

**APPENDIX C – NWB SUPPLEMENTARY INFORMATION GUIDE FOR  
AMENDMENT 2 REQUEST, WATER LICENCE RENEWAL (Dec 2009) AND  
AMENDMENT 1 (June 2010)**



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## EXPLORATION/ REMOTE CAMP SUPPLEMENTARY QUESTIONNAIRE

Applicant: Sabina Gold & Silver Corp. Licence No: \_\_\_\_\_  
(For NWB Use Only)

License 2BEGOO1015 – amendment 2 request (November 2010)

Only those sections of this questionnaire that are affected by the amendment request are included in the following. All other components and descriptions as outlined in Supplementary Questionnaire for licence renewal (Dec 2009) and Supplementary Questionnaire licence amendment 1 (June 2010) remain the same. These Questionnaires are attached.

### ADMINISTRATIVE INFORMATION

1. Environment Manager: Elizabeth Sherlock Tel: 604-998-4175 Fax: 604-998-1051  
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2. Project Manager: Peter Manojlovic Tel: 604-998-4175 Fax: 604-998-1051  
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3. Does the applicant hold the necessary property rights?

4. Is the applicant an 'operator' for another company (i.e., the holder of the property rights)? If so, please provide letter of authorization.

5. Duration of the Project

☐ One year or less      Start and completion dates: \_\_\_\_\_  
☐ Multi Year:

If Multi-Year indicate proposed schedule of on site activities  
Start: \_\_\_\_\_ Completion: \_\_\_\_\_

### CAMP CLASSIFICATION

6. Type of Camp

- ☐ Mobile (self-propelled)  
☐ Temporary  
☒ Seasonally Occupied  
☐ Permanent  
☐ Other: \_\_\_\_\_

**7. What is the design, maximum and expected average population of the camp?**

The camp currently accommodates up to 80 people, with an average daily population of 65. It is anticipated that increased drilling and other exploration activities would result in increasing personnel needs up to 120 people, with an average of 95.

**8. Provide history of the site if it has been used in the past.**

**CAMP LOCATION**

**9. Please describe proposed camp location in relation to biogeographical and geomorphological features, and water bodies.**

**10. How was the location of the camp selected? Was the site previously used? Was assistance from the Regional Inuit Association Land Manager sought? Include maps and/or aerial photographs.**

**11. Is the camp or any aspect of the project located on:**

☐ Crown Lands Permit Number (s)/Expiry Date:

☐ Commissioners Lands Permit Number (s)/Expiry Date: \_\_\_\_\_ N/A \_\_\_\_\_

☐ Inuit Owned Lands Permit Number (s)/Expiry Date:

**12. Closest Communities (direction and distance in km):**

**13. Has the proponent notified and consulted the nearby communities and potentially interested parties about the proposed work?**

Sabina representatives have not contacted the nearby communities regarding this amendment. We have discussed with KIA and INAC inspectors and reviewed GNDoe policies in order to determine best management practices and implementation of open burning at remote camps.

**14. Will the project have impacts on traditional water use areas used by the nearby communities? Will the project have impacts on local fish and wildlife habitats?**

The amendment to increase water usage, include open burning in waste management and include water use, storage, collection/diversion and discharge are not expected to have an impact on traditional water use areas by nearby communities during the planned exploration season.

These amendments are also expected to have minimal impact on local fish and wildlife habitat. This is principally because of design and mitigation measures to be implemented to minimize the impact.

## PURPOSE OF THE CAMP

15. ☐ Mining (includes exploration drilling)  
☐ Tourism (hunting, fishing, wildlife observation, adventure/expedition, etc.)  
(Omit questions # 16 to 21)  
☐ Other
16. Activities (check all applicable)  
☐ Preliminary site visit  
☐ Prospecting  
☐ Geological mapping  
☐ Geophysical survey  
☐ Diamond drilling  
☐ Reverse circulation drilling  
☐ Evaluation Drilling/Bulk Sampling (also complete separate questionnaire)  
☐ Other:
17. Type of deposit (exploration focus):  
☐ Lead Zinc  
☐ Diamond  
☐ Gold  
☐ Uranium  
☐ Other

## DRILLING INFORMATION

18. Drilling Activities  
☐ Land Based drilling  
☐ Drilling on ice
19. Describe what will be done with drill cuttings?
20. Describe what will be done with drill water?
21. List the brand names and constituents of the drill additives to be used? Includes MSDS sheets and provide confirmation that the additives are non-toxic and biodegradable.
22. Will any core testing be done on site? Describe.

