Attachment #1- Additional Information

3. Total Person Days

Care and Maintenance – up to 48 person*days (4 people x 12 operating days; monthly site visits between March and October)

Exploration – up to 28,800 person*days (up to 120 people x 240 operating days; camp open between March and October, maximum capacity is 120 people)

5. a) Summary of Operation

Purpose and Project Location

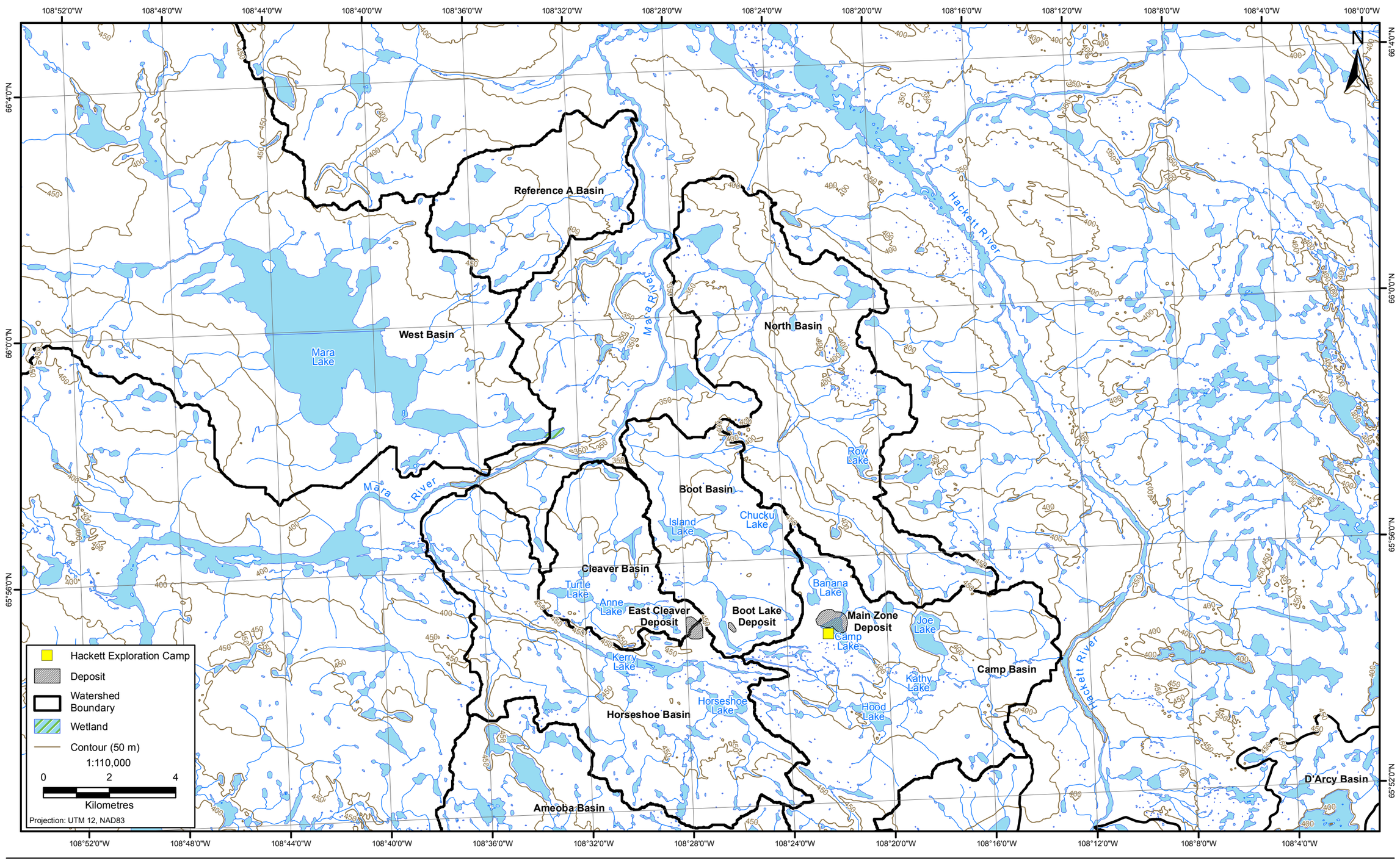
The Hackett River Project (Project) is located in the West Kitikmeot region of Nunavut. The property is situated on Crown Land and on Inuit-Owned Land within the West Kitikmeot Regional Land Use Plan Area. The Project is located approximately 300 km south of Cambridge Bay and 80 km southwest of Bathurst Inlet.

The Project area lies within four drainage basins, one that drains into the Hackett River and three that drain into the Mara River. Both rivers flow north into Bathurst Inlet.

