,4,5 (WP Aug 3, 2015; DEP CAL Sept 18,2015)
 - The pump test in the area of Landfills 3, 4, and 5 has been postponed until 2018 in order to evaluate the impact of the new caps on area groundwater levels and quality.
 - Groundwater Model (submitted Feb 22, 2016, DEP comments Jan 6, RTC Apr 28, 2017)
 - No new activity
- 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 expanded Outfall 001 effluent monitoring (volatiles, semivolatiles, herbicides and manganese) for “new wastestreams” (i.e. construction water) per the MEPDES Discharge permit. Expanded monitoring is required for 10 months or until wastestream ends. January was Month 1 for the Plant Area Phase 1 construction activity.
 - The average daily flow through the GWTP was 45,979 gallons with 171,299 gallons of construction-related water.
 - Submitted the December 2017 NetDMR to DEP on Jan 9 and the Toxsheet and Effluent Mercury Test Report form to DEP on Jan 12, 2018.
 - Installed a new generator which will provide lights, power for the controls and computers, and heat. The generator is portable which will provide power to the Southerly Stream shed during a high precipitation event.
 - Completed routine GWTP maintenance activities.
- Other Site Activities
 - Completed routine site maintenance activities

**MONTHLY PROGRESS REPORT
ORRINGTON REMEDIATION SITE
Orrington, Maine
January 2018**

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

- Air monitoring and meteorological data is collected continuously by the perimeter air monitoring system and stored in the computer system with weekly reports submitted 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 EGAD EDDs of validated remediation monitoring data to DEP on Jan 18, 2018 (Nov data) and Jan 25, 2018 (Dec data).

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.

- Continue technical discussions with DEP on remediation activities and pending submittals.
- Continue operation of the perimeter air monitoring system.
- Continue operation of the on-site lab in compliance with Maine certification.
- Continue stockpile management of excavated materials and loading railcars for shipment.
- Permitting (Upland)
 - No new submittals planned
- Landfill Ridge Area (CMI Closure Report Feb 3, 2017; DEP Acceptance Aug 21, 2017)
 - Continue to maintain erosion and sediment control measures.
- Landfill 1 (Final CMIP Oct 13, 2017)
 - Receive DEP's response regarding waste characterization and fill material and approval (or additional comments) on the pending Landfill 1 CMIP.
 - Continued analysis of pump test and performance test data collected in the Landfill 1.
- Landfill 2 (CMI Closure Report Dec 12, 2017)
 - Submit the Landfill 2 CMI Closure Report to DEP
 - Continue to maintain erosion and sediment control measures.
- Landfills 3, 4 and 5 (CMI Closure Report Jul 25, 2017; DEP Acceptance Oct 3, 2017)
 - Continue to maintain erosion and sediment control measures and complete cap inspections.
- Plant Area (Draft CMI Plan Feb 13, 2017; Phase 1 Excavation Memo Rev1 Jan 2, 2018; DEP Approval of Phase 1 Jan 9, 2018.)
 - Held the Pre-Construction meeting for the Plant Area Phase 1 work on Jan 18, 2018.
 - Continue discussions with DEP regarding the Phase 2 approach in the Plant Area.
- Scrap Metal Yard (CMI Closure Report Jul 25, 2017; DEP Acceptance Oct 3, 2017)
 - Continue to maintain erosion and sediment control measures.
- Southerly Stream (CMI Closure Report Nov 15, 2017)
 - Continue to maintain erosion and sediment control measures.
- Northern Drainage Ditch (CMI Closure Report Nov 27, 2017)
 - Continue to maintain erosion and sediment control measures.
- Southern Cove (CMI Closure Report Jan 14, 2018)
 - Final restoration of the southern cove will begin in Spring 2018.

