December 3, 2010

Phyllis Beaulieu, Manager of Licensing
Richard Dwyer, Licensing Administrator
Nunavut Water Board
P.O. Box 119, Gjoa Haven NU X0B 1J0

Dear Ms. Beaulieau / Mr. Dwyer:

Re: Baffinland Iron Mines Corporation (BIM) - Submission of an Annual Geotechnical Inspection, NWB File: 2BB-MRY0710

1.0 INTRODUCTION

Under Part D, Item 16, of Baffinland Iron Mines Corporation (BIM) Water Licence 2BB-MRY0710, there is a requirement to ensure the proper function of earthworks associated with waste disposal facilities at its Mary River Project. This requirement is detailed in Part D, Item 16, which states that:

> *"An inspection of the earthworks, geological regime, and the hydrological regime of the Project is to be carried out during the summer of 2008, by a Geotechnical Engineer. The Geotechnical Engineer's report shall be submitted to the Board within sixty (60) days of the inspection, with a covering letter from the Licensee outlining an implementation plan to respond to the Engineer's recommendations."*

During 2008, 2009, and 2010, BIM retained GENIVAR Consultants (Genivar) to complete the annual water license geotechnical inspection of the on-site waste containment structures located at its two main camp sites, known as the Mary River Camp and Milne Inlet Camp. The water and fuel containment structures reviewed at the respective camps included the following:

Mary River Mine Camp

- Bulk Fuel Storage Facility Containment,
- Generator Fuel Storage Facility Containment,
- Polishing/Waste Stabilization Pond No. 1, and
- Polishing/Waste Stabilization Pond No. 2
- Helicopter Fuel Tank Containment
- Barrel Fuel Containment
- Hazardous Waste Storage
- Enviro Tank Storage

Milne Inlet Site

- Bulk Fuel Storage Facility Containment, and
- Polishing/Waste Stabilization Pond.
- Barrel Fuel Storage
- Hazardous Waste Storage

The 2008 and 2009 geotechnical reports, completed by Genivar, and recommendations were submitted to the Nunavut Water Board (NWB) in November 2008 and 2009, respectively. Attached, herewith, is Genivar's 2010 geotechnical report which presents the 2010 findings and recommendations for the aforementioned structures. Sections 2.0 and 3.0 of this letter summarize BIM's plan for implementing Genivar's recommendations. Recommendations for 2010 were similar to those provided for the 2008 and 2009 annual geotechnical inspection reports.

2.0 MARY RIVER MINE CAMP RECOMMENDATIONS

2.1. Bulk Fuel Storage Facility Containment

There were no recommendations made at this time.

2.2. Generator Fuel Storage Facility Containment

Recommendation MR1: Based on the need to contain 110 % of the bladder volume in the event of a fuel spill, the maximum volume of fuel permitted to be stored in the bladder in this facility as it is constructed, is 77,376 litres. BIM will continue to control the amount of fuel to the stated volume as per current practice.

BIM Response: This recommendation has and continues to be implemented.

2.3. Polishing/Waste Stabilization Pond No. 1

Recommendation MR1: An elevation monitoring program established on the exterior dyke structure to measure the potential for settlement due to permafrost melting to continue to be implemented.

BIM Response: The monthly elevation monitoring program should continue to be conducted throughout the 2011 open water season.

2.4. Polishing/Waste Stabilization Pond Nos. 2 and 3

Recommendation MR6: An elevation monitoring program established on the exterior dyke structure to measure the potential for settlement due to permafrost melting to continue to be implemented.

BIM Response: The monthly elevation monitoring program should continue to be conducted throughout the 2011 open water season.

2.5. Helicopter Fuel Tank Containment, Barrel Fuel Containment, Hazardous Waste Storage, and Enviro Tank Storage

There were no recommendations made at this time.

3.0 Milne Inlet Camp

3.1. Bulk Fuel Storage Facility Containment

There were no recommendations made at this time.

3.2. Polishing/Waste Stabilization Pond.

There were no recommendations made at this time.

3.3. Barrel Fuel Storage and Hazardous Waste Storage

There were no recommendations made at this time.

We trust that this submittal satisfies your current requirements. Should you have any questions, please do not hesitate to contact Jim Millard, Senior Environmental Superintendent at 902-403-1337 or by e-mail at jim.millard@baffinland.com.