Geological exploration has been conducted in the Project area since 2004 with comprehensive environmental baseline work conducted in 2007 and 2008. Xstrata Zinc Canada (Xstrata) acquired the property from Sabina Gold and Silver Corp. (Sabina) in November 2011, and is now wholly owned by Glencore Canada Corporation (Glencore). In 2012, exploration was continued with efforts focusing on increasing tonnes at known deposits and identification of new drill targets outside of the main deposit areas. Environmental baseline studies were continued from the 2007 and 2008 work in advance of the draft Environmental Impact Statement. However in August 2013, the camp was brought into a Care and Maintenance which it is still under as of July 2015.

The project includes three main silver- zinc deposits: Main, Boot, East Cleaver and the Jo Zone satellite deposit.

Figure 1
Hackett River Project Location



GLENCORE

Proj # 0194150-0150 | GIS # HAC-15-059

GLENCORE

Hackett River

Camp Lake Area

Drawn by: J. Boivin	UTM NAD83 Z12
Camp Lake Area 1K-1.Wor	Date : Jan. 28, 2014

0 50 100 m

1 : 1,500

Project Infrastructure

The Project has a single exploration camp on the southwest shore of Camp Lake (see Table 1 for a list of buildings), two airstrips, 3 helipads, and one jetty/floating dock (Table 1). Small equipment is stored within designated areas within the exploration camp and there are two primary fuel storage areas for: drummed diesel and jet fuel; and four bulk fuel storage tanks.

Table 1. Buildings and Equipment at the Hackett River Exploration Campburned.

Asset	Qty	Description
Buildings	36	Sleeping quarters – 4 with office space, 5 are historical wooden buildings, 3 are new wooden cabins
	2	Core processing facilities (historic core storage/saw rooms/shipping area)
	1	Core logging facility, with attached office space
	1	Core storage area, in old metal building
	1	Kitchen and ablution/dry building (general camp)
	2	Ablution/dry buildings (drillers)
	3	Office buildings (camp wooden structure), geology in tent, logistics
	3	Shop buildings (contractor and Glencore)
	3	Pacto buildings
	1	Medical/nursing station
	2	Recreation facilities, with TVs
	2	Helicopter maintenance/storage sheds
	1	Solid waste laydown area
	2	Water intakes, 1 for camp use, 1 for core saw use
	2	Waste incinerators, 1 old small one, 1 CA 50 dual stage, forced air unit.
Equipment	2	Swamp buggy (Nodwell), and 2012 HT60 tracked unit
	2	Case 850 Dozer (drilling contractor)
	3	Cat skid steers, 1 277,1 277B and 1 297 multi terrain units.
	3	Large gensets (2 @ 175 kW and 1 60 kW).
	2	Small gensets (40 kW and 12 kW)
	6	Diamond drill rigs.
	5	Boats and motors
	Up to 30	Snow machines, toboggans and sleds.
	2	ATVs and trailer
Transportation	2	Airstrip (natural unprepared esker)
	3	Helipads
	1	Jetty/floating dock

Schedule of Activities

Care and Maintenance (current)

Continue progressive reclamation including cleanup of the camp, areas affected by historic exploration activities and removal of waste from site. Additional activities may include fuel management (consolidation of fuel into smaller number of berms for ease of monitoring), building and tent repair as well as bear-proofing. Empty drums are being crushed and sent offsite.

Reclamation and monitoring of drill sumps will continue during care and maintenance.

Exploration (proposed)

Land based and on-ice exploration drilling for lead, zinc, gold, silver, and copper deposits may be completed. This will require use of the exploration camp on a seasonal basis as well as ongoing reclamation and drill sump monitoring.

5. b) Camp Location

There is an existing camp located at 65°55′ ″ N, 108°22′ ″ W (Figure 1). The camp has a capacity of up to 120 people. The exploration camp is located on AANDC Surface Lease 76F 16-1-4 which permits the presence of mineral exploration camp structures subject to certain terms and conditions.

6. Summary of Potential Environmental and Resource Impacts

Given the level of exploration at the Hackett River Project, many of the proposed activities and much of the infrastructure has been previously authorized and screened by NIRB (files 04EN021, 06EN033 and 08EA084). Exploration activities have been screened and determined to be exempt from environmental assessment.

Care and Maintenance (current)

It is expected that activities associated with care and maintenance will have minimal impact on the land, water, flora and fauna and socio-economic areas.

There will be minimal trips to the Hackett River camp for the purpose of site inspections and ongoing progressive reclamation.

When camp is occupied, water impacts for camp use are expected to be minimal. Water intakes are screened to prevent juvenile fish from entering the pump. Greywater from the camp is expected to be pumped away from the camp to a location where it can percolate through the moss and soil.