## SPILL CONTINGENCY PLANNING

23. The proponent is required to have a site specific Spill Contingency Plan prepared and submitted with the application This Plan should be prepared in accordance with the *NWT Environmental*

*Protection Act, Spill Contingency Planning and Reporting Regulations, July 22, 1998 and A Guide to the Spill Contingency Planning and Reporting Regulations, June 2002. Please include for review.*

24. How many spill kits will be on site and where will they be located?
25. Please describe the types, quantities, and method of storage of fuel and chemicals on site, and provide MSDS sheets.

#### **WATER SUPPLY AND TREATMENT**

26. Describe the location of water sources.  
Goose Lake and local lakes in area of temporary camps and drill sites
27. Estimated water use (in cubic metres/day):  
☒ Domestic Use: 45m3/day (at Goose and temporary camps) Water Source: Goose Lake and local lakes to temporary camps  
☒ Drilling: 240m3/day Water Source: Goose Lake and local lakes  
☒ Other: 12m3/day Water Source: Goose Lake, local lakes, exploration, camp and associated infrastructure and disturbed areas.
28. Describe water intake for camp operations? Is the water intake equipped with a mesh screen to prevent entrapment of fish? (see *DFO 1995, Freshwater Intake End-of-Pipe Fish Screen Guideline*) Describe: unchanged; as per current water license terms and conditions
29. Will drinking water quality be monitored? What parameters will be analyzed and at what frequency? unchanged; as per current water license terms and conditions
30. Will drinking water be treated? How? unchanged; as per current water license terms and conditions
31. Will water be stored on site? unchanged; as per current water license terms and conditions

#### **WASTE TREATMENT AND DISPOSAL**

32. Describe the characteristics, quantities, treatment and disposal methods for:

Waste management on-site will be revised to reflect the inclusion of controlled open burn conditions.

☒ Camp Sewage (blackwater)  
Unchanged

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☒ Camp Greywater  
Unchanged

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☒ Solid Waste

The disposal method of burnable solid waste such as paper, cardboard, plastic, wood, burlap cloth, fuel or oil-soaked absorbent material, semi-solid waste from Pacto toilets and food preparation waste would principally be by burning in the dual stage, forced air incinerator. It is estimated that on average up to approximately 20 garbage bags (121L capacity) of burnable waste would be generated each day.

On occasion, the volume of the untreated wood products (e.g. paper, cardboard, and wood) is very large because of resupply, construction and reclamation activities. At these times, the waste management would include open controlled, open burning conditions. It is challenging to estimate this volume since it would vary with resupply, camp population, camp maintenance and progressive reclamation. It is assumed that approximately half of the combustible material (1m<sup>3</sup>/day) may be generated and open burn completed on a regular period approximately every 2-3 days depending on weather conditions.

Any remaining ash and unburned residue from the incinerator or open burn would be collected in cleaned 205L drums, sealed for transport and flown out for disposal at a suitable, approved Hazardous waste management facility.

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**✕ Bulky Items/Scrap Metal**

All large metal waste items such as used drill steel, broken or worn out mechanical parts and 205 litre (45 gallon) drums used for fuel transport would be flown back to Yellowknife for recycling or for disposal in an approved waste disposal site. Any bulky waste items would be burned under controlled conditions, or cut up and burned in the Goose camp incinerator or would be flown out for disposal at the Yellowknife landfill site. The quantity produced is estimated to be approximately 1-2 Twin Otter plane load every week, most of which would be empty fuel drums.

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**✕ Waste Oil/Hazardous Waste**

Unchanged

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**✕ Empty Barrels/Fuel Drums**

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33. Please describe incineration system if used on site. What types of wastes will be incinerated? A forced air – dual stage, diesel fueled incinerator system is used on site. Burnable solid waste such as paper, cardboard, plastic, wood, burlap cloth, fuel or oil soaked absorbent material, semi-solid waste from Pacto toilets and food preparation waste would be disposed of by burning in the incinerator.

At times, the volume and/or size of some of this material cannot be accommodated by the incinerator capacity. Under controlled conditions untreated wood products such as paper, wood and cardboard would be burned in an area located 30m above the local waterways and downwind of camp facilities.

