4.0 MILNE INLET

4.01 General

The containment facilities that we have been doing inspections on for the last seven years are now rapidly changing in function with the further construction underway at the Milne Inlet site. Structures and facilities that were under construction during our inspection in 2014 have now been completed and new facilities are under construction.

Since last season, the large landfarm and contaminated snow containment facility have been completed and a new hazardous waste storage containment has been constructed near the loading area. As well, sediment ponds at the shore that were under construction last season are now operational.

4.02 Existing Polishing/Waste Stabilization Pond

This containment facility has been decommissioned since our last inspection.

4.03 Barrel Fuel Storage

This containment facility has been decommissioned since our last inspection.

4.04 Hazardous Waste Storage (MP-HWB-3, MP-HWB-4, and MP-HWB-5)

General Conditions

This particular structure has been constructed as a two-cell structure.

Due to an excess of hazardous waste in the two-cells, a third temporary cell has been constructed for the very short term until the ship picks up the hazardous waste at the end of the summer season.

The third cell is constructed with a one piece liner and wood timber curb for this very short term and is contiguous with the south side of the structure.

This cell actually stores hazardous waste in containers, barrel fuel, and lubricant cubes and does not have the integrity to resist a large spill. There are now bladders with contaminated water in each cell. A new hazardous waste storage facility has now been constructed near the loadout area for storing hazardous waste to be shipped out.

Stability

There is water ponding in both cells of the original structure confirming the integrity of the liner at this time.

Our review of the area around the dykes, at the base of the slopes, showed no sign of seepage. The structure is considered stable.

Recommendations

We recommend that the use of the temporary third cell, recently constructed, be discontinued when possible.

4.05 Fuel Tank Farm

General Conditions

Since both 2012 and 2013 the fuel tank farm has been expanded considerably with the addition of a number of new tanks.

At the time of our last inspection in 2014, the containment structure had been put in place for the entire tank farm and all tanks were in place.

We note that the sump placed in the containment is located at the high end of the containment. There is water ponding in the low end of the containment.

Stability

At our inspection we noted minor water ponding at the low end of the containment confirming the integrity of the liner.

Recommendations

We recommend that the sump be relocated to the low point at the north end of the containment or an addition sump installed.

4.06 New Effluent Pond

General Conditions

This particular effluent pond was first reported on in 2013 but had not yet been put into operation.

The pond was put into operation in 2014.

The containment pond was operating at approximately sixty-percent of capacity at the time of our inspection.

Stability

We noted no sign of weakness in any of the construction.

Recommendations

We have no recommendations with respect to the use of this structure having no negative comments on the construction of this structure.

4.07 Landfarm Containment

General Conditions

The landfarm containment is complete except for soil cover in the area of the sump.

The landfarm was constructed to accommodate approximately 9000 m^3 of oil contaminated soil and seasonal water accumulations.

At the time of our inspection the landfarm was in operation and sorting of contaminated materials was taking place.

The landfarm had been put into operation at the time of our September review last season.
It appears as though the structure has been constructed in accordance with good construction practice for structures of this type.

Stability

The structure appears stable as constructed.

Recommendations

We recommend that the remaining dyke structure without protective cover over it be covered as per the design drawings, if any activity is expected in this area.

4.08 Contaminated Snow Containment

General Conditions

The construction of the contaminated snow containment structure is contiguous with the east end of the landfarm.

It appears as though the structure has been constructed in accordance with good construction practice for structures of this type.

The snow containment facility has a containment volume of 929 m^3 based on estimates of snow volume provided by the owner and only a small percentage of the capacity is utilized.

The structure has been constructed with good quality control.

Stability

The structure appears stable as constructed.

Recommendations

We have no recommendations with respect to this construction at this time.

4.09 Sediment Pond East

General Conditions

The construction of this sedimentation pond for drainage from the east side of the site is complete. The basin is shaped and the liner has been installed throughout the basin from inlet to the berms on the north side of the basin.

There has been no cover placed over the liner to this point and rip rap has not yet been placed in the outlet weir.

Stability

We have concerns over the stability of the liner and recommend more soil ballast on the south edge and possibly tire ballast over the liner which appears subject to wind damage. This shall provide a function for used tires.

Recommendations

We recommend review of the use of a ballast (possibly tires) on the exposed liner at the dyke to prevent wind uplift.

4.10 Sediment Pond West

General Conditions

The construction of this sedimentation pond for drainage from the west side of the site is nearing completion except for the west end on the south side where the liner must be “tucked” in.

Stability

We have some concern over the stability of the liner on this pond as we have with the east pond and further recommend that used tire ballast be considered.

Recommendations

Complete construction at the south side, west end, by “tucking” the edge of the liner under the soil.

4.11 Quarry

General Conditions

There is an active quarry to the south of the port development on the high rock outcrop.
Quarrying was underway and benches had been developed for the removal of substantial quantities of rock.

Stability

Rock faces appear stable.

Recommendations

We have no recommendations to be made with respect to the existing operation.

4.12 Loading Area Contaminated Storage (Now MP-HwB-1

General Conditions

This area has been constructed near the loading dock to facilitate assembly of hazardous materials for shipment out. It appears that some material from the temporary hazardous storage containment have now been assembled here.

It appears that travel has taken place over the north dyke in the placing of containers. It does not appear that the liner has been damaged.

Construction appears to have taken place in accordance with standardized drawings prepared in the past.

Stability

Construction appears stable.

Recommendations

We recommend that action be taken to prevent travel over the berms before liner damage takes place.

4.13 Overview

Decommissioning is underway of the former structures constructed of sand and gravel and new long term structures are recently completed or under construction utilizing crushed quarried material with a projected long term serviceability.

Respectfully submitted,

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Barry H. Martin, P. Eng., MRAIC

Milne Inlet Photos

Hazardous Storage Containment. (Now MP-HWB-3)

Temporary Hazardous Storage. (Now MP-HWB-5)

Polishing/Waste Stabilization Pond.

Fuel Tank Farm Containment.

East Settling Pond – Add ballast this area.

East Settling Pond.

West Settling Pond – “Tuck-in” liner this location.

West Settling Pond.

Load-out Area Hazardous Waste Containment. (Now MP-HwB-1)

Land Farm Containment.

Contaminated Snow Melt Containment.

MILNE INLET DRAWINGS