During the last annual trip to the Hackett River camp, any equipment and tents that were used would be stored or winterized, respectively for use the following year. All waste is removed from the camp where possible, and any supplies left on site are stored so as to minimize wildlife attraction, damage from winter storms, ice damage or damage from snow accumulations.

Project interactions with fauna include noise caused by the use of a diesel generator at the camp as well as the periodic use of aircraft. The noise may cause large mammals to avoid the camp

area; however, experience to date in camp operation indicates that the steady noise of the generator seems to have no effect on large mammal behavior. Arctic ground squirrels are most likely to be attracted to the camp area due to the presence of numerous sheltered hiding places. To manage wildlife attractants to camp, all garbage will be flown out of camp or will be incinerated on site.

The care and maintenance program is expected to provide a socio-economic benefit to Inuit with potential employment on an as required basis. Individuals will be hired to help with progressive reclamation including general site maintenance.

Exploration (proposed)

Should exploration be continued during this permit authorization, it is expected to have minimal impact on the land, water, flora and fauna and socio-economic areas. The reuse of the existing camp and airstrip is expected to cause minimal additional environmental impact to the land.

Drilling will result in some compressed vegetation where wooden beams or supplies are placed on the ground. Drilling will also result in the distribution of some drill mud cuttings being deposited near the drill hole collar. All drill hole additives are biodegradable. Where drilling occurs on or near lakes, the return water containing drill mud will be pumped well back (> 31 m) from the shore of the lake into a natural depression. Because drill cuttings are mechanically pulverized rock they are geologically similar to the locally present glacial till. It is expected that drill cuttings will, in time, be colonized by plants and lichen. The occasional use of salt at the drill site is expected to have minimal impact as any brine will be effectively diluted by water pumped to the drill site at a rate of approximately 12 gallons per minute. Salt is required to prevent permafrost from freezing the hole closed when drilling is halted for a significant length of time. Upon drilling completion, all waste is taken back to camp and disposed in a manner appropriate to the waste streams. Any unused material, fuel and supplies are transported to the next drill site, or taken back to camp for storage or disposal.

Effects to local water quantity and quality due to drilling and camp use are expected to be minimal. Water intakes are screened to prevent juvenile fish from entering the pump. Drilling requires the use of water from a nearby lake to generate the necessary drilling mud. A significant portion of the drilling mud/water is recirculated, however, there is a release of drilling mud to a sump near each drill site that percolates through the moss and soil. Greywater from the camp is pumped away from the camp to a location where it can percolate through the moss and soil. Section 9 outlines waste management during exploration and seasonal camp operation.

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Once drilling and exploration sampling is complete at each site, the drill casing is pulled out of all holes drilled on ice, and the holes are cemented and plugged (with fast-drying cement and a rubber plug). Where significant mineralization is encountered the drill casing is left in the holes and cut to ground level and capped. The cut portions are disposed of in an approved facility in Yellowknife or recycled as scrap metal. The collar locations of all drill holes are surveyed and recorded in exploration reports. Drill core and core boxes are moved to the designated storage areas and properly secured. It is anticipated that the drill sites will naturally re-vegetate.

Hunting is prohibited. Firearms and domestic animals are not permitted, unless special permission has been granted by the project manager.

At the close of the field season tents and equipment would be stored or winterized for use the following year. All waste is removed from the camp at the end of each field season, and any supplies left on site are stored so as to minimize damage from winter storms, ice damage or damage from snow accumulations.

The exploration is expected to provide a socio-economic benefit to Inuit with temporary employment (associated with the drilling program). Individuals will be hired to help with exploration activities which may include core splitting, sample shipping, maintenance, equipment operation, environmental monitoring and reclamation.

9. Proposed Disposal Methods

a) Garbage

Solid waste: separated at source, secondary sorting occurs in camp and at the incinerator. Waste burned in the incinerator (dual stage forced air commercial incinerator supplied by Eco Waste Systems- Model CA 50) includes: paper, cardboard, wood, burlap cloth, fuel or oil soaked absorbent material, semi-solid waste from Pacto toilets and food preparation waste. Remaining ashes and unburned residue is stored in empty 205 L drums and are flown out for disposal at the Yellowknife landfill site. Solid waste including scrap metal, drill rods, and household items are stored in an appropriate marshalling area for backhaul to Yellowknife and disposal at an approved facility.