**MONTHLY PROGRESS REPORT
ORRINGTON REMEDIATION SITE
Orrington, Maine
January 2018**

- Short-Term Comprehensive Monitoring Plan (Revised ST CMP Feb 24, 2017)
 - Conduct Short-Term CMP remediation monitoring in accordance with the approved plan.
- Groundwater
 - Final Extraction System at Landfill 1 (Final Design of GW Extraction System Oct 16, 2017; DEP Approval Jan 9, 2018):
 - Continue operation of extraction wells and quarterly monitoring and reporting per the Revised Short-Term CMP
 - Groundwater at Landfills 3,4,5 (WP Aug 3, 2015; DEP CAL Sept 18,2015)
 - Ongoing monitoring of groundwater levels and quality.
 - Begin planning for the pump test in the area of Landfills 3, 4, and 5 to evaluate the impact of the new caps on area groundwater levels and quality.
 - Groundwater Model (submitted Feb 22, 2016, DEP comments Jan 6, RTC Apr 28, 2017)
 - No planned activity
- Groundwater Treatment Plant (GWTP) Operation
 - Continue compliance sampling of Outfall 001 and 002 as described above.
 - Submit January 2018 NetDMR and Toxsheet and Effluent Mercury Test Report 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

- The start of the Landfill 1 CMI is delayed while various issues are under discussion with DEP.

The quantity of waste shipped to the various disposal locations

- As of the end of **January 2018:**
 - **Leach Field: Soil excavation and off-site disposal is complete.**
 - A total of 14 railcars, containing 1379 tons (TSDF weight) 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 55,158 (TSDF weight) tons of non-hazardous Landfill Ridge soils, have been shipped offsite.
 - 534 railcars to the Republic disposal facility in Niagara Falls, New York
 - 30 railcars to the US Ecology 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 (TSDF weight) of non-hazardous Scrap Metal Yard soils, have been shipped offsite
 - 412 railcars to the Republic disposal facility in Niagara Falls, New York
 - 1 railcar to the US Ecology Stablex disposal facility in Quebec, Canada.

**MONTHLY PROGRESS REPORT
ORRINGTON REMEDIATION SITE
Orrington, Maine
January 2018**

- **Northern Drainage Ditch: Soil excavation is complete.**
 - A total of 307 railcars, containing 30,015 tons (Site weight) of non-hazardous Northern Drainage Ditch soils, have been shipped offsite.
 - 307 railcars to the Republic disposal facility in Niagara Falls, New York
 - 0 railcars to the US Ecology Stablex disposal facility in Quebec, Canada.
- **Southerly Stream: Soil excavation and off-site disposal is complete.**
 - A total of 112 railcars, containing 10,583 tons (TSDF weight) of non-hazardous Southerly Stream soils, have been shipped offsite.
 - 102 railcars to the Republic disposal facility in Niagara Falls, New York
 - 10 railcars to the US Ecology Stablex disposal facility in Quebec, Canada.
- **Landfill 2: Soil excavation and off-site disposal is complete.**
 - A total of 441 railcars containing Landfill 2 soils have been shipped offsite to date.
 - 118 railcars of 11,557 tons (TSDF weight) of non-hazardous Landfill 2 soils
 - 108 railcars to the Republic disposal facility in Niagara Falls, New York
 - 10 railcars to the US Ecology Stablex disposal facility in Quebec, Canada.
 - 323 railcars containing 31,497 tons (Site weight) of listed waste soils to the US Ecology Stablex disposal facility in Quebec, Canada
- **Southern Cove: Sediment removal is complete.**
 - In January 2018, 50 railcars of Southern Cove non-hazardous sediments were shipped off site containing 4893 tons.
 - A total of 170 railcars containing 16,626 tons (Site weight) of non-hazardous sediments to the Republic disposal facility in Niagara Falls, New York
- **General Debris**
 - None
- **GWTP Sludge**
 - Shipped 6 cubic yards on nonhazardous waste to EQ (Belleville, Michigan) on January 22, 2018

Maine Hazardous Waste Tax

- **The total Maine State Hazardous Waste Tax paid as of January 31, 2018 is \$1,889,804.**
 - The 2nd Quarter 2017 report shows 13,150.65 tons of hazardous soil disposed for a total fee of \$789,039 which was paid 9/28/17.
 - The 3rd Quarter 2017 report shows 14,125.95 tons of hazardous soil disposed for a total fee of \$847,557 which was paid 12/1/17.
 - The 4th Quarter 2017 report shows 4,220.13 tons of hazardous soil disposed for a total fee of \$253,208 which was paid.

Additional information regarding the progress of the work

- The next *On The Penobscot* community newsletter will be mailed to residents and key community contacts in early 2018.
- The BeyondHoltraChem.com website is periodically updated to reflect ongoing remediation activities.