34. Where and how will non-combustible waste be disposed of? If in a municipality in Nunavut, has authorization been granted?

Unchanged

35. Describe location (relative to water bodies and camp facilities) dimensions and volume, and freeboard for all sumps (if applicable).

Unchanged

36. Will leachate monitoring be done? What parameters will be sampled and analyzed, and at what frequency?

The open burn area would be located such that water would not accumulate in the area, however, if there is any ponded water, it will be sampled for parameters as identified in current water licence.

Diversion and collection systems will be included as needed in the final design of the airstrip and roadway. Water monitoring program as outlined in the current water license will be expanded to include these areas as needed.

## **OPERATION AND MAINTENANCE**

37. Have the water supply and waste treatment and disposal methods been used and proven in cold climate? What known O&M problems may occur? What contingency plans are in place?

The waste treatment of controlled open burning is a proven disposal method in Nunavut used by the communities and other proponents as part of their waste management.

## **ABANDONMENT AND RESTORATION**

38. Provide a detailed description of progressive and final abandonment and restoration activities at the site.

The A&R Plan remains unchanged with the amendments of increased water volume use and inclusion of open burning.

## **BASELINE DATA**

39. Has or will any baseline information be collected as part of this project? Provide bibliography. Preliminary environmental baseline data was collected during the 2010 exploration program to support compliance requirements and on-going feasibility studies associated with advanced development. This included weather data (e.g. wind speed, wind direction and temperature), archaeology surveys, preliminary fish species and fish habitat assessment, and ARD/ML characterization. These programs will continue in 2011, to focus and improve data collection in the area.

- ☒ Physical Environment (Landscape and Terrain, Air, Water, etc.)
- ☒ Biological Environment (Vegetation, Wildlife, Birds, Fish and Other Aquatic Organisms, etc.)
- ☒ Socio-Economic Environment (Archaeology, Land and Resources Use, Demographics, Social and Culture Patterns, etc.)
- ☐ Other: ARD/ML

## **REGULATORY INFORMATION**

40. At a minimum, you should ensure you have a copy of and consult the documents below for compliance with existing regulatory requirements:

✓ ARTICLE 13 – *NCLA -Nunavut Land Claims Agreement*

- ✓ NWNSRTA – *The Nunavut Waters and Nunavut Surface Rights Tribunal Act, 2002*
- ✓ *Northwest Territories Waters Regulations, 1993*
- ✓ NWB - Water Licensing in Nunavut - Interim Procedures and Information Guide for Applicants
- ✓ NWB - Interim Rules of Practice and Procedure for Public Hearings
- ✓ RWED – *Environmental Protection Act, R-068-93- Spill Contingency Planning and Reporting Regulations, 1993*
- ✓ RWED A Guide to the Spill Contingency Planning and Reporting Regulations, 2002
- ✓ NWTWB - Guidelines for Contingency Planning
- ✓ *Canadian Environmental Protection Act, 1999 (CEPA)*
- ✓ *Fisheries Act, RS 1985 - s.34, 35, 36 and 37*
- ✓ DFO - Freshwater Intake End of Pipe Fish Screen Guideline
- ✓ NWTWB - Guidelines for the Discharge of Treated Municipal Wastewater in the NWT
- ✓ Canadian Council for Ministers of the Environment (CCME); Canadian Drinking Water Quality Guidelines, 1987
- ✓ Public Health Act - Camp Sanitation Regulations
- ✓ Public Health Act - Water Supply Regulations
- ✓ *Territorial Lands Act and Territorial Land Use Regulations; Updated 2000*



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## EXPLORATION/ REMOTE CAMP SUPPLEMENTARY QUESTIONNAIRE

*Amendment 1 request  
June 2010*

Applicant: Sabina Gold & Silver Corp. Licence No: \_\_\_\_\_  
(For NWB Use Only)

### ADMINISTRATIVE INFORMATION

1. Environment Manager: Elizabeth Sherlock Tel: 604-998-4175 Fax: 604-998-1051  
E-mail: esherlock@sabinagoldsilver.com
2. Project Manager: Peter Manojlovic Tel: 604-998-4175 Fax: 604-998-1051  
E-mail: pmanojlovic@sabinagoldsilver.com

3. Does the applicant hold the necessary property rights?

Yes, Sabina Gold & Silver Corp. acquired a 100% interest in the Hackett River Property from Teck Cominco Limited in 2005 and 100% interest in the Back River Properties from Dundee Precious Metals in 2009.

