

## **4.0 MILNE INLET**

### **4.01 General**

There are still changes taking place at Milne Inlet, since our last inspection in July/August of this year.

The sediment ponds at the shore that were under nearing completion are now fully operational with inlet ditching complete.

### **4.02 Hazardous Waste Storage (MP-HWB-3 and MP-HWB-4)**

#### **General Conditions**

This particular structure has been constructed as a two-cell structure and is now only used to store a few items.

A new hazardous waste storage facility has now been constructed near the loadout area for storing hazardous waste to be shipped out and is in full operation at this time.

#### **Stability**

There is no water ponding in both cells of the original structure. We are advised that water has been pumped from these structures and sand in the structures contains ice.

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 have no recommendations with respect to the use of these two cells at this time. Prior to our inspection in September, we request that water not be pumped from the structures.

### **4.03 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. No tanks have been added since last season but there is room to place additional tanks.

During the last day of our earlier inspections, a major fuel oil spill took place. The berm around the containment effectively contained the spill. The sumps had not been installed at the time of the spill. These sumps have been installed.

### **Stability**

We have minor water ponding at the low end of the containment confirming the integrity of the liner. This ponding is now in the form of ice in the bottom of the containment.

### **Recommendations**

We have no recommendations with respect to the containment at this time.

## **4.04 New Effluent Pond (PWSP)**

### **General Conditions**

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.

## **4.05 Landfarm Containment**

### **General Conditions**

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

The landfarm was constructed to accommodate approximately 9000 m<sup>3</sup> of oil contaminated soil and seasonal water accumulations.

At the time of our inspection the landfarm was in operation and some sorting of contaminated materials had taken place. Since our last inspection, there is still minor sorting to take place including the removal of some waste and contaminated waste.

There is still some contaminated waste in the landfarm in addition to contaminated soil. No landfarming of treated contaminated soil has taken place.

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. This, however, is not an absolute requirement.

### **4.06 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<sup>3</sup> 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. The structure appears as it did in our July/August review.

### **4.07 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.

The tears and punctures that were present at the time of our July/August review have yet to be repaired.

#### **Stability**

We still have concerns over the stability of the liner and recommend possibly tire ballast over the liner which appears possibly 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.

We further recommend the re-installation of the liner at the westerly Inlet such that the liner is shaped to the profile of the inlet ditch

### **4.08 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 as set out in our report last year.

The inlet where the water was being conducted under the liner with gravel has been made good.

#### **Stability**

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

#### **Recommendations**

Complete construction at the inlet structures to ensure contaminated water flows into the containment and not under it. With snow conditions it was difficult to confirm the construction.

### **4.09 Quarry**

#### **General Conditions**

The quarry was inactive at the time of our review and most blasted rock had been removed from the quarry site.

It appears that little or no quarrying has taken place since our last visit.

#### **Stability**

Rock faces appear stable.

#### **Recommendations**

We have no recommendations to be made with respect to the quarry.

### **4.10 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 all material from the temporary hazardous storage containment have now been assembled here.

Most hazardous waste has now been removed from the containment and shipped out.

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

#### **Stability**

Construction appears stable.

#### **Recommendations**

We have no recommendations with respect to this structure.

### **4.13 Fueling Facility Containment**

#### **General Conditions**

A new fueling facility for the fueling of B trains is completed utilizing design drawings prepared by our office.

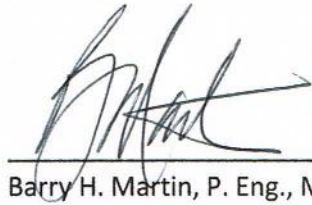
Work conforms to the design drawing.

A second cell is now to be constructed south of the existing.

#### 4.12 Overview

Work on containment structures is now almost complete and only the hazardous waste cells MP-HWB-3 and 4 require decommissioning.