Best Regards,
Baffinland Iron Mines Corporation

Jim Millard, M.Sc., P.Geo.
Senior Environmental Superintendent

cc. David McCann (BIM); Stephen Bathory (QIA); Bryan Raynor (INAC)

Attach: Annual Geotechnical Inspection 2010, prepared by GENIVAR Consultants for Baffinland Iron Mines Corporation, dated November 3, 2010.

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Milne Inlet Site

- Bulk Fuel Storage Facility Containment
- Polishing Waste Stabilization Pond
- Barrel Fuel Storage (constructed as a 2 cell structure)
- Hazardous Waste Storage (constructed as a 2 cell structure)

This report presents the findings and recommendations with respect to the aforementioned structures. We understand that this report shall be used by BIM to fulfill the requirements of the Nunavut Water Board for an annual geotechnical investigation of on-site water and fuel retaining structures under water license 2BB-MRY0710.

2.0 Methodology for Inspection

The geotechnical inspector was Mr. Barry H. Martin, P. Eng., who reviewed the sites on August 25, 26, 27, 2010. The inspections were focused principally on the following aspects.

1. The structures were inspected for conformance with the design basis as presented in as-constructed and as-built drawings (provided in the first report).

2. The structures were specifically inspected for settlement, cracking, and seepage through the berms .

3. The areas around the sites were examined for evidence of seepage.

Photographs were taken to document observations made during the inspection and are attached.

3.0 Mary River Camp

3.1 Bulk Fuel Storage Facility Containment

General Conditions

The containment structure has not varied from its use as noted in the 2009 report. Some bladders are empty and some bladders are currently full.

Stability

At the time of our review, there were localized shallow areas of water within the containment structure that originated from recent rain and earlier snow melt.

The localized ponds are an indication of membrane integrity.

The structure was visually inspected for any signs of cracking or subsidence. There was no indication of any settlements, seepage or cracking in the soil structures that formed the dykes. As well, there was no indication of seepage at the base of the structure around the exterior. The soil structure is considered to be stable in the present condition and is in conformance with the design basis for the facility.

Recommendations

There are no recommendations to be made at this time.

3.2 Generator Fuel Storage Facility Containment

General Conditions

The containment structure has not varied from its use following our 2009 inspection. At that time our recommendation was to limit the fuel contained in this containment facility to 77,376 litres.

There is currently one bladder in this containment facility that has a capacity when full of 120,000 litres. This particular bladder contains 77,376 litres of fuel when the bladder is 32" high. The guideline for BIM is to fill this bladder to no more than 76 cm (30") which represents 70,097 litres of fuel.

At the time of our visit, the bladder height was measured at29" representing approximately 68,000 litres of fuel.

Stability

The structure was visually inspected for any signs of cracking or subsidence. There was no indication of settlements, seepage or cracking in the structure. Also, there was no sign of seepage at the base of the structure. The soil structure is considered to be stable in its present condition and is in conformance with our design principles.

Recommendation

We recommend that BIM continue to control the amount of fuel in the bladder at 70,097 litres as per their present policy.

3.2 Polishing/Waste Stabilization Pond No. 1

General Conditions

PWSP No. 1 continues to be used as a holding facility for sewage plant effluent that does not meet water license effluent quality criteria. As has been the case in the past, once the treated sewage effluent meets water license effluent quality criteria, the plan is to release treated effluent directly to the receiving environment (Sheardown Lake). The residual sewage and sludge left in the pond shall be treated as is necessary and shall be released to the environment or disposed of.

The structure currently conforms to its design intent.

Stability

Our inspection of the area around the pond at the base of the slopes showed no sign of seepage and hence we conclude that there are no tears or ruptures in the membrane.

A review of the exterior and the top of the dykes showed no indication of cracking or settlement which would indicate stresses within the structure.

Tears that had occurred in the top of the berm have been patched (between 2008 and 2009) and the patches are holding well.

Monitoring points have been set up and the berm and monitoring of the elevation of the top of the berm has been done since June 2009. Settlements in the order of 5 cm to 9 cm have occurred since this time. These settlements have not led to any stress cracks in the structure.

The structure is considered to be stable in the present condition.

Recommendations

We recommend that the monitoring of the top of the berms continue for the remainder of 2010 and through the May to October season in 2011.

3.3 Polishing/Waste Stabilization Ponds #2 and #3.

General Conditions

This structure was designed and constructed as a 2 cell structure.