Currently operate under water license NWBG001015 and NWBGEO0210 for the Goose Lake and George Lake Projects respectively.

4. Is the applicant an 'operator' for another company (i.e., the holder of the property rights)? If so, please provide letter of authorization.

N/A

5. Duration of the Project

☐ One year or less      Start and completion dates: \_\_\_\_\_  
☒ Multi Year:

If Multi-Year indicate proposed schedule of on site activities

Start: April 1, 2010      Completion: December 31, 2015

### CAMP CLASSIFICATION

6. Type of Camp

☐ Mobile (self-propelled)  
☒ Temporary  
☒ Seasonally Occupied: February 1 – Oct 31

*June 2010*

- ☐ Permanent  
☐ Other: \_\_\_\_\_

7. What is the design, maximum and expected average population of the camp?

These temporary camps will accommodate up to 15 people with an average capacity of 10 people.

8. Provide history of the site if it has been used in the past.

Exploration for precious metals has occurred in this area of the Kitikmeot Region since the 1980's under various operators, including Back River Joint Venture, Homestake, Araurco, Kit Resources, Kinross, Miramar, and Dundee Precious Metals. Sabina acquired the Hackett River Property in 2004 and the Back River Properties in 2009.

The exact locations of the temporary camps is unknown at this time as their location will be determined by identified exploration targets, economic considerations and operational needs.

## CAMP LOCATION

9. Please describe proposed camp location in relation to biogeographical and geomorphological features, and water bodies.

Currently, Sabina holds water licenses for three camps in the Kitikmeot Region – Hackett River, Goose Lake and George Lake. These licenses include the exploration activities such as drilling, geophysical surveys and field programs and the operation of camps to support these activities. The purpose of this application is to permit water use and waste disposal in small, temporary locations to support exploration activities that are some distance (approx 20km or more) from these main camps. Possible locations identified at the moment include Bathurst Inlet, Del Lake, Lake on Boot Property and Split Lake areas. Other locations may be identified through on-going exploration activities and operational needs.

The climate, soils and vegetation of the camp area are arctic in character. Plant cover is characteristic of the Arctic Tundra community. Shrubs are found sparsely distributed on the mesic sites near the rivers and lakes. On the interfluvies are found low-growing perennials; grasses and sedges and some flowering species. The eskers support very little actual plant cover.

In general, lakes in the area contain extremely clear, low nutrient, low metal water, indicative of pristine high Arctic lakes. Most lakes have near-neutral waters, with very low hardness and alkalinity. However, naturally high metal concentrations are present in some lakes, indicating their proximity to surface mineralized areas.

The area is in a zone of continuous permafrost. The active layer through the Project area ranges from approximately 1 to 2 m, but may be greater in areas where there is loose, sandy soil at the edges of lakes or ponds. Talik features are potentially present in the area under larger lakes. The depth of permafrost in the region is on the order of 500 metres. Permafrost greatly increases ground stability at depth but at surface it can increase the rates of soil erosion through the formation of ice wedges, pingos, palsas, ice lenses, and thermokarst. Esker systems are noted in the area.

Several observations of caribou have been noted in the area during previous exploration programs. These are typically single or small groups of transitory animals; calving areas for the Bathurst herd are

known to exist several hundred kilometers to the north of the area (west of Bathurst Inlet) and the Ahiak herd are known to calve east of Bathurst Inlet in the Queen Maud Gulf area. Other wildlife noted in the area include muskox, wolves and grizzly bears.

The current scope of work for these temporary camps is relatively low impact and easily mitigated. Any potentially harmful impacts can be mitigated with best management practices such as the use of drip trays, secondary containment, avoiding groups of animals, keeping an appropriate distance from water bodies, general good housekeeping and ensuring safe work conditions and practices.

10. How was the location of the camp selected? Was the site previously used? Was assistance from the Regional Inuit Association Land Manager sought? Include maps and/or aerial photographs.

Possible locations identified at the moment include Bathurst Inlet, Del Lake, Lake on Boot Property and Split Lake areas. Other locations may be identified through on-going exploration activities and operational needs. These locations are tentatively made because of their location to potential exploration targets and the lakes are large enough that they may accommodate ice airstrip construction. Bathurst Inlet is a strategic resupply point for barge transport of fuel and drilling supplies and backhaul loading point for back haul of waste associated with reclamation and cleanup.

