



## **Annual Care and Maintenance Plan Kiyuk Lake Project, Nunavut**



September 2015

Nunavut Impact Review Board File Number : 11EN019

AANDC Land Use Permit Number: N2011C0011

Nunavut Water Board File Number : 2BE-KLG1116



## Introduction

Northern Empire Resources Corporation (NM) owns 100% interest in the Kiyuk Lake Property, Nunavut. Kiyuk Lake is composed of 50 mineral claims (546 square kilometres) located in south-west Nunavut Territory, within the Keewatin Region, Canada, 350 kilometers south-southwest of Arviat. A temporary, winterized, 40 person camp was setup in 2011 and is located at 60°27'49"N 100°23'05"W.

Exploration activities were completed during winter (February – May) and summer (July – October) seasons between 2011 and 2013 inclusive. Economic conditions in the metals and mining sector experienced a significant downturn in 2011, which lead to the depression of metal prices and difficulties financing exploration and mining projects. These conditions continue to persist and worsen into 2015. Due to the aforementioned economic conditions, exploration at the Kiyuk Lake property has been suspended since September 2013.

The primary objective of the Care and Maintenance Plan (CAMP) is to ensure the protection of the environment and the site infrastructure during the care and maintenance phase. This plan will provide NM and its designated contractors with a collection of working documents to manage site activities during this phase. Activities during this period are limited in scope and addressed only the most urgent requirements. This document addresses the specific management requirements related to care and maintenance activities.

## Fuel Management Plan

Sixteen bulk fuel storage tanks are located in the fuel farm in camp. Fuel types include Jet A, Diesel, and Gasoline. Additionally, diesel and Jet A fuel drum storage are contained within six berms adjacent to the fuel farm. In accordance with this CAMP, NM will endeavour to inspect the camp and fuel storage/containment facilities on an annual basis. In addition, NM will monitor and/or remediate spills reported in 2015 and referenced herein. When available, NM will also consider additional third party inspections of the site using either caretakers at Ennadai Lake (40km west) or locals travelling through the area from Lac Brochet, MB.



Station	Description	Phase	Monitoring Parameters	Frequency
<b>Fuel Farm</b>	12 Double walled storage tanks (4545 Litres) and 4 double walled storage tanks (2200 Litres)	Care and Maintenance	Inspect all tanks for leaks, spills, corrosion and dip tanks to obtain fuel volume record	Annually or more frequent when available
<b>Fuel Berm Drum Storage</b>	Six berms containing up to 18 drums	Care and Maintenance	Check drums for leaks, spills, corrosion and water accumulation within the berm. Inspect rain drains and tarping.	Annually or more frequent when available

The Appendices contain the appropriate “Fuel Inspection Form” for the bulk fuel storage combined with a map of the bulk fuel storage facility to record fuel quantities.

### Fuel Spills

In 2015, a site inspection discovered four fuel spills at the Kiyuk Lake camp (15 – 379, 380, 381 & 382). Two of the spills were small and quickly remediated during the site visit. Further remediation is required for the other two fuel spills. As part of the CAMP each remediated site should be inspected to ensure all contaminated material was captured during previous remediation efforts. The remaining spills sites will be remediated during inspections in accordance with the CAMP.

Spill Number	Description	Status	Phase	Monitoring Parameters	Frequency
<b>15-379</b>	See spill report	Awaiting remediation	Care and Maintenance	Remediate site	Annually (only possible in summer months)
<b>15-380</b>	See spill report	Remediated	Decommissioned Hot Tank	Inspection remediation sites for further fuel smell or contaminated soil	Annually (only possible in summer months)
<b>15-381</b>	See spill report	Remediated	Decommissioned	Inspection	Annually (only



			Hot Tank	remediation sites for further fuel smell or contaminated soil	possible in summer months)
<b>15-382</b>	See spill report	Awaiting remediation	Decommissioned Hot Tank	Remediate site	Annually (only possible in summer months)

### Infrastructure Maintenance Plan

The Kiyuk Lake is a fully winterized camp and is therefore able to withstand the elements for prolonged periods of time without significant maintenance. The CAMP requires all structures and equipment should be inspected for damage during each visit. The gensets and machinery should be started and appropriate maintenance undertaken to ensure other elements of the CAMP can be completed efficiently.