There is no change in this structure since the last inspection . This structure currently conforms to its design intent.

Stability

Our review of the area around the pond at the base of the slopes showed no sign of seepage and hence we conclude that the liner has been effective in containing the sewage and here are no tears or ruptures in the membrane.

Minor longitudinal cracks under the west berm of PWSP #3 that were noted during our last inspection in 2009 have not reoccurred this season. The structure is considered to be stable in its present condition.

Monitoring points have been set up on top of the berm and monitoring of the elevation of these points on top of the berm has been done since that time. Settlements in the order of 6 to 9 cm have occurred since this time. These settlements have not led to any stress cracks in the structure.

The structure is considered to be stable in the present condition.

Recommendations

We recommend that the monitoring of the elevations of the top of the berms continue for the remainder of 2010 and through the May to October season in 2011.

3.4 Helicopter Fuel Tank Containment

General Conditions

This structure was designed and constructed as a single cell structure that contains a 1000 gallon fuel storage tank.

This structure has not been reported on prior to this particular review.

This structure was constructed in accordance with standardized drawings provided by our office.

This structure currently conforms to its design intent.

Stability

Our review of the area around the pond at the base of the slopes showed no sign of seepage. Water has ponded just slightly higher than the gravel liner over the membrane liner.

This indicates that there are no tears or ruptures in the membrane liner.

A review of the exterior and the top of the berms showed no indication of cracking or settlement which would indicate stress within the structure.

The structure is considered to be stable in its present conditions.

Recommendations

We have no recommendations with respect to this structure.

3.5 Barrel Fuel Containment

General Conditions

This structure was designed and constructed as a 2 cell structure with one piece membrane liners. These two cells contain pallets of 45 gallon drums of fuel which fill both cells.

A lack of ponding of water in the cells over the gravel liner as with other fuel containment cells was investigated. It was found that due to the fact that the cells were filled with 45 gallon drums, there was not the collection of winter snow that led to snow melt as there was in other cells.

As well, we note that the liners are one piece liners and the structure was constructed in accordance with standardized drawings provided by this office.

Stability

Our review of the area around this containment structure showed no sign of seepage. This shows that there is little chance of tearing or rupture of the membrane.

A review of the exterior and top of the berms showed no sign of cracking or settlement which would indicate stresses within the structure.

The structure is considered to be stable in its present condition.

Recommendations

We have no recommendations with respect to this structure.

3.6 Hazardous Waste Storage

General Conditions

This particular cell was constructed contiguous with an existing cell which is referred to on site as the Enviro Tank Storage. This cell was only just recently constructed from drawings provide by our office and the structure conforms to our drawings.

This structure has not yet been put into use.

This cell has not been reported on prior to this review.

Stability

Our review of the area around this cell at the base of the slopes showed no sign of seepage. Water has ponded just slightly higher then the gravel liner over the membrane liner.

This indicates no sign of tears or rupture in the membrane.

The structure is stable in its present condition.

Recommendations

There are no recommendations at this time.

3.7 Enviro Tank Storage

This particular structure is constructed contiguous with the new Hazardous Waste Storage.

General Conditions

Our review of the area around this cell at the base of the slopes showed no sign of seepage. Water here has also ponded just above the gravel over the membrane liner in this cell.

This indicates no sign of tears or rupture in the membrane.

The structure is stable in its present conditions.

Recommendations

There are no recommendations at this time.

The additional cells that have been constructed have been constructed from standardized drawings provided to Baffinland Iron Mines by our office.

4.0 Milne Inlet

4.1 Bulk Fuel Containment Facility

General Conditions

The structure around the fuel farm currently conforms to the design basis of the facility. A review of the interior of the dyke indicated that the water that existed on the interior of the dyke as viewed during the annual review last year was essentially gone and the treatment facility used to treat water that was removed was still in place. The ponding of water continues to confirm the integrity of the liner.

Stability

Our review of the area around the ponds at the base of the slopes showed no signs of oil, water or oil water mixtures and hence we conclude that the integrity of the liner has been maintained. Tears or ruptures in the membrane were not observed.

There was no indication of any settlements, seepage, or cracking at the soil structures forming the dykes.

The structure is considered to be stable in its present condition.

Recommendations

The performance of the structure has been recently tested with ponded water within the enclosure. The observations noted during our recent visits support the conservative design of the structure. We have no recommendations at this time.