11. Is the camp or any aspect of the project located on:  
Sabina anticipates that the satellite camps will be located on either Crown Lands or IOL and these permits are under application for amendment to include smaller support camps as needed.

☒ Crown Lands Permit Number (s)/Expiry Date:

Land Use Permit N2006C0008 (Back River/Wishbone)

☐ Commissioners Lands

Permit Number (s)/Expiry Date: \_\_\_\_\_ N/A \_\_\_\_\_

☒ Inuit Owned Lands Permit Number (s)/Expiry Date:

License No. KTL304C017 (Goose Lake camp) KTL304C018 (George Lake camp),  
KTL204C012 (Boulder Lake) KTL204C020 (Boot Lake)

12. Closest Communities (direction and distance in km):

The Goose Lake camp is located approximately 320 km north-east of the city of Yellowknife and 160 km south of the hamlet of Bathurst Inlet. The camp is situated on the southern shore of Goose Lake, approximately 25 km northeast of Beashy Lake (a part of the Back River).

13. Has the proponent notified and consulted the nearby communities and potentially interested parties about the proposed work?

Sabina representatives participate in the annual Kitikmeot Trade Show and Nunavut Mining Symposium to discuss Sabina exploration projects with regulators, territorial leaders, community leaders and the general public.

Sabina representatives visit local communities each year, and Elders from Bathurst Inlet have visited the area in 2007. Visits to Bathurst Inlet, Umingmaktok and Cambridge Bay are made as the programs

close for the year to distribute unused food supplies from camp; this also provides informal opportunities to discuss exploration activities.

14. Will the project have impacts on traditional water use areas used by the nearby communities?  
Will the project have impacts on local fish and wildlife habitats?

The project is expected to have no impact on traditional water use areas by nearby communities during the planned exploration season.

The project is expected to have no or minimal impact on local fish and wildlife habitat. Encounters with wildlife will be kept to a minimum through a policy of camp and work site cleanliness, no hunting or fishing from camp except with a valid permit from the Government of Nunavut, and no feeding of the animals. Hand-held air horns will be available to warn off bears and, if necessary, pepper spray will be used for self protection rather than firearms. Camp personnel will be encouraged to report wildlife encounters and record the location any critical wildlife habitat that may be discovered, such as dens or nesting or spawning sites so as to avoid them in the future.

## PURPOSE OF THE CAMP

15. ☐ Mining (includes exploration drilling)  
☐ Tourism (hunting, fishing, wildlife observation, adventure/expedition, etc.)  
(Omit questions # 16 to 21)  
☒ Other temporary camps to support for exploration activities

The description of the camp facilities are a general model that would be used at each location with operational needs and environmental conditions determining the actual camp layout to be used. The following Table provides a general list of camp structures and quantity of potential contaminants in or adjacent to the structures together with the location and size of the various Spill Response Kits located in camp.

Function	Tents	Potential Contaminant	Quantity
Kitchen	1 large tent	Diesel (for stove) Propane (for range)	Less than 200 litres Two 45 Kg tanks
Drillers dry	1 large tent	Diesel (for stove) Propane (for water heater)	Less than 200 litres Two 45 Kg tanks
Tool shed / work shop	1 small tent	Diesel (for stove) Paints, Engine Oil Lubricants, etc	Less than 200 litres
Pacto shed	1 small tent	Organic waste	Up to 5 garbage bags full or approximately 25 litres
Project office (contains a 20 litre spill response kit)	1 large tent	Diesel (for stove)	Less than 800 litres (in enviro tank)
Generator (contains a 205 litre spill response kit)	1 large tent	Diesel (for generator)	Less than 600 litres (in double walled enviro tank)
Drill Supplies	Outside	Motor oil	Up to 4 cases

	storage in containers as needed	Linseed Soap Matek DD 2000 Poly-Drill 1300	Up to 4 tubs Up to 15 tubs Up to 15 tubs
sleeping quarters	4 tents	Diesel (for stoves)	Less than 200 litres at each tent.

Detailed description of camp location, facilities, and time period used will be provided in the annual report.

16. Activities (check all applicable)

These activities are already included in the water license and are not affected by this amendment request.