Hazardous waste: no hazardous materials other than fuels and acetylene and oxygen for gas welding are expected to be stored or used on the property. If no longer required, any

remaining fuel consumable materials such diesel fuel, jet fuel will be sold and transported to another exploration project in the region. Remaining waste fuel drums will be labeled and transported off-site for disposal in an approved facility. Any waste motor oil, transmission fluid and other petroleum fluids would be transferred to plastic tubs or other sealable containers and either flown back to Yellowknife for recycling or disposal by the drilling contractor or incinerated in camp.

b) Sewage and Greywater

No sewage system was installed in the camp as no water is required for the Pacto toilets. The Pacto toilet uses a flush foil liner to encapsulate waste. The waste liners are incinerated.

Greywater from camp kitchen and dry buildings are collected by drainage pipes and is generally pumped up hill to a settling area. However during short visits with minimal persons in camp, greywater is gathered in 500 gallon mega bags located more than 31 m back from the high water mark of Camp Lake. As each bag fills up the bag is removed via the skid steer and taken to a greywater settling area.

c) Vegetation

During the activities outlined in this permit application, it is not anticipated that vegetation will be disturbed other than the area limited to each drill site.

d) Overburden (Organic soils, waste material, etc.)

Any contaminated soil or waste material removed during the progressive reclamation will be transferred into megabags at camp and stored in a nearby boulder field to the south-southwest of camp. Saw sludge is transferred into used 205 L barrels and stored in camp.

During drilling exploration, cuttings (fine ground rock, representative of each strata drilled through) will be produced. The water and cuttings (referred to as sludge) will contain some finely ground sulphide minerals (sourced from the rock) and small amounts of calcium chloride (sourced from the drilling process to prevent the drill rods from freezing to the cold rocks. The sludge from the lake ice drilling will be pumped to a selected sump located (> 31 m from the high water mark) from the lake edge. When sumps are not set-up near the lake ice drilling location, the sludge is collected into sausage-like 'socks' at the drill, and removed to an area near the incinerator to dry out before being transferred to a nearby boulder field to the south-southwest of camp. For drill sites on land, sludge is pumped to naturally occurring sumps (i.e. natural depressions) adjacent to or close to the drill collar. All sumps are located at least 31 m from the high water mark of the closest waterbody. When a suitable natural sump is not available, the sludge will be pumped into fibre mega bags to allow water to percolate out. The bags will be flown to a large boulder field to the south-southwest of camp. All sumps are marked with a picket and surveyed prior to use for future monitoring and progressive reclamation.

10. Equipment

Type and Number	Size	Proposed Use
2 x Swamp buggy (Nodwell), and 2012 HT60 tracked unit	Nodwell 110 - 3.05 m x 6.20 m (length x width); 10,433 kg; 26.4 kPa at GVW	Exploration drilling support; Care and maintenance support work if required.
2 x Case 850 Dozer (drilling contractor)	4,270 mm x 2,260 mm 8,900 kg; 40.1 kPa	Exploration drilling.
3 x Cat skid steers, 1 277,1 277B and 1 297 multi terrain units.	3,684 mm x 1,898 mm (length x width); 4,520 kg; 21.7 kPa	Exploration drilling support; Care and maintenance support work if required.
3 x Large gensets	2 @ 160 kW (816 kg; length- 1,016 mm width- 2,591 mm) and 1 @ 60 kW (453 kg; length- 863 mm width- 2,133 mm)	Power in camp if required during long-term as part of care and maintenance work; Power in camp during Exploration drilling.
2 x Small gensets	40 kW (317 kg; length- 812 mm width- 1,524 mm) and 24 kW (136 kg; length- 609 mm width- 1,016 mm)	Power in camp if required during long-term as part of care and maintenance work; Power in camp during Exploration drilling.
6 x Diamond drill rigs.	5,443 kg; length- 18 m width- 15 m	Exploration drilling.
5 x Boats and 4 x motors	3- 12 ft boats, 1- 14 ft boat, 1- 16 ft boat; 3- 6 hp motors, 1- 90 hp motor	Progressive reclamation use if required and for support of baseline studies.
Up to 30 - Snow machines, toboggans and sleds.	ranges are 200 - 269 kg; length- 2.9 to 3.1 m width- 0.9 to 1.2 m	Exploration drilling support; Care and maintenance support work if required.
2 x ATVs and trailer	350 kg; length- 2.1 m width- 1.2 m; 13.8 kPa; trailer size: length- 1,219 mm width- 762 mm	Exploration drilling support; Care and maintenance support work if required.

Other Attachments:

- Abandonment and Restoration Plan for the Hackett River Exploration Project
- Spill Contingency Plan for the Hackett River Exploration Project
- National Topographic Maps of 1:50,000 scale (or 1:250,000 if 1:50,000 are not available) are required to outline the program as well as sketches for programs involving a large amount of detail. Original maps are required; photocopies or faxed maps are not acceptable.
- NIRB Screening Exemption (2009; NIRB files 04EN012, 06EN033 and 08EA084)