4.2 Polishing/Waste Stabilization Pond

General Conditions

PWSP was originally designed as storage for sewage effluent from the RBC sewage plant installed at the site during the start-up phase of the operation. At the time of this inspection, the camp was shut down and only a small camp of temporary structures was in place and in use by 2 to 5 men.

The water in the structure was approximately 3 to 4' below the top of the berm.

The exterior slopes of the dykes were observed to be at 4:1. The interior slope of the dykes appeared to be 2:1.

Currently, the Milne PWSP structure conforms to the design basis of the facility.

Stability

With the interior slope at 2:1 and the exterior slope at 4:1 we find the dykes to be stable for long term use.

Based on the observed 4:1 dyke exterior slopes, the structure appears stable at current condition. There was no sign of effluent break-out or seepage at any location along the bottom of the dyke. The high effluent levels which were observed at the time of the 2008 visits had been lowered to less than design criteria.

Recommendations

Currently the Milne PWSP conforms to the design intent and we have no recommendation.

4.3 Barrel Fuel Storage

This particular structure is constructed as a double cell facility.

General Conditions

The structure around these two cells conforms to standardized drawings prepared by our office for such a facility.

A review of the interior of the dyke indicates that water is ponding slightly above the gravel liner over the membrane liner.

The ponding of water confirms the integrity of the liner.

Stability

Our review of the area around the ponds at the base of the slopes showed no signs of seepage.

A review of the dykes shoed no sign of cracks or settlements.

The structures are considered stable in their present condition.

Recommendations

There are no recommendations to be made with respect to this structure at this time.

4.4 Hazardous Waste Storage

This particular structure is constructed as a double cell facility.

General Conditions

The structure around these two cells conforms to standardized drawings prepared by our office for such a facility.

A review of the interior of the dyke indicates that water is ponding slightly above the gravel liner over the membrane liner.

The ponding of water confirms the integrity of the liner.

Stability

Our review of the area around the ponds at the base of the slopes showed no signs of seepage.

A review of the dykes shoed no sign of cracks or settlements.

The structures are considered stable in their present condition.

Recommendations

There are no recommendations to be made with respect to this structure at this time.

We hope that the above report is satisfactory to Baffinland Iron Mines for inclusion into the annual geotechnical report of Nunavut Water Board. If you have any questions, please do not hesitate to contact the undersigned.