- ☐ Preliminary site visit
- ☒ Prospecting
- ☒ Geological mapping
- ☒ Geophysical survey
- ☒ Diamond drilling
- ☒ Reverse circulation drilling (under consideration)
- ☐ Evaluation Drilling/Bulk Sampling (also complete separate questionnaire)
- ☒ Other: thermistor installation and data collection

17. Type of deposit (exploration focus):

- ☒ Lead Zinc
- ☐ Diamond
- ☒ Gold
- ☐ Uranium
- ☒ Other: Silver, Copper

## DRILLING INFORMATION

18. Drilling Activities

Drilling is already included in the water license and is not part of the amendment request

- ☐ Land Based drilling
- ☐ Drilling on ice

19. Describe what will be done with drill cuttings?

20. Describe what will be done with drill water?

21. List the brand names and constituents of the drill additives to be used? Includes MSDS sheets and provide confirmation that the additives are non-toxic and biodegradable.

A list of the possible drill additives that may be required, and possibly stored at the temporary camp, are:

Brand Name	Constituent
PureVis	Liquid Polymer
Poly-Drill O.B.X.	Liquid Polymer
Poly-Drill 133-X	Liquid Anionic Polymer

Poly-Drill 1330-W	Liquid Anionic Polymer
Westcoast Drilling Supplies	Linseed Soap
Peladow	Calcium Chloride salt

22. Will any core testing be done on site? Describe.

No. Drill core from the diamond drilling will be taken to Hackett River camp or Goose Lake camp for sampling and logging.

## SPILL CONTINGENCY PLANNING

23. The proponent is required to have a site specific Spill Contingency Plan prepared and submitted with the application. This Plan should be prepared in accordance with the *NWT Environmental Protection Act, Spill Contingency Planning and Reporting Regulations, July 22, 1998* and *A Guide to the Spill Contingency Planning and Reporting Regulations, June 2002*. Please include for review.

An addendum to Sabina Gold & Silver Corp's spill contingency plan is included in Appendix A.

24. How many spill kits will be on site and where will they be located?

A minimum total of two spill kits will be at each temporary camp.

### Spill Response Kit Contents

20 litre All Purpose Spill Response Kit	205 litre H.O.W. Spill Response Kit
1 - 20 litre poly containment pail	150 - 17" X 19" oil absorbent pads
12 - 16" X 20" oil absorbent pads	8 - 3" X 48" oil absorbent socks
2 - 3" X 48" oil absorbent socks	2 - 5" X 120" oil absorbent booms
1 - heavy duty disposal bag (8 mil)	4 - temporary disposal bags 42x48-XS
1 - pair Chemi-Pro gloves	1 - pair nitrile gauntlet gloves
3 - lbs of all purpose absorbent	1 - pair disposable coverall
	1 - pair clear safety goggles
	1 - 4 oz temporary Gapseal stick
	1 - 205 litre containment drum (metal/poly) with quick release lever lock system

Miscellaneous equipment in camp would be made available for spill response and clean up. This equipment would include spades, pick axes and snow shovels, a gas powered water pump, hand crank fuel pump, hand and power tools and any suitable absorbent or containment materials found in the supplies tent or core shack.

25. Please describe the types, quantities, and method of storage of fuel and chemicals on site, and provide MSDS sheets.

The fuel caches at each temporary camp may consist of up to:

Potential Contaminant	Container Size	Maximum Quantity	Comments
Diesel	205 litre drums	500	Stored in up to 5 caches, each within an arctic-grade impermeable secondary containment berm
Aviation fuel	205 litre drums	300	Stored in up to 2 caches, within an arctic-grade impermeable secondary containment berm

Gasoline	205 litre drums	5	Stored separately in an upright position separate from the other fuel caches within an arctic grade mini-berm.
Propane	45 Kg cylinders	1	Stored on a wooden deck and secured in an upright position.

Drums of diesel, aviation fuel and gasoline fuels will be stored outside in separate fuel caches enclosed within impermeable, geomembrane berms to prevent any leaks from entering the soil. The fuel caches would be stored well back from any lake or stream. The intent would be to have any fuel in the temporary camp used over the course of the seasonal exploration program in the area.

As the fuel is used the empty fuel drums will be stored near the temporary camp until they can be flown out to Yellowknife on backhaul flights. All the fuel caches would be monitored on a regular basis to check for leaks. Propane tanks would be secured in an upright position. The acetylene tank for welding purposes would also be secured in an upright position.

