Application for Water Licence Renewal

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DOCUMENT MANAGEMENT

Original Document Date: April 2010

DOCUMENT AMENDMENTS

	Description	Date
(1)	Updated for public distribution as separate document from NWB Guide 7	June 2010
(2)	Updated NWB logos and reformatted table to allow rows to break across page	May 2011
(3)	New NWB logo and request for background information	April 2013
(4)		
(5)		
(6)		
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APPLICATION FOR WATER LICENCE RENEWAL

Your application may be classified as a **renewal** only if all operations remain the same as previously licensed and only the term of the licence requires change. If your application contemplates:

- a change to the volume of water authorized for use;
- a new activity related to water use or waste disposal;
- a new component related to water use or waste disposal;
- a change in predicted environmental impacts(s); and/or
- a change to any term or condition of the original licence

your application is **NOT** classified as a renewal but rather an amendment and will require submission of an Application for Water Licence Amendment Licensees applying for combined renewal / amendment are also referred to the Application for Water Licence Amendment.

The applicant is referred to the NWB's Guide 7: *Licensee Requirements Following the Issuance of a Water Licence* for more information about this application form.

Where possible, provide background information regarding the original licence application or attach previously submitted information.

EXISTING LICENCE NO: ___2BE-HAK0915_____

1. LICENSEE CONTACT INFORMATION

Is the licensee the same as that referred to on the existing licence?

☑ Yes ☐ No

If No, a licence assignment must be completed and approved by the NWB. **A renewal will only be issued in the name of the current licensee in the absence of assignment of the licence.**

If the licensee is the same, but the name of the licensee has changed, attach a certificate of name change.

See Attached: October 2013- 131009_131002 2BE-HAK0915 Name Change Xstrata to Glencore.pdf

Name: Glencore Canada Corporation

Address: PO Box 3000 Bathurst NB E2A 3Z8

Phone: 506 547-3288

Fax: _____

e-mail: Rick.Schwenger@glencore-ca.com

2. LICENSEE REPRESENTATIVE CONTACT INFORMATION – If different from Block 1.

Name: Michel Boucher

Address: 8801 Trans Canada Highway, Suite 400
St-Laurent, QC
H4S 1Z6

Phone: 514-745-9375

Fax: _____

e-mail: michel.boucher@glencore-ca.com

(Attach authorization letter.) ✓

5. MAP

Are the locations of the main components of the undertaking the same as those considered in the existing licence?

☑ Yes ☐ No

Attach a topographical map, indicating the main components of the undertaking.

ATTACHMENT

NTS Map Sheet No.: #76G/03, 04, 05, 06, 07, 08, 12, 13, #76F/08, 09, 15, 16

Map Name: _Figure 1 Hackett River Project Location (File Name: HAC-15-061_O.pdf)_____