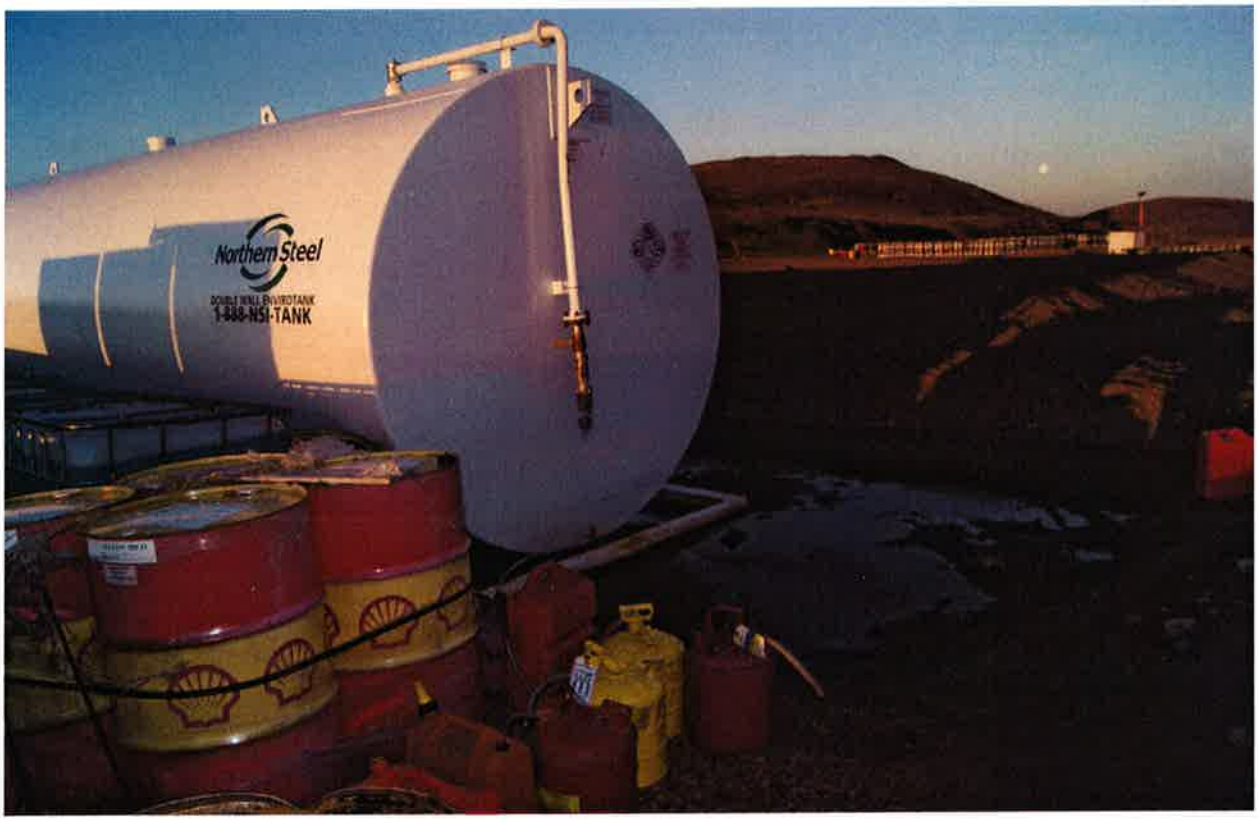
Respectfully submitted,

GENIVAR

Barry H. Martin, P . Eng.,
BHM/jw

c.c. Jim Millard

Generator Fuel Storage Facility – Mary River.



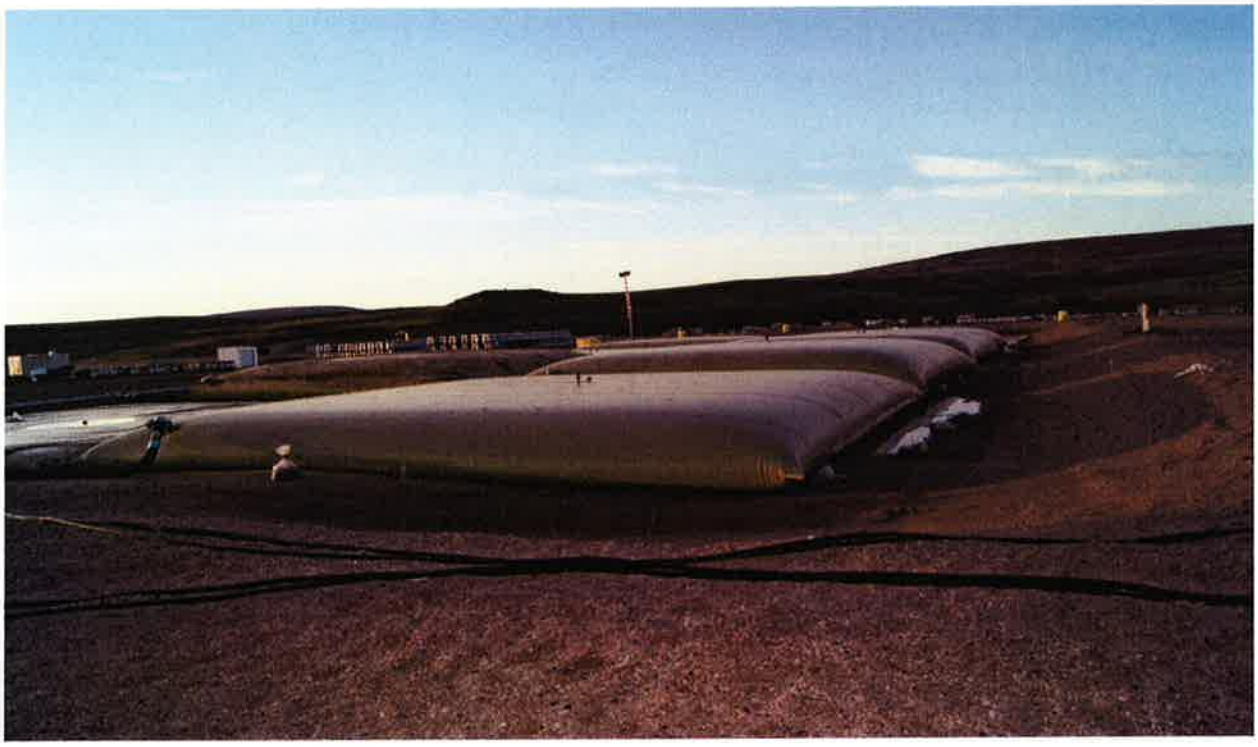
Environ tank Storage – Mary River

Polishing Ponds #2 and #3 – Mary River.