Station	Description	Phase	Monitoring Parameters	Frequency
<b>Genset 1</b>	15kW generator	Care and Maintenance	Start and run genset to aid other CAMP activities. Oil should be changed and fuel lines inspected	Annually or more frequent when available
<b>Incinerator</b>	Garbage and waste incinerator	Care and Maintenance	Turn on incinerator, inspect fuel lines and ensure it is operating within factory specifications	Annually or more frequent when available
<b>Tractors 1 and 2</b>	New Holland 4400 and Kubota B3000	Care and Maintenance	Start and inspect for abnormal function	Annually or more frequent when available
<b>ATV</b>	Honda Sport Tracs (2)	Care and Maintenance	Start and inspect for abnormal function	Annually or more frequent when available
<b>Snowmobile</b>	Yamaha Bravo (3)	Care and	Start and inspect	Annually or more



Sandic F500 (2)	Maintenance	for abnormal function	frequent when available)
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Additionally, all camp structures should be inspected for damage and repairs made as necessary. The appendices contain a map of camp to note deficiencies found at each structure and repairs made.



## **Kiyuk Lake Annual Care and Maintenance Schedule**

**Using the following map and inspection forms complete the following tasks for each site visit:**

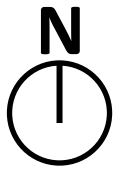
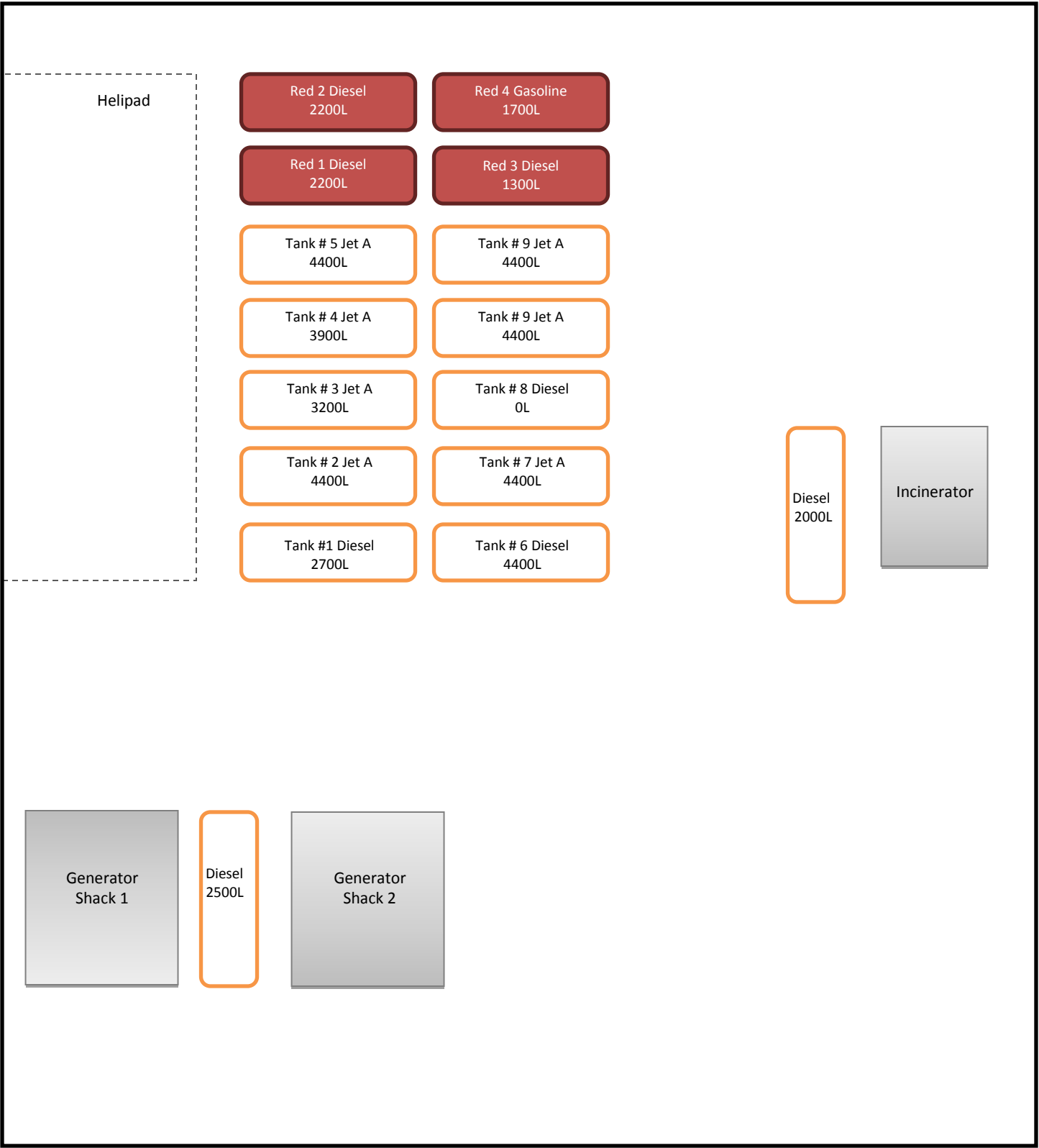
1. -Complete "Fuel Inspection Form" for double walled white bulk tanks and Red trailer tanks
2. -Dip tanks and record fuel quantity
3. -Inspect drum caches, berms and rain drains
4. -Start generator and change oil
5. -Run incinerator add any garbage found around camp
6. -Turn on all equipment to ensure machines are still functioning
7. -Inspect camp structures and note any deficiency and repair recommendations
8. -Remediate fuel spills and check for fuel smell at previously remediated spill locations