Map Scale: 1:50,000

INCLUDED

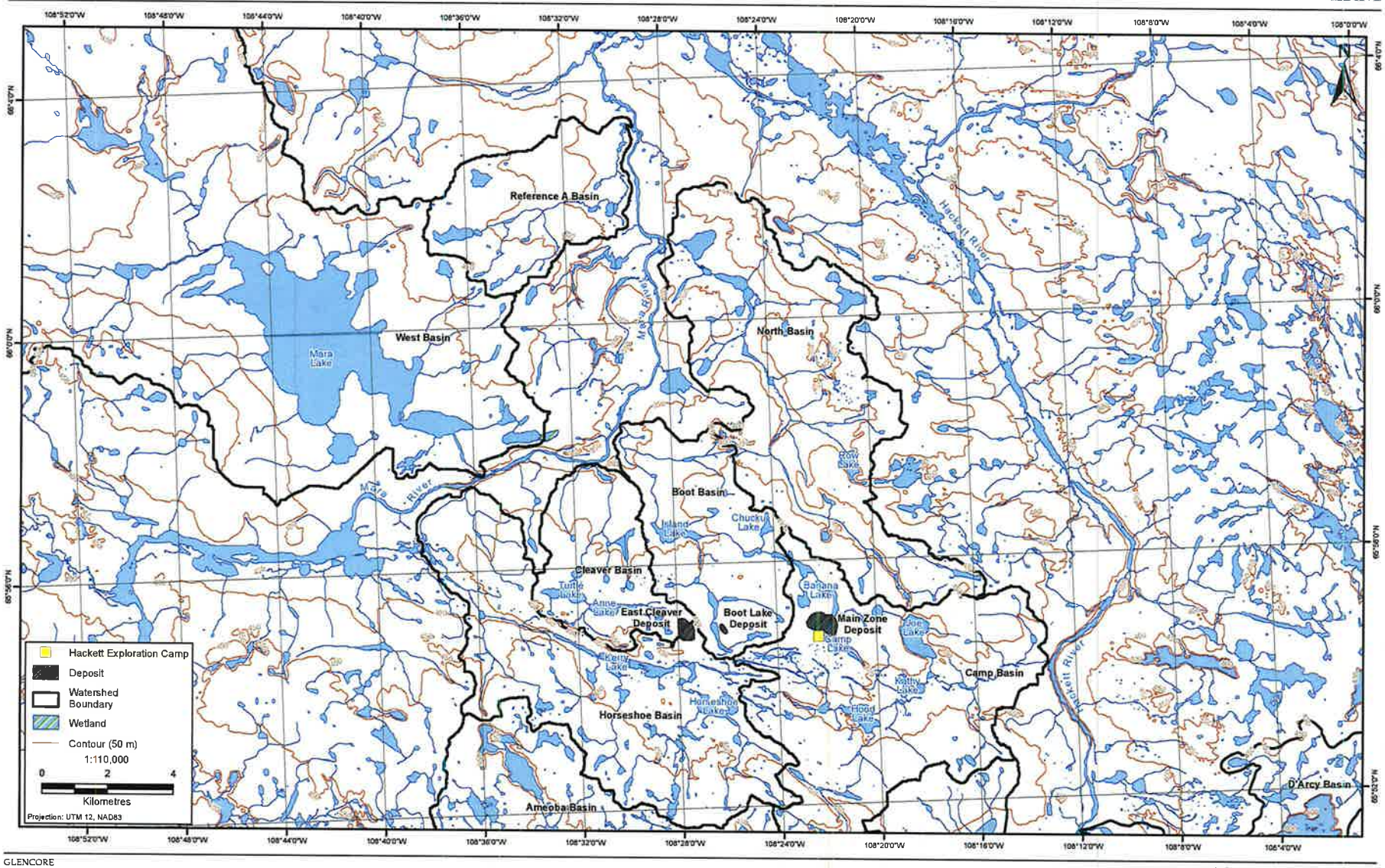
NTS Map Sheet No.: #76F/16

Map Name: _Figure 2 Camp Lake Area _____

Map Scale: 1:50,000

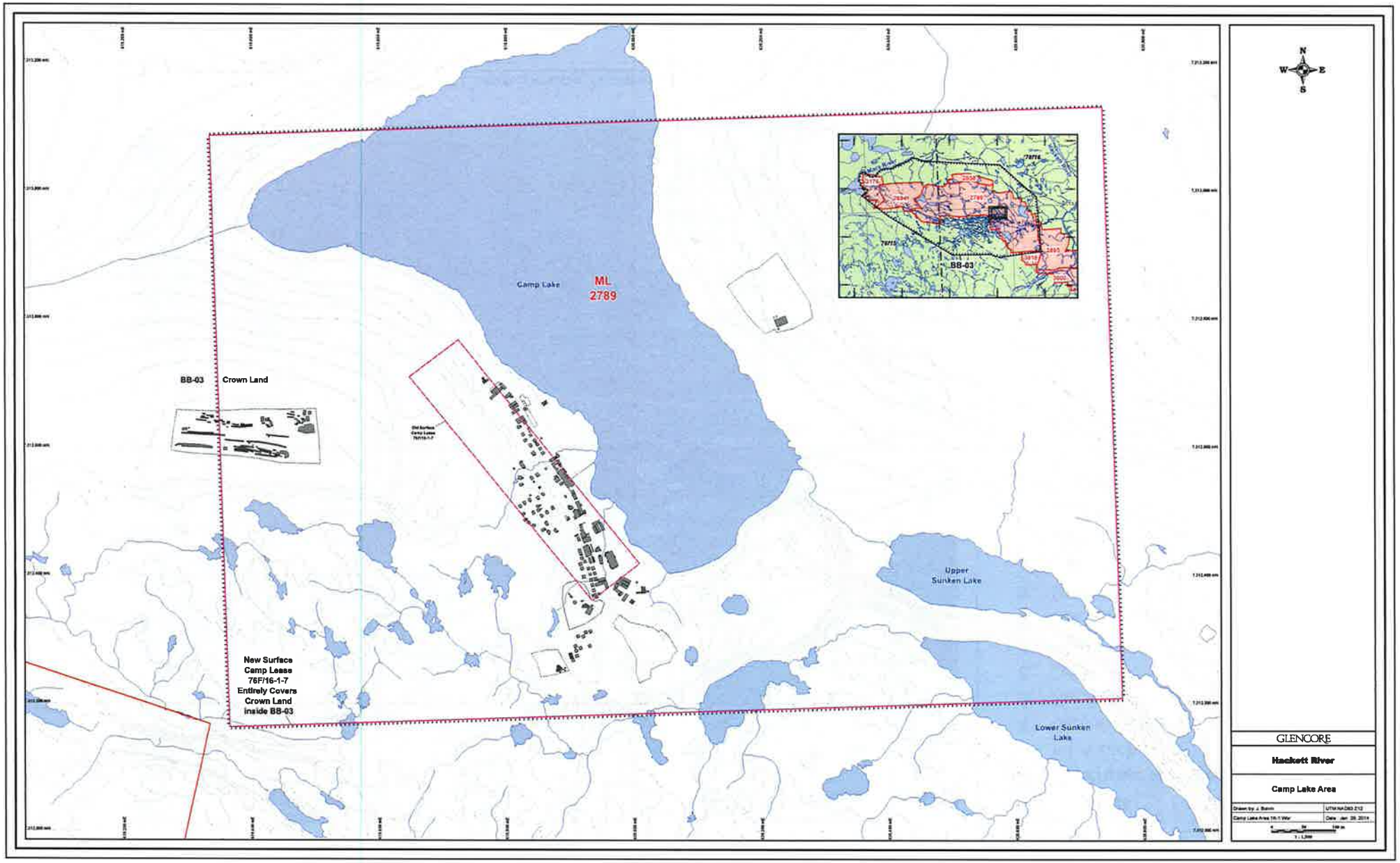
See also Figures 3 and 4

Figure 1
Hackett River Project Location



GLENCORE

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


Camp Lake
ML
2789
BB-03
Crown Land
Upper
Sunken Lake
Lower Sunken
Lake
New Surface
Camp Lease
76F/16-1-7
Entirely Covers
Crown Land
inside BB-03
N
W
E
S
GLENCORE
Hackett River
Camp Lake Area

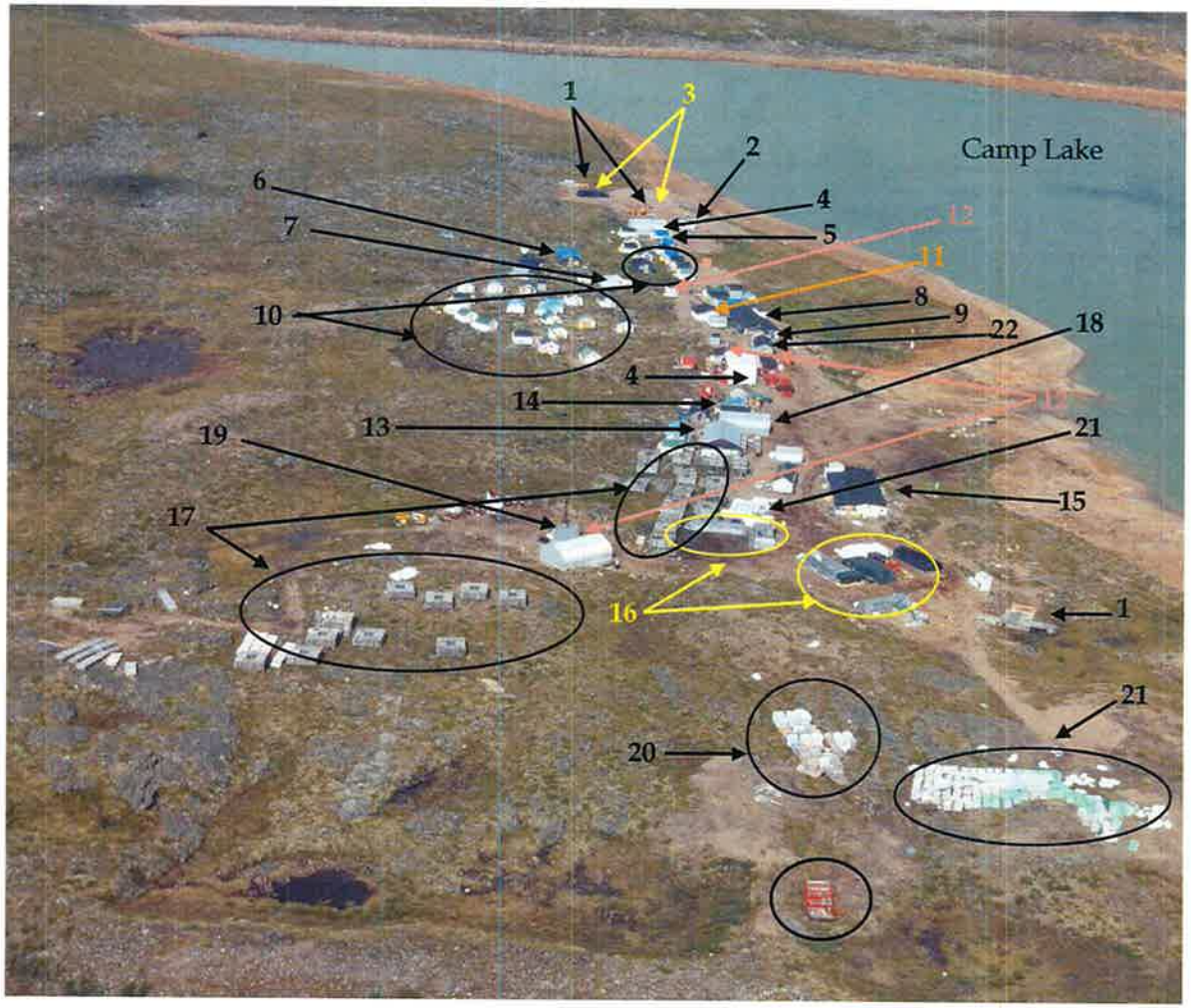


Figure 3. Aerial view of Hackett River Camp looking Northeast (July 2015).