Respectfully submitted,



Barry H. Martin, P. Eng., MRAIC



# Milne Inlet Photos

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Hazardous Waste Storage MP-HWB-4



Hazardous Waste Storage MP-HWB-5





Fuel Tank Farm



Milne Inlet Sewage Effluent Pond (PWSP)



Land Farm Containment



Contaminated Snow Containment



Milne Inlet Quarry



Loading Area Contaminated Storage MP-HWB-1





Fuelling Facility Containment



East Drainage Pond





East Drainage Pond. Westerly Inlet

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# Milne Inlet Drawings

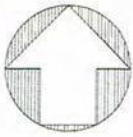
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H349000-2000-00-015-0021



AANDC NUNAVUT  
LEASE 47H/15-1-2

MILNE INLET

SHIPLOADER

ORE DOCK

ORE STOCKPILE  
SETTLING PONDS

FUEL TANK FARM

EFFLUENT  
DISCHARGE LOCATION  
N 7875341  
E 503639

SEALIFT BARGE  
LANDING AREA

RAMP TO BEACH

HAZARDOUS  
WASTE BERMS

LAYDOWN  
AREA

FUTURE AIRSTRIP

ORE STOCKPILE  
PAD

POWER  
GENERATORS

POLISHING  
WASTE STABILIZATION  
POND

EXISTING HAZARDOUS  
WASTE BERM

MATRIX CAMP

INCINERATOR  
HAZARDOUS WASTE  
BERM

SERVICES AREA PAD  
SITE FACILITIES, INCLUDING:

- MAINTENANCE BUILDING
- WELDING SHOP BUILDING
- WORKSHOP OFFICE BUILDING
- TOROMONT MAINTENANCE BUILDING

CAMP INFRASTRUCTURE PAD  
SITE FACILITIES, INCLUDING:

- ACCOMMODATION COMPLEX
- EMERGENCY RESPONSE OFFICE
- EMERGENCY RESPONSE GARAGE
- SEWAGE TREATMENT PLANT
- POTABLE WATER TREATMENT PLANT
- WASTE MANAGEMENT FACILITY

ADDITIONAL  
LAYDOWN AREA

LAND FARM

ROCK QUARRY NO.1  
BOUNDARY

POTABLE  
WATER SUPPLY

CONVERT EXISTING CONCRETE  
BATCH PLANT BUILDING TO  
MAINTENANCE BUILDING

FUTURE POLISHING  
WASTE STABILIZATION  
POND

TOTE ROAD

EXTENT OF  
QUARRY Q1

PERMITTED OPEN  
BURN PIT AREA

KM2 BORROW AREAS

PHILLIPS CREEK

FOR INFORMATION

NOTES:

1. COORDINATE GRID IS SHOWN IN UTM (NAD83) ZONE 17 AND IS IN METRES.
2. 2016 WORK SHOWN IN RED TEXT.

0 50 100 150 200 250  
SCALE IN METRES

LEGEND:

WATER

QUARRY

COMMERCIAL LEASE

AANDC 11AS7  
4/14/15 1-2

RIVER/STREAM/DRAINAGE

ROAD

PROJECT DEVELOPMENT  
AREA

BORROW AREAS

HATCH

DESIGNED BY  
C. LEISTNER  
DATE 2014-10-20  
CHECKED BY  
S. POTTER  
DATE 2014-10-20  
PROJ. DES. COORD.  
T. THRETFILL  
DATE 2014-10-20  
PROJ. ENGR.  
J. CLELAND  
DATE 2014-06-19

DRAWN BY  
J. BAJAGIC  
DATE 2014-10-20  
DISCIP. ENGR.  
A. GRZFORDCZYK  
DATE 2014-10-20  
PROJ. ENGR.  
J. CLELAND  
DATE 2014-06-19

D. ISSUED FOR USE  
M.B. J.R. 2015-10-15  
C. ISSUED FOR USE  
S.W. T.M. 2014-12-10  
B. ISSUED FOR USE  
C.L. T.M. 2014-10-31  
A. ISSUED FOR USE  
C.L. A.G. 2014-06-19