Project: \_\_\_\_\_  
Location: \_\_\_\_\_

Tank ID #

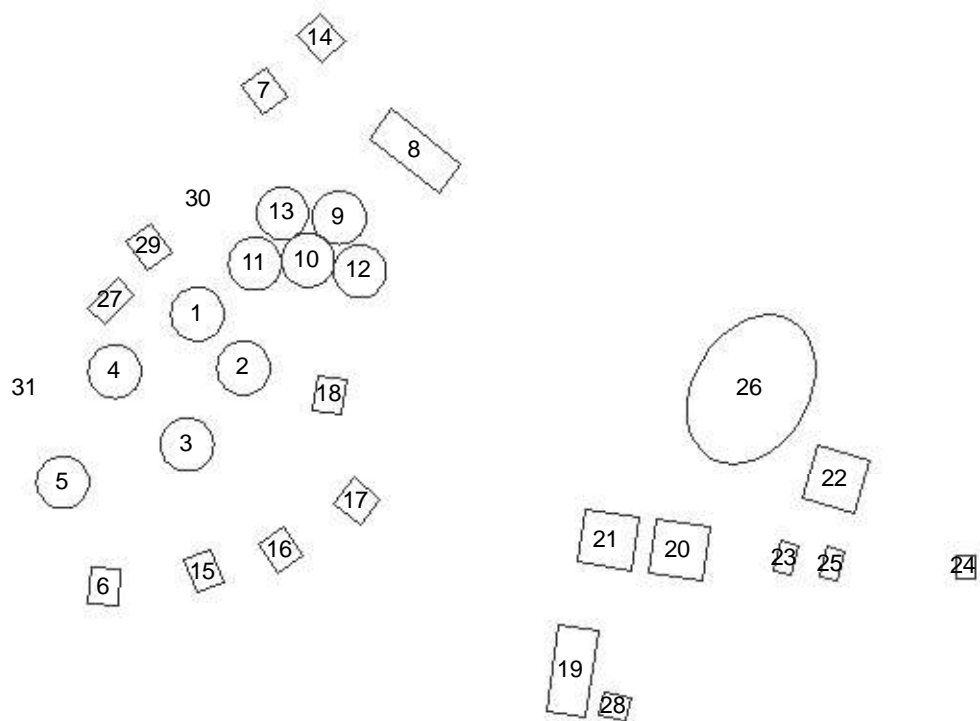
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Spill Kit Contents:													Schematic			
<div><input type="checkbox"/> Absorbent Pillows    <input type="checkbox"/> Disposal Bag <input type="checkbox"/> Absorbent Sausage    <input type="checkbox"/> PPE <input type="checkbox"/> Absorbent Sheets</div>													<div><div>11</div><div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div></div><div><div>6</div><div>7</div><div>8</div><div>9</div><div>10</div></div><div><div>12</div><div>→</div><div>NORTH</div></div></div>			
URGENT:																



# KIYUK LAKE – Bulk Fuel Farm



Id	Comment	Status
1	Dome 2	Established
2	Dome 1	Established
3	Dome 5	Established
4	Dome 3	Established
5	Dome 4	Established
6	Tent 4	Established
7	Old Driller Dry	Established
8	Kitchen	Established
9	Cluster	Established
10	Cluster	Established
11	Cluster	Established
12	Cluster	Established
13	Cluster	Established
14	Old Dry #2	Established
15	Tent 3	Established
16	Tent 2	Established
17	Tent 1	Established
18	Office	Established
19	Geo Core Shack	Established
20	Garage	Established
21	Shop - Cut Shack	Established
22	Fuel tank Farm	Established
23	Generator	Established
24	Incinerator	Established
25	Generator 2	Established
26	Heli Pad	Established
27	Toilet Shelter	Established
28	Saw Shelter	Established
29	New Driller Dry	Established
30	New Tent 1	Displaced/Des
31	New Tent 2	Displaced/Des



Kiyuk\_Camp\_Buildings

Status

Displaced/Destroyed

Established

Kiyuk\_Drum\_Storage