1. Helipads
2. Helicopter tool sheds
3. Jet A cache
4. Drill supplies
5. Recreation tent
6. Office
7. Office
8. Kitchen/Dry
9. Pacto Sheds
10. Sleeping tents
11. Nursing Station
12. Generators for camp
13. Storage shed
14. Tool shed/shop
15. Core Logging
16. Fuel Storage (diesel, jet, and gasoline)
17. Core Storage
18. Equipment Storage
19. Incinerator
20. Core boxes
21. Salt Storage
22. Logistics Office

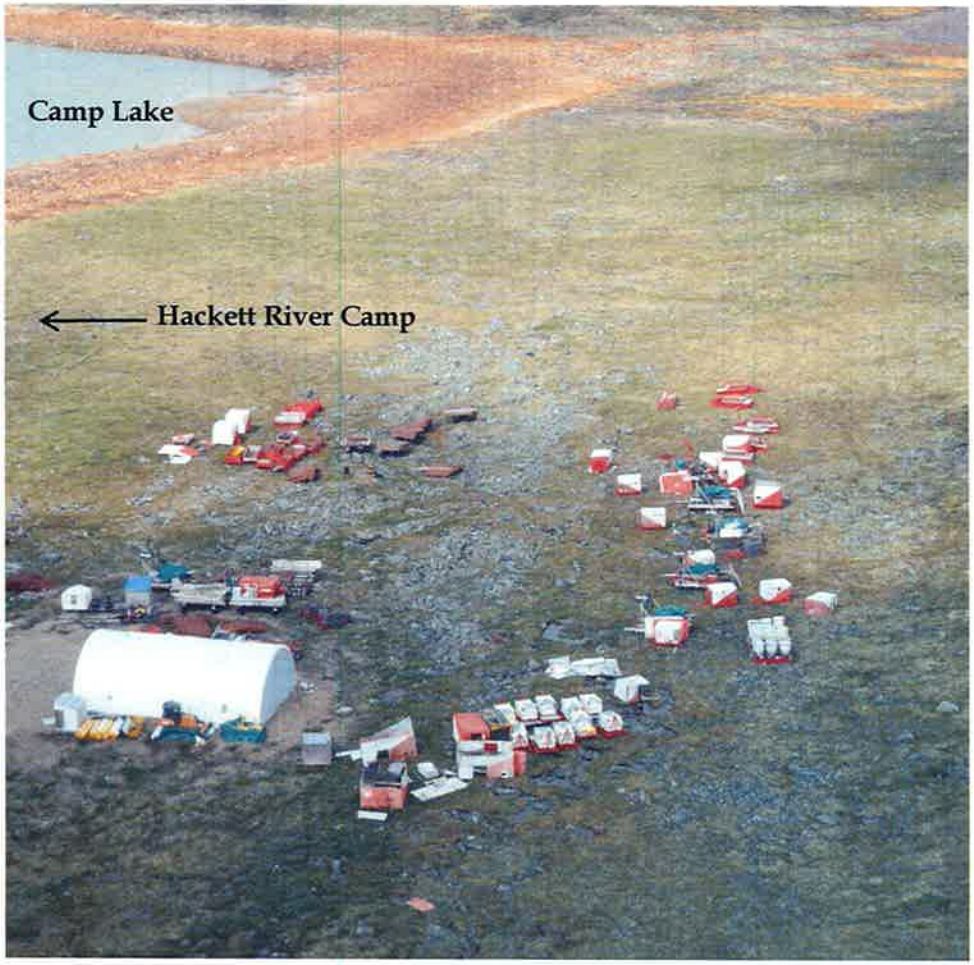


Figure 4. Aerial view of Drill Laydown Area looking Northeast (New Camp lease area as per License 76F/16-1-7; July 2015).

1.

6. NATURE OF INTEREST IN THE LAND

Is the nature of the interest in the land the same as that considered in the existing water licence?

☑ Yes ☐ No

Check any of the following that are applicable to the proposed undertaking (at least one box under the 'Surface' header must be checked).

Sub-surface

☐ Mineral Lease from Nunavut Tunngavik Incorporated (NTI)

Date (expected date) of issuance: _____ Date of expiry: _____

☑ Mineral Lease from Indian and Northern Affairs Canada (INAC)

Date (expected date) of issuance: ____see below Date of expiry: ____see below

Permit No.	Permit Name	Issuance	Expiry	Issuing
2894	Mining lease	-	2021-01-04	AANDC
2895	Mining lease	-	2021-01-04	AANDC
2964	Mining lease	-	2022-01-15	AANDC
2789	Mining lease	-	2018-02-10	AANDC
3018	Mining lease	-	2023-02-24	AANDC
3176	Mining lease	-	2031-06-30	AANDC
3000	Mining lease	-	2022-06-26	AANDC
2893	Mining lease	-	2020-12-07	AANDC
2958	Mining lease	-	2021-09-19	AANDC

Surface

☑ Crown Land Use Authorization from Indian and Northern Affairs Canada (INAC)

Date (expected date) of issuance: ____see below Date of expiry: ____see below

Permit No.	Permit Name	Issuance	Expiry	Issuing
Surface lease 76F/16-1-7	Hackett River Camp	2009-11-30	Yearly renewal	AANDC
Land Use Permit N2013F022	Hackett River Area	2014-01-10	2016-01-09	AANDC
Land Use Permit N2013C017	Exploration activities	2013-11-20	2015-11-29	AANDC

☑ Inuit Owned Land (IOL) Authorization from Kitikmeot Inuit Association (KIA)

Date (expected date) of issuance: ____see below Date of expiry: ____see below

Permit No.	Permit Name	Issuance	Expiry	Issuing
Land Use License KTL313C005	Hackett River	2015-01-12	2016-01-11	KIA
Land Use License KTL313F006	Hackett Winter Road	2015-01-12	2016-01-11	KIA

☐ IOL Authorization from Kivalliq Inuit Association (KivIA)

Date (expected date) of issuance: _____ Date of expiry: _____

☐ IOL Authorization from Qikiqtani Inuit Association (QIA)

Date (expected date) of issuance: _____ Date of expiry: _____

☐ Commissioner's Land Use Authorization

Date (expected date) of issuance: _____ Date of expiry: _____

☐ Other _____

_____

Date (expected date) of issuance: _____ Date of expiry: _____

Is the name of the entity(s) holding authorizations the same as that considered in the existing water licence?