ISSUE AUTHORIZATION  
J. CLELAND  
DATE 2014-06-19

Baffinland

MARY RIVER PROJECT

MILNE PORT  
INFRASTRUCTURE FOOTPRINT  
WORK PLAN 2016

SCALE  
1:5000  
OR AS NOTED

DWG. NO.  
H349000-2000-00-015-0021

REV.  
D



CH 5040

POINTS FOR DRAINAGE BERM

POINT No.	NORTHING	EASTING	EL.
108 01	N 7 976 350.70	E 503 225.29	9.76
108 02	N 7 976 351.31	E 503 177.58	9.89
108 03	N 7 976 356.54	E 503 158.77	9.50
108 04	N 7 976 316.95	E 503 093.10	8.30
108 05	N 7 976 310.11	E 503 089.01	8.90
108 06	N 7 976 303.66	E 503 078.86	8.49
108 07	N 7 976 288.78	E 503 054.23	7.77
108 08	N 7 976 269.70	E 503 051.64	8.65
108 09	N 7 976 277.04	E 503 055.13	9.20
108 10	N 7 976 274.42	E 503 055.12	9.31
108 11	N 7 976 271.52	E 503 055.20	9.26
108 12	N 7 976 264.78	E 503 060.27	9.56
108 13	N 7 976 258.74	E 503 109.21	10.30
108 14	N 7 976 355.72	E 503 350.21	9.95
108 15	N 7 976 366.88	E 503 345.50	9.97
108 16	N 7 976 365.07	E 503 408.81	9.80
108 17	N 7 976 373.78	E 503 439.01	11.60
108 18	N 7 976 368.46	E 503 443.32	11.97
108 19	N 7 976 320.16	E 503 462.44	12.20
108 20	N 7 976 320.16	E 503 462.44	12.20
108 21	N 7 976 328.28	E 503 441.66	11.31

POINTS FOR DRAINAGE DITCH

POINT No.	NORTHING	EASTING	EL.
B00 01	N 7 976 344.64	E 503 224.15	8.88
B00 02	N 7 976 347.00	E 503 177.70	8.92
B00 03	N 7 976 347.60	E 503 159.07	8.60
B00 04	N 7 976 313.71	E 503 095.32	8.10
B00 05	N 7 976 309.50	E 503 091.27	8.00
B00 06	N 7 976 306.36	E 503 067.66	5.27
B00 07	N 7 976 295.09	E 503 054.39	5.26
B00 08	N 7 976 264.54	E 503 059.16	7.10
B00 09	N 7 976 260.41	E 503 062.13	7.02
B00 10	N 7 976 075.05	E 503 066.31	8.20
B00 11	N 7 976 354.41	E 503 285.55	9.44
B00 12	N 7 976 357.08	E 503 329.23	9.10
B00 13	N 7 976 356.22	E 503 420.63	9.77
B00 14	N 7 976 356.22	E 503 420.63	9.77
B00 15	N 7 976 358.91	E 503 438.03	8.90
B00 16	N 7 976 358.91	E 503 349.65	8.88
B00 17	N 7 976 272.51	E 503 431.06	8.81
B00 18	N 7 976 165.19	E 503 435.39	9.10
B00 19	N 7 976 078.11	E 503 431.06	9.10

FILE NAME

THIS DWG

KEY PLAN

- LEGEND
- AS BUILT CONTOURS
  - EXISTING WATERBODY
  - BAFFINLAND'S COMMERCIAL LEASE OR RENT OWNED LAND
  - PROJECT DEVELOPMENT AREA FROM
  - FILL SLOPE
  - CUT SLOPE
  - TOE OF SLOPE
  - SLOPE BREAKLINE
  - GRADING SLOPE
  - CENTRELINE OF DITCH
  - CULVERT
  - FG EL. AT 50m x 50m GRID
  - HIGH POINT
  - AS BUILT POINT NUMBER
  - SETOUT POINT NUMBER INCOME AS BUILT
  - CSP
  - CORROGATED STEEL PIPE
  - UTILITY CROSSING (SEE NOTE 7)
  - TOP OF BERM
  - BOTTOM OF DITCH

NOTES:

1. AS BUILT SURVEY DATA PROVIDED BY BAFFINLAND.
2. COORDINATE GRID IS SHOWN IN UTM INAD031 ZONE 17 AND IS IN METRES.
3. CONTOURS ARE IN METRES. CONTOUR INTERVAL IS 0.5m.
4. ALL DIMENSIONS AND ELEVATIONS SHOWN ARE IN METRES UNLESS NOTED OTHERWISE.
5. FOR SEDIMENTATION PONDS PLAN AND DETAIL REFER TO DRAWING H349004-2345-10-035-0001.
6. UTILITIES ARE CROSSING ROAD SURFACES UNDERNEATH OF RAMP TO REACH ON TOP OF FINISHED SURFACE ELEVATION OF 7.7 FOR H349004-2345-10-035-0002 ROAD CROSSING SEE DRAWING H349004-2345-10-035-0003.

AS BUILT

BAFFINLAND

MARY RIVER PROJECT

MILNE PORT  
ORE STOCKPILES NO. 1 & 2  
EARTHWORKS & DRAINAGE - PLAN

DWG. NO. H349004-2345-10-035-0001

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