Other chemicals that would be used in small quantities during the drill program would include kitchen soaps and cleaning agents, bleach, soaps and shampoo, waterless hand cleaners, hand sanitizer, mosquito repellant and other similar household items. Kitchen cleaners would be kept in the kitchen tent; bleach, soaps and shampoo would be stored in the shower / laundry tent and driller's dry. Mosquito repellant would be stored with office field supplies in the office tent.

## WATER SUPPLY AND TREATMENT

26. Describe the location of water sources.

Water for each temporary camp would be supplied from the closest body of water to minimize pumping distance. Camps will likely be located on lakes large enough to accommodate an ice airstrip for access. If environmental conditions do not develop an appropriate ice thickness for safe operation of an airstrip, water will be used to build-up the required amount from the same lake.

27. Estimated water use (in cubic metres/day):

☒ Domestic Use: 10 m<sup>3</sup> / day Water Source: local lake to temporary camp  
Assuming 2-3 temporary camps are operating at the same time

☐ Drilling (up to 5 Drills): \_\_\_\_\_ Water Source: \_\_\_\_\_

☒ Other: ice airstrip 65m<sup>3</sup>/day\* Water Source: local lake to temporary camp

\*For the airstrip, this water would only be used if local environmental conditions do not create safe ice conditions.

28. Describe water intake for camp operations? Is the water intake equipped with a mesh screen to prevent entrapment of fish? (see *DFO 1995, Freshwater Intake End-of-Pipe Fish Screen Guideline*) Describe:

Water used in the kitchen and the dry buildings, for cleaning and washing purposes, will be pumped from the local lake on average once a day. Water pumped from the lake will be stored in 1 250 gallon (1137 litre) plastic tanks located inside a water room adjacent to the kitchen and the driller's dry to keep the water from freezing. A portable water pump is used to draw water into the tanks.

29. Will drinking water quality be monitored? What parameters will be analyzed and at what frequency?

In general, the temporary camp will be supplied with bottled water, for drinking and cooking purposes. If the local water is needed, water quality testing will be conducted and analyzed once or twice during the camp operation for parameters to allow comparison to CCME Drinking Water Quality Guidelines (2003).

30. Will drinking water be treated? How?

Drinking water supplied from bottled water will not be treated. If the bottled water supply runs out then water from local waterways or snow will be melted and the water boiled to ensure safety. Water used for general camp use (showers, laundry, washing dishes) is filtered through a 100 micron filter, which is changed monthly.

31. Will water be stored on site?

Water would be stored at the camp in plastic tanks up to a capacity of approximately 1200L.

## WASTE TREATMENT AND DISPOSAL

32. Describe the characteristics, quantities, treatment and disposal methods for:

✕ Camp Sewage (blackwater)

Blackwater would be contained in plastic Pacto toilet bags and would be incinerated at Hackett River or Goose Lake camps, or backhauled to Yellowknife for disposal in approved facility. Sumps located more than 31m from high water level may also be used in conjunction with Pacto units depending on site conditions and operational needs. It is estimated that up to one Pacto toilet bag (~5 kg) would be produced each day.

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✕ Camp Greywater

Management of greywater from the camp kitchen will depend on the local terrain and could be either discharged directly or, collected by drainage pipes and gathered in a 500-gallon (1893 litre) container and then, overflow discharged to a greywater disposal pit located further back (about 110m) from the local lake. It is estimated that up to approximately 5 m<sup>3</sup> per day of grey-water would be generated by the camp.

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✕ Solid Waste

Solid waste will be taken to Goose Lake camp for inclusion in the approved waste management plan.

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✕ Bulky Items/Scrap Metal

All large metal waste items such as used drill steel, broken or worn out mechanical parts and 205 litre (45 gallon) drums used for fuel transport would be flown back to Yellowknife for recycling or for disposal in an approved waste disposal site. Any bulky waste items would be cut up and burned in the Goose Lake camp incinerator or would be flown out for disposal at the Yellowknife landfill site. The

quantity produced is estimated to be approximately 1-2 Twin Otter plane load every week, most of which would be empty fuel drums.

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**✕ Waste Oil/Hazardous Waste**

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 at an approved facility, or incinerated (waste diesel only) at Goose Lake camp in the waste oil furnace.

No hazardous materials other than the fuels are expected to be stored or used on the property.