☑ Yes ☐ No

If No, a licence assignment must be completed and approved by the NWB.

Name of entity(s) holding authorizations:

Glencore Canada Corporation (see notification October 2013- 131009_131002 2BE-HAK0915 Name Change Xstrata to Glencore.pdf)

_____

7. NUNAVUT PLANNING COMMISSION (NPC) DETERMINATION

Is the undertaking located in the same land use planning area as that considered in the existing licence?

☑ Yes ☐ No

Indicate the land use planning area in which the project is located.

☐ North Baffin	☐ Keewatin
☐ South Baffin	☐ Sanikiluaq
☐ Akunniq	☑ West Kitikmeot

Was a land use plan conformity determination required from NPC prior to the issuance of the existing water licence?

☐ Yes ☑ No

If Yes, indicate date issued and attach copy.

Does the proposed renewal change the original NPC conformity determination or the need to obtain one?

☐ Yes ☑ No

If Yes, indicate date issued (or expected) and attach a copy. _____

If No, provide written confirmation from NPC confirming that a land use plan conformity review is not required.

See attached. (Appendix 1. 2BE-HAK0915 Conformity Review 2009)

8. NUNAVUT IMPACT REVIEW BOARD (NIRB) DETERMINATION

Was a screening determination required from NIRB prior to the issuance of the existing water licence?

☑ Yes ☐ No

If Yes, indicate date issued and attach copy. __April 2004—see attached (Appendix 2. 2BE-HAK0915 NIRB Screening NIRB Ref. 04EN012)_____

Does the proposed renewal change the original NIRB screening determination or the need to obtain one?

☐ Yes ☑ No

If Yes, indicate date issued (or expected) and attach a copy. _____

If No, provide written confirmation from NIRB confirming that a screening determination is not required.

See attached (Appendix 2. 2BE-HAK0915 NIRB Screening NIRB Ref. 04EN012); infrastructure has been previously authorized and screened by NIRB (files 04EN012, 06EN033 and 08EA084). Exploration activities have been screened and determined to be exempt from environmental assessment.

9. DESCRIPTION OF UNDERTAKING

Is the description of the undertaking the same as that considered in the existing water licence?

☑ Yes ☐ No

List and attach plans and drawings or project proposal.

See above Box#5 for camp layout 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 tons 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 October 2015.

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

Glencore proposes two activities for water use at the Project site: 1. Care and Maintenance and 2. Exploration. The current activity is Care and Maintenance and no new undertakings or infrastructure is proposed.

Seasonal operation of the existing camp (on Surface Lease 76F 16-1-4) located at $65^{0}55'$N, $108^{0}22'$W will occur for both care and maintenance, and exploration work. Water use for both care and maintenance, and exploration work is primarily from Camp Lake to supply water to the existing showers, kitchen, laundry, and rock saw. Water use for exploration to supply drill rig operations will be from lakes and ponds, proximal to the drilling targets. Water storage would be in surge tanks located at each drill and in camp (kitchen and at rock saw). There is no request to amend the allowable daily volume of water [currently 299 m^3/day: total camp (domestic) water usage not to exceed 30 m^3/day; Drill water shall be obtained from lakes and ponds, proximal to the drilling targets not exceed 269 m^3/day].

As part of care and maintenance, Glencore will 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 will be crushed and sent offsite. Reclamation and monitoring of drill sumps will be continued during care and maintenance. During care and maintenance, camp would be occupied for short periods (1 to 7 days) between March and October. Fixed wing planes (Twin Otter) and helicopter will be used for transportation to and from camp. A helicopter will be used for transport to and from camp to reclamation sites.

9. DESCRIPTION OF UNDERTAKING (continued)

Exploration activities have previously been screened and determined to be exempt from environmental assessment (files 04EN021, 06EN033 and 08EA084). Exploration may be completed in the future with land based and on-ice drilling for lead, zinc, gold, silver, and copper deposits. This will be associated with use of the exploration camp on a seasonal basis as well as ongoing drill sump monitoring. Camp would be occupied between March and October annually (maximum camp occupancy-120 people) Specific activities during exploration may include:

- Transport of fuel and drilling supplies to and from camp and associated storage and handling;
- Ground and aerial geophysical surveys and geologic mapping;
- Diamond drill testing of the geophysical targets and step-out drilling on known drilling deposits;
- Transport of drilled core to camp for geological logging, sampling and storage;
- Transport of personnel to and from the camp and drill sites with a helicopter;
- Fixed wing planes will provide transport to and from the camp. Fixed wing planes include Twin Otter (typical), DHC-Buffalo (as-needed) and CC-130 Hercules (as-needed);
- Inspection and reclamation of drill sites upon drill hole completion; and
- Camp clean-up and progressive reclamation.

10. OPTIONS

Are the alternative methods and locations that were considered to carry out the project the same as those considered in the existing water licence?

☑ Yes ☐ No

Provide a brief explanation of the alternative methods or locations that were considered to carry out the project.

The location of the project is defined by the geology of the site and the historical geological exploration of the area and therefore cannot be located elsewhere. The camp is situated based on historical use of the site and has not been relocated given this would increase the footprint of disturbance.

11. CLASSIFICATION OF PRIMARY UNDERTAKING

Is the primary undertaking the same as that considered in the existing water licence?

☑ Yes ☐ No

Indicate the primary classification of undertaking by checking one of the following boxes.

☐ Industrial
☐ Agricultural
☑ Mining and Milling (includes exploration/drilling/exploration camps)
☐ Conservation
☐ Municipal (includes camps/lodges)
☐ Recreational
☐ Power
☐ Miscellaneous (describe below):

_____

See Schedule II of the *Northwest Territories Waters Regulations* for Description of Undertakings.

12. WATER USE

Is the type(s) of water use(s) the same as that considered in the existing water licence?

☑ Yes ☐ No

Check the appropriate box(s) to indicate the type(s) of water use(s) being applied for.

☑ To obtain water for camp/ ~~municipal purposes~~
☐ To obtain water for industrial purposes
☐ To divert a watercourse
☐ To cross a watercourse
☐ To modify the bed or bank of a watercourse
☑ To alter the flow of, or store water
☐ Flood control
☑ Other: _ Exploration drilling purposes_____

13. QUANTITY OF WATER INVOLVED

Is the source of water the same as that considered in the existing licence? ☑ Yes ☐ No

Name of water source(s): Camp Lake (see above for map location)

Local water sources will be defined as drill locations are identified.

(show location(s) on map)

Is the quality of the water source and its available capacity the same as that considered in the existing licence?

☑ Yes ☐ No

Describe the quality of the water source(s) and the available capacity(s):

Camp Lake has been the historic drinking water source for the existing Hackett River camp since 1980s/1990s and has sufficient drinking water quality (as defined by Health Canada). The northern portion of Camp Lake covers a portion of the Main Zone deposit thus the observed elevated metal concentrations in the water reflects the local geography.