Polishing Pond #1 – Mary River.

Typical dyke polishing pond #2 – Mary River

Helicopter Fuel Tank Containment – Mary River



Bulk Fuel Storage Facility Containment – Mary River

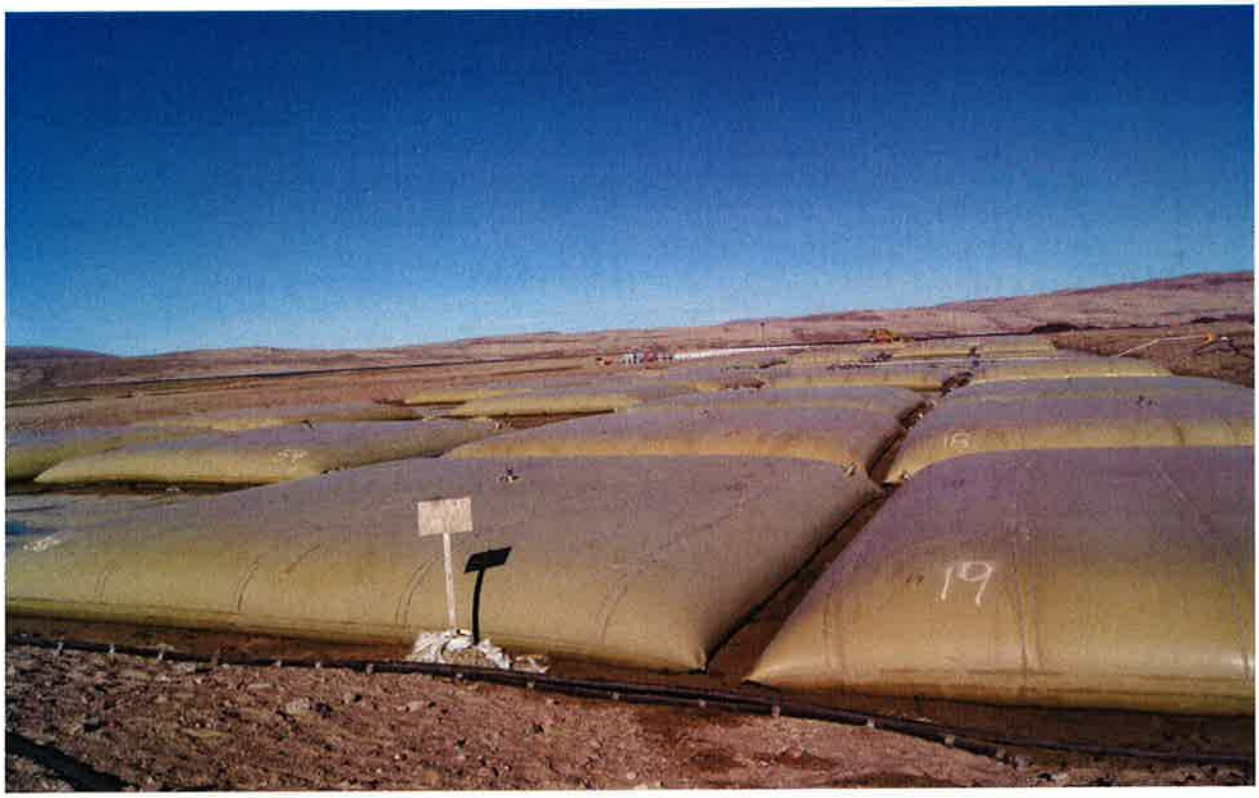
Barrel Fuel Containment – Mary River

Barrel Fuel Containment – Mary River

Hazardous Waste Storage – Mary River

Polishing/Waste Stabilization Pond – Milne Inlet.

Bulk Fuel Storage Facility – Milne Inlet.



Bulk Fuel Storage Facility – Milne Inlet

Barrel Fuel storage – Milne Inlet

Hazardous Waste Storage – Milne Inlet

Hazardous Waste Storage – Milne Inlet