Prior to the 2014 Esker Breach incident (resulting in water levels dropping in Camp Lake), Camp Lake area was 298,200 m^2 and volume was 2,002,260 m^3. Based on aerial photos (reduction in an average depth of 2.5 m around the lake) it is estimated that the volume in 2015 is approximately 1,366,715 m^3. During the care and maintenance this is sufficient capacity to support the minimal use for drinking water; however if the Project proceeds to an exploration phase and a larger camp capacity, the Camp Lake water balance will be examined in detail.

Drill water will be obtained from lakes or ponds of sufficient volume upon identification of drilling locations.

Is the overall estimated quantity of water to be used the same as that considered in the existing licence?

☑ Yes ☐ No

Provide the overall estimated quantity of water to be used: 299* m^3/day

*This value is associated with the exploration (drilling) phase and not expected to reach this amount during care and maintenance

13. QUANTITY OF WATER INVOLVED (Continued)

Are the quantity(s) of water to be used from each source the same as those considered in the existing licence?

☑ Yes ☐ No

Provide the estimated quantity(s) of water to be used from each source:

Camp Lake (see photo and map above): Assuming that personnel need approximately 250 L of water daily, then the camp maximum needs would be 30 m^3 (0.25 m^3 x 120 people) per day pumped from Camp Lake. Greywater from camp kitchen, showers, and the laundry facility 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 the greywater settling area.

Water is stored in camp in 4 plastic tanks (of approximately 500 L capacity) for camp use and a plastic horse trough type tank (of approximately 500 L capacity) would be used to hold water for occasional use with the rock saw.

Ponds and Lakes near drill targets: Ponds and lakes near drill targets will provide water for drilling operation during the exploration activities only. Coordinates of the potential water sources to be used for water supply for exploration will be provided to the inspector at least 10 days prior to using the water source.

Each supply pump for each drill has a pumping capacity of up to 45.3 L/min (12 gal/min) or 0.0453 m^3/min. Six drills in operation simultaneously would use up to 391.4 m^3 per day (0.0453 m^3/min * 1,440 min/day * 6 drills). However, on average approximately half of each day is spent not drilling (pulling core, drill moves, crew change, etc.). Thus six drills in operation for a half day would use up to 195.7 m^3 per day (0.0453 m^3/min * 720 min/day * 6 drills). In addition, when the drill is advancing, water is supplied to the bit by a high-pressure water pump at a rate of up to 37.9 L/min (10 gal/min) or 0.0379 m^3/min. If the return flow of water from the bit is good (as is common) 80 to 90% of the return water is recycled for use back down the hole. The amount of water used downhole by 6 drills is estimated to be 32.7 m^3 per day (20% * 0.0379 m^3/min * 720 min/day * 6 drills). Overflow from the surge tank would be returned to the environment as surface run-off and percolation through the soil. Return from the drill would be via a settling sump before the decanted water would join surface run-off and percolate through the moss and soil. In both cases the water would in time likely rejoin the same small drainage basin that it was pumped from.

Water use for construction and maintenance of ice airstrips shall not exceed 65.0 m^3 per day.

The total amount of water stored at any one time would be approximately 3.0 m^3 (in camp and at each drill).

13. QUANTITY OF WATER INVOLVED (Continued)

Are the quantity(s) of water to be used for each purpose the same as those considered in the existing licence?

☑ Yes ☐ No

Provide the estimated quantities to be used for each purpose (camp, drilling, etc.):

During care and maintenance and exploration, the maximum daily amount of water use will be 30 m^3 for camp supply and during exploration- 269 m^3 would supply drilling activities for a total of 299 m^3 per day.

Are the method(s) of extraction the same as those considered in the existing licence? ☑ Yes ☐ No

Describe the method(s) of extraction:

Camp water is pumped from Camp Lake to the camp surge tanks using an electric pump. Drill water is pumped from the nearby pond or lake to the drill using an electric pump. All intake hoses are fitted with a screen (of appropriate mesh size) to ensure that fish are not entrained and water will be withdrawn at a rate that fish do not become impinged on screen.

Are the quantity(s) of water returned to source(s) the same as those considered in the existing licence?

☑ Yes ☐ No

Estimated quantity(s) of water returned to source(s): _____ Not Applicable _____ m^3/day

Are the quality(s) of water(s) returned to source(s) the same as those considered in the existing licence?

☑ Yes ☐ No

Describe the quality(s) of water(s) returned to source(s):_____Not Applicable

Return water from the drill would be via a settling sump before the decanted water would join surface run-off and percolate through the moss and soil and in time likely rejoin the same small drainage basin that it was pumped from. Similarly for grey water it is anticipated that water disposed in the sump would percolate through moss and soil and would likely return to Camp Lake over time.

14. WASTE

Are the type(s) of waste(s) to be generated and/ or deposited the same as those considered in the existing licence?

☑ Yes ☐ No

Check the appropriate box(s) to indicate the types of waste(s) generated and deposited.

- ☑ Sewage
- ☑ Solid Waste
- ☑ Hazardous
- ☑ Bulky Items/Scrap Metal
- ☐ Animal Waste
- ☑ Waste oil
- ☑ Greywater
- ☑ Sludges
- ☐ Contaminated soil and/or water
- ☑ Other (describe):____Drill Cuttings_____

15. QUANTITY AND QUALITY OF WASTE INVOLVED

Are the quantity(s) of the types of wastes involved the same as those considered in the existing licence?

☑ Yes ☐ No

Are the composition(s) of the types of wastes involved the same as those considered in the existing licence?

☑ Yes ☐ No

Are the method(s) of treatment for the types of waste involved the same as those considered in the existing licence?

☑ Yes ☐ No

Are the method(s) of disposal for the types of waste involved the same as those considered in the existing licence?

☑ Yes ☐ No

For each type of waste indicated in Block 14, describe its composition, quantity in cubic meters/day, method of treatment and method of disposal.

Type of Waste	**Sewage (care and maintenance and exploration)**
Composition	Pacto Toilets
Quantity Generated	up to 90 kg/day
Treatment Method	Incineration
Disposal Method	The Pacto toilet uses a flush foil liner to encapsulate waste. The waste liners are incinerated. As per the Incinerator Manufacturers Instructions, no more than 1/5 of each batch contains Toilet Wastes. Any remaining ashes and unburned residue is stored in 205 L (0.205 m^3) drums and would be flown out for disposal at the Yellowknife landfill site.

15. QUANTITY AND QUALITY OF WASTE INVOLVED (continued)

For each type of waste indicated in Block 14, describe its composition, quantity in cubic meters/day, method of treatment and method of disposal.

Type of Waste	**Solid Waste (care and maintenance and exploration)**
Composition	Burnable solid waste includes paper, cardboard, plastic, wood, burlap cloth, fuel or oil soaked absorbent material, semi-solid waste from Pacto toilets and food preparation waste.
Quantity Generated	Estimated that during camp capacity there will be up to 181 kg/day of burnable solid waste each day. This works out to approximately 0.03 m^3/day of ash.
Treatment Method	Incineration of burnable solid waste.
Disposal Method	Any remaining ashes and unburned residue is stored in 205 L (0.205 m^3) drums and would be flown out for disposal at the Yellowknife landfill site.
Type of Waste	**Hazardous Waste (care and maintenance and exploration)**
Composition	Oily rags, spent oil filters, batteries
Quantity Generated	At camp capacity it is estimated up to 0.02 m^3/day oily hazardous waste, 1.66 lbs/day dead vehicle batteries
Treatment Method	Stored in 205 L (0.205 m^3) drums and would be flown out for disposal at the Yellowknife landfill site.
Disposal Method	No hazardous materials other than the fuels and acetylene and oxygen for gas welding are expected to be stored or used on the property.
Type of Waste	**Bulky Items/Scrap Metal (care and maintenance and exploration)**
Composition	All large metal waste items such as used empty 205 L fuel drums, drill steel, broken or worn out mechanical parts; aluminum pop cans, and all non-dairy plastic containers
Quantity Generated	At camp capacity (exploration) quantity produced is estimated to be one Twin Otter plane load every week (0.02 m^3/day), most of which would be empty fuel drums. During care and maintenance the quantity would be minimal and dependent on number of days spent at camp and camp cleanup. At capacity, approximately 8 - 10 121 L bags (10 x 0.121 m^3 = 1.21 m^3) of recycling are sent to Yellowknife each week.
Treatment Method	Not applicable
Disposal Method	All fuel drums, drill steel, broken or worn out mechanical parts would be flown back to Yellowknife for recycling or for disposal in the Yellowknife dump. Any bulky waste items would be cut up and burned in the incinerator or would be flown out for disposal at the Yellowknife landfill site. Aluminum pop cans and all non-dairy plastic containers are bagged and send out to the recycling facilities in Yellowknife.

16. QUANTITY AND QUALITY OF WASTE INVOLVED (continued)

For each type of waste indicated in Block 14, describe its composition, quantity in cubic meters/day, method of treatment and method of disposal.

Type of Waste	**Waste Oil (exploration only)**
Composition	waste motor oil, transmission fluid and other petroleum fluids
Quantity Generated	It is estimated that in total approximately 150 L (0.150 m^3) of such waste petroleum fluids would be generated in the course of the exploration program. This works out to be up to 0.006 m^3/day.
Treatment Method	Not applicable
Disposal Method	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. Ash is backhauled for disposal at the Yellowknife landfill site.
Type of Waste	**Greywater (care and maintenance and exploration)**
Composition	generated from the kitchen, showers and laundry facilities; cleaning agents would be biodegradable and phosphate free
Quantity Generated	Approximately 15 to 20 m^3/day would be generated at camp capacity.
Treatment Method	Not applicable
Disposal Method	Collected in a 500 L (0.5 m^3) plastic holding tank (surrounded by a geotextile fence to contain any spillage or overflow from the greywater collection tank, the core cutting facility, and the camp dry buildings) and on an as-needed bases is pumped to to a settling area sump location up hill. 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.
Type of Waste	**Sludges (exploration only)**
Composition	Rock saw mud cuttings and water; 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); brine will be effectively diluted by water pumped to the drill site at a rate of approximately 12 gallons per minute.
Quantity Generated	1 to 2 m^3 of sludge cleaned from the bottom of the settling container in the course of a season or up to 0.007 m^3/day.
Treatment Method	Settling container.
Disposal Method	The rock saw sludge will be cleaned from the settling container on an as needed basis, dried, placed in plastic sample bags and flown out to the Yellowknife dump for disposal.

15. QUANTITY AND QUALITY OF WASTE INVOLVED (continued)

For each type of waste indicated in Block 14, describe its composition, quantity in cubic meters/day, method of treatment and method of disposal.

Type of Waste	**Drill Cuttings (exploration only)**
Composition	Drill cuttings and water; 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); brine will be effectively diluted by water pumped to the drill site at a rate of approximately 12 gallons per minute.
Quantity Generated	Depends on the length of the hole and is estimated to be between 0.65 and 1.91 m^3 for each drill hole.
Treatment Method	Progressive reclamation and over time will be colonized by plants and lichen given the drill cuttings are mechanically pulverized rock that is geologically similar to the locally present glacial till.
Disposal Method	The drill cuttings 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 cuttings are 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, cuttings are 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 cuttings 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 [see attached Drill Cuttings Management Program (Hackett Project, January 2014).pdf].

16. OTHER AUTHORIZATIONS

In addition to the sub-surface and surface land use authorizations provided in Block 6, are the same authorizations required as considered in the existing licence?

☑ Yes ☐ No

	Exploration activities	2013-11-20	2015-11-29	AANDC

For each provide the following:

Authorization: Land Use Permit N2013C017

Administering Agency: AANDC

Project Activity: Exploration Activities

Date (expected date) of issuance: 2013-11-20 Date of expiry: 2015-11-29

17. PREDICTED ENVIRONMENTAL IMPACTS OF UNDERTAKING AND PROPOSED MITIGATION MEASURES

Are predicted environmental impacts of the undertaking and proposed mitigation measures the same as those considered in the existing water licence?

☑ Yes ☐ No

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) and determined to be exempt from environmental assessment.

1. 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. Box#15 outlines waste management during care and maintenance.

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.

17. PREDICTED ENVIRONMENTAL IMPACTS OF UNDERTAKING AND PROPOSED MITIGATION MEASURES (continued)

Describe direct, indirect, and cumulative impacts related to water and waste.

2. 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 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 cuttings 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. Box#15 outlines waste management during exploration

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. Box#15 outlines waste management during exploration and seasonal camp operation.

Once drilling and exploration sampling is complete at each site, 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 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.

18. WATER RIGHTS OF EXISTING AND OTHER WATER USERS

Are the effects of the undertaking on any known persons or property including those that hold licences for water use in precedence to the application, domestic users, in-stream users, authorized waste depositors, owners of property, occupiers of property, and/or holders of outfitting concessions, registered trapline holders, and holders of other rights of a similar nature, the same as those considered in the existing water licence?

☑ Yes ☐ No

Provide the names, addresses and nature of use for any known persons or properties that may be adversely affected by the proposed undertaking, including those that hold licences for water use in precedent to the application, domestic users, in-stream users, authorized waste depositors, owners of property, occupiers of property, and/or holders of outfitting concessions, registered trapline holders, and holders of other rights of a similar nature.

Advise the Board if compensation has been paid and/or agreement(s) for compensation have been reached with any existing or other users.

19. INUIT WATER RIGHTS

Are the effects of the undertaking on the quality, quantity or flow of waters flowing through Inuit Owned Land (IOL) the same as those considered in the existing water licence?

☑ Yes ☐ No

Except for the unlikely event of a major fuel spill. Major fuel spills are unlikely as all fuel at Hackett is in 205 L drums which are stored within secondary containment berms and the Spill Contingency Plan is updated on a regular basis.

Advise the Board of any substantial affect of the quality, quantity or flow of waters flowing through Inuit Owned Land (IOL), and advise the Board if negotiations have commenced or an agreement to pay compensation for any loss or damage has been reached with one or more Designated Inuit Organization (DIO).

20. CONSULTATION - Provide a summary of any consultation meetings including when the meetings were held, where and with whom. Include a list of concerns expressed and measures to address concerns.

Date	Location	Attendees	Discussion Topics
March 1, 2013	Kugluktuk, NU	Open to Public (Community Meeting)	• Introduction of Xstrata Zinc • Hackett River project update • Project description • Environmental and socio-economic baseline study programs • Employment and training • Environment and wildlife • Shipping • Environmental assessment process • Timelines
April 24, 2013	Cambridge Bay, NU	14 women and 3 support staff from Kitikmeot Region	• Hackett River project update • Focus on the employment available and how to prepare for employment • Project factsheets and maps were distributed.

21. SECURITY INFORMATION

Is the financial security assessment the same as that considered in the existing water licence?

☑ Yes ☐ No

Is the estimate of the total financial security for final reclamation the same as that considered in the existing water licence?

☑ Yes ☐ No

Provide an estimate of the total financial security for final reclamation equal to the total outstanding reclamation liability for land and water combined sufficient to cover the highest liability over the life of the undertaking. Estimates of reclamation costs must be based on the cost of having the necessary reclamation work done by a third party contractor if the operator defaults. The estimate must also include contingency factors appropriate to the particular work to be undertaken.

Where applicable, the financial security assessment should be prepared in a manner consistent with the principals respecting mine site reclamation and implementation found in the *Mine Site Reclamation Policy for Nunavut,* Indian and Northern Affairs Canada, 2002.

Please see attached (Appendix 3. 2BE-HAK0915 Security Information)

22. FINANCIAL INFORMATION

Is the statement of financial security the same as that considered in the existing water licence?

☐ Yes ☑ No

Provide an updated statement of financial security.

Please see Attached 2014 Glencore Annual Report.pdf

If the applicant is a business entity please answer the questions below:

Is the list of the officers of the company the same as those considered in the existing water licence?

☑ Yes ☐ No

Glencore Canada Corporation is owned by Glencore plc, a Jersey company

Kenneth R. Ives- Chief Executive Officer

Michael R. Boone- Director and Chief Financial Officer

Stephen K. Young- Director and Vice President, Legal

Louis Martin- Vice President, Taxation

Michael Hajdu- Treasurer

Is the Certificate of Incorporation or evidence of registration of the company name the same?

☑ Yes ☐ No

Attach a copy of the Certificate of Incorporation or evidence of registration of the company name

See October 2013- 131009_131002 2BE-HAK0915 Name Change Xstrata to Glencore.pdf

23. STUDIES UNDERTAKEN TO DATE

List and attach updated studies, reports, research etc.

The following baseline studies have been collected for this project and available upon request:

Department of Indian and Northern Affairs, Water Management Section, Bathurst Norsemines (Hackett River), Potential Mine Water Quality Survey Network, Report Series, 1974 By: D. Sutherland, J. McLaren

Northwest Territories Water Board, Department of Indian and Northern Development, Bathurst Norsemines Hackett River, Potential Mine Water Quality Survey Network, Report Series, 1975 By D.J. Sutherland

Geochemical Dispersion over Massive Sulphides within the Zone of Continuous Permafrost, Bathurst Norsemines, District of Mackenzie, N.W.T. by J. K. Millar, The University of British Columbia, December, 1978.

Prepared by Gartner Lee for Sabina Silver Resources:

- Baseline Water Quality Monitoring Program at Hackett River Project, December 6, 2004
- 2005 Baseline Water Quality Monitoring Program – Hackett River Project, October, 2005
- 2006 Baseline Preliminary Options of the Road Route Options from Hackett River Camp to the BIPAR Road, November, 2006.
- 2006 Baseline Water Quality Monitoring Program at Hackett River Project, November, 2006.

Prepared by Rescan Environmental Services Inc. for Sabina Silver Corporation:

- 2007 Hydrology Baseline Report, Hackett River Project, January 2008
- 2007 Aquatic Baseline Report, Hackett River Project, April 2008
- 2007 Fish Habitat and Fish Community Baseline Report, Hackett River Project, June 2008
- 2007 Wildlife Baseline Report, Hackett River Project, March 2008
- 2007 Meteorology and Permafrost Baseline Report, Hackett River Project, March 2008
- Hackett River Project - Predicted Minesite-Drainage, Chemistry and Acid Rock Drainage - Phase 1, March 2008
- 2007 Archaeology Baseline Report, Hackett River Project, April 2008
- 2007 Soil Baseline Report, Hackett River Project, June 2008
- 2007 Ecosystem Mapping and Vegetation Baseline Report, Hackett River Project, September 2008
- 2008 Hydrology Baseline Report, Hackett River Project, October 2008
- 2008 Freshwater Water Quality Baseline Report, Hackett River Project, January 2009
- 2008 Wildlife Baseline Report, Hackett River Project, November 2008
- 2008 Meteorology and Permafrost Baseline Report, Hackett River Project, December 2008
- Preliminary Wind Resource Analysis for the Hackett River Project, August 2008
- Historical and Traditional Knowledge in the Hackett River Study Area, January 2009

23. STUDIES UNDERTAKEN TO DATE (continued)

List and attach updated studies, reports, research etc.

Prepared by Rescan Environmental Services Inc. for Sabina Silver Corporation:

- Metal Leaching/Acid Rock Drainage Characterization, January 2010
- Hackett River Project Archaeological Review, May 2010
- 2010 Fish and Fish Habitat Baseline Report, December 2010
- 2009 and 2010 Meteorology Data Report, May 2011
- 2010 Caribou and Muskox Baseline Report, May 2011

A number of studies in support of baseline studies were completed in 2012 and partial studies completed in 2013 by Rescan Environmental Services Inc. an ERM Company for Xstrata Zinc Canada however final reports were not issued. The studies were completed for each of the following disciplines:

- Meteorology
- Surface Water Hydrology
- Hydrogeology
- Geochemistry
- Wetlands
- Terrestrial Ecosystems and Vegetation
- Aquatic Resources
- Fish and Fish Habitat
- Wildlife
- Archeology

Provide a compliance assessment and status report including a response to any inspector's reports. The licensee must contact the NWB for licence specific direction in completing the assessment and report.

Please see attached (Appendix 4. 2BE-HAK0915 Compliance Assessment Sept 2015)

If in non-compliance, a licence may not be issued until compliance is achieved. If in non-compliance, attach plans/reports for consideration. Application will not be processed if significant issues of non-compliance exist.

24. PROPOSED TIME SCHEDULE

Is the time schedule for all phases of development (construction, operations, closure and post closure) the same as that considered in the existing licence?

☑ Yes (Seasonal) ☐ No

Indicate the proposed start and completion dates for each applicable phase of development (construction, operation, closure, and post closure).

Project is currently under care and maintenance and it is not known when exploration/operations are expected to occur; closure and post closure dates will be dependent on this.

Construction

Proposed Start Date: NA (month/year) Proposed Completion Date: NA (month/year)

Operation

Proposed Start Date: NA (month/year) Proposed Completion Date: NA (month/year)

Closure

Proposed Start Date NA (month/year) Proposed Completion Date: NA (month/year)

Post - Closure

Proposed Start Date: NA (month/year) Proposed Completion Date: NA (month/year)

For each applicable phase of development indicate which season(s) activities occur.

Construction (March to October)

☐ Winter ☑ Spring ☑ Summer ☑ Fall ☐ All season

Operation (March to October)

☐ Winter ☑ Spring ☑ Summer ☑ Fall ☐ All season

Closure (March to October)

☐ Winter ☑ Spring ☑ Summer ☑ Fall ☐ All season

Post - Closure (March to October)

☐ Winter ☑ Spring ☑ Summer ☑ Fall ☐ All season

25. PROPOSED TERM OF LICENCE

On what date does the existing licence expire? December 31, 2015

Indicate the proposed term of the renewal (maximum of 25 years): 5 year

Requested date of renewal issuance: January 1, 2015 (month/year) Requested Expiry Date: January 1, 2020 (month/year)

(The requested date of renewal issuance must be at least three (3) months from the date of application for a type B water licence and at least one (1) year from the date of application for a type A water licence, to allow for processing of the water licence application. These timeframes are approximate and do not account for the time to complete any pre-licensing land use planning or development impact requirements, time for the applicant to prepare and submit a water licence application in accordance with any project specific guidelines issued by the NWB, or the time for the applicant to respond to requests for additional information. See the NWB's *Guide 5: Processing Water Licence Applications* for more information)

26. ANNUAL REPORTING

Is the annual report template expected to be the same as that considered in the existing licence?

☑ Yes ☐ No

If not using the NWB's *Standardized Form for Annual Reporting*, provide details regarding the content of annual reports and a proposed outline or template of the annual report.

27. CHECKLIST

The following must be included with the application for renewal for the water licensing process to begin.

Completed Application for Water Licence Renewal form.

☑ Yes ☐ No If no, date expected _____

Updated plans, including designs and reports (see Block 23).

☑ Yes ☐ No If no, date expected _____

- 2BE- HAK0915 Abandonment and Restoration_includes Cost Estimate
- 2BE-HAK0915 SpillContingencyPlan_HackettCamp

Updated security assessment (see Block 21).

☑ Yes ☐ No If no, date expected _____

Updated financial statement (see Block 22).

☑ Yes ☐ No If no, date expected _____

Compliance Assessment / Status Report (see Block 23).

☑ Yes ☐ No If no, date expected _____

English Summary of Renewal Application.

☑Yes ☐ No If no, date expected _____

Inuktitut and/or Inuinnaqtun Summary of Renewal Application.

☑ Yes ☐ No If no, date expected _____

Application fee of $30.00 CDN (Payee Receiver General for Canada).

☑ Yes ☐ No If no, date expected _____

Water Use Fee Deposit of $30.00 CDN (Payee Receiver General for Canada). The actual water use fee will be calculated by the NWB based upon the amount of water authorized for use in accordance with the Regulations at the time of issuance of the licence.

☑ Yes ☐ No If no, date expected _____

28. SIGNATURE

I, Michel Boucher (print name)

certify that the application requires no changes to water use or waste disposal as previously authorized and that the information given on this form is, to the best of my knowledge, correct and complete.

Michel

Signature

October 21ST 2015

Date

RESOLUTION OF THE DIRECTORS
OF
GLENCORE CANADA CORPORATION

Supplemental Signing Authorizations

RESOLVED THAT:

(i) Any one officer or director of the Corporation, including those duly appointed officers or directors set out in Schedule "A" attached hereto, be appointed on behalf of the Corporation to sign and deliver all contracts, documents and instruments in writing requiring execution by the Corporation, and all contracts, documents or instruments in writing so signed shall be binding upon the Corporation without any further authorization or formality.

(ii) Any one of the individuals identified in Schedule "B" attached hereto, be appointed on behalf of the Corporation to sign and deliver all contracts, documents or instruments in writing required by their respective business or functional units in the carrying out of normal course business activities, and all contracts, documents or instruments in writing so signed shall be binding upon the Corporation without any further authorization or formality.

CERTIFIED a true and correct copy of a resolution duly passed by the Board of Directors of Glencore Canada Corporation, effective January 1, 2014.

DATED this 7th day of July, 2014.

Fernandes

Janice Fernandes
Assistant Secretary

SCHEDULE "A"

GLENCORE CANADA CORPORATION

LIST OF DIRECTORS AND OFFICERS

NAME	POSITION
Kenneth R. Ives	Chief Executive Officer
Michael R. Boone	Director and Chief Financial Officer
Stephen K. Young	Director and Corporate Secretary
Louis Martin	Vice President, Taxation
Michael Hajdu	Treasurer
Janice Fernandes	Assistant Secretary

3. ZINC

LOCATION/SITE	AUTHORIZED SIGNATORIES
Head Office – All Sites	Reid Bowlby, Vice-President, Commercial Caroline Carpentier, Human Resources Manager Lynda Wilson-Hare, Manager, Health and Safety, Risk Management and SD Assurance Brad Ryder, Authorized Signing Officer, Corporate Affairs Peter Wright, Legal Counsel Stephen K. Young, Legal Counsel Paul Einarson, Finance
Brunswick Smelter	Marc Duchesne, General Manager Mark Jardine, Smelter Controller
Exploration – Zinc	Michel Boucher, General Manager, Projects Normand Dupras, General Manager, Exploration
Kidd Operations	Tom Semadeni, General Manager Peter Bragagnolo, Finance Manager John Twomey, Concentrator Manager Shannon Campbell, Manager Mine Operations Gary Morin, Manager of Maintenance and Logistics
Matagami Mining Camp	André Marois, General Manager, Projects Mira Godbout, Coordinator Environment and Sustainable Development Denis Dubé, Mill and Infrastructures Superintendent Anie Rivet, Head, Finance and Administration Shanie Laplante, Head, HR
General Smelting	Danny Reddick, General Manager Linda Trépanier, Chief Accountant
Commercial	Reid Bowlby, Vice-President, Commercial Dan Myerson, Authorized Signing Officer Martin Pede, Director, Raw Materials and Logistics
Projects	Michel Boucher, General Manager, Projects Aline Coté, Director of Projects
Procurement - Zinc	Daniel Sauve, Director Procurement Reid Bowlby, Vice-President, Commercial Martin Pede, Director, Raw Materials and Logistics Benjamin Van Der Sluys, Procurement Lead *(authorized signatory for carbon purchases only)*
Brunswick Mine	Helen Harper, Asset Manager, Closed Sites Rick Schwenger, Manager, Projects – Reclamation Team Kelly Longval, Project coordinator Terry Fortune, Authorized Signatory