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**✕ Empty Barrels/Fuel Drums**

As mentioned in the "Bulky Items/Scrap Metal" section, empty fuel drums would be returned to Goose Lake camp, and flown to Yellowknife on backhaul flights. The barrels are emptied, and any remaining fuel is collected and used as primary burn fuel at the incinerator. Care would be taken to ensure that the bungs are replaced and snugly tightened so as to prevent any fuel leakage. The empty drums are stored in a large secondary containment, arctic grade berm.

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33. Please describe incineration system if used on site. What types of wastes will be incinerated?

Not applicable

34. Where and how will non-combustible waste be disposed of? If in a municipality in Nunavut, has authorization been granted?

Non combustible waste will be included in Goose Lake camp waste management.

35. Describe location (relative to water bodies and camp facilities) dimensions and volume, and freeboard for all sumps (if applicable).

Sumps for use or at the camp will be located at least 31 m back from any body of water and in a location chosen to enhance infiltration and filtering of the camp grey water. Sumps would be chosen or constructed to have dimensions of approximately 0.38 x 2 x 2 m and would have approximately 1.5 m<sup>3</sup> capacity. The amount of freeboard would be monitored during use and if the sump was filling up a larger sump would be constructed to contain the excess or the excess is shoveled into a megabag and moved to a more suitable location with the helicopter.

Geo-textile cloth fences would be constructed below the camp sump and dry.

36. Will leachate monitoring be done? What parameters will be sampled and analyzed, and at what frequency?

No leachate is expected to be developed at the site.

**OPERATION AND MAINTENANCE**

37. Have the water supply and waste treatment and disposal methods been used and proven in cold climate? What known O&M problems may occur? What contingency plans are in place?

Yes. The water supply system has been tested on other Sabina work sites in Nunavut. Potable water is flown to the camp. If the supply of bottled water runs out due to unexpected weather conditions snow can be melted and the water boiled to provide a safe drinkable water supply. Water pumped from the lake to the camp for domestic use (showers, laundry, washing dishes, etc.) is via an insulation-wrapped water hose to prevent freezing during use. A second similar pump will also be available in camp as a back-up. Water pumped from the lake is temporarily stored in tanks enclosed in a heated water storage room to prevent freezing. All water supply pipes in camp are equipped with heat trace and insulation or are located entirely within heated tents to prevent freezing.

A second generator is located in camp as a back-up power supply in the event that the main generator fails. Pseudo-type toilets avoid the need for a water-based sewage system.

## ABANDONMENT AND RESTORATION

38. Provide a detailed description of progressive and final abandonment and restoration activities at the site.

When the temporary camp and airstrip use is completed, any structures and equipment will be removed from the site. The area will be inspected for any remaining litter and contamination and cleaned up. At break-up the ice strip will melt. The area will be visually inspected once by Sabina in the subsequent year following the area's use and any further reclamation work will be built into progressive reclamation for the exploration program.

## BASELINE DATA

39. Has or will any baseline information be collected as part of this project? Provide bibliography.

- ☒ Physical Environment (Landscape and Terrain, Air, Water, etc.)
- ☒ Biological Environment (Vegetation, Wildlife, Birds, Fish and Other Aquatic Organisms, etc.)
- ☐ Socio-Economic Environment (Archaeology, Land and Resources Use,
- ☐ Demographics, Social and Culture Patterns, etc.)
- ☐ Other: \_\_\_\_\_

The following water quality baseline studies are available or have been collected for this project.

Gartner Lee Limited, 2008. *Field Report – Back River Project: Back River Freshwater Aquatic Resources 2007*. Prepared for Dundee Precious Metals Inc. Toronto. 46p.

Gartner Lee Limited, 2008. *Field Report – Back River Project: Wildlife and Wildlife Habitat 2007*. Prepared for Dundee Precious Metals Inc. Toronto. 52p.

Golder Associates Ltd., 2007. *Back River Project: Environmental Baseline Studies September 2006*. Prepared for Dundee Precious Metals Inc. Toronto. Report 06-1373-45. 84p.

Golder Associates Ltd., 2006. *Environmental Baseline Studies for the Back River Project 2005*. Prepared for Dundee Precious Metals Inc. Toronto. Report 05-1373-010. 68p.

## REGULATORY INFORMATION

40. At a minimum, you should ensure you have a copy of and consult the documents below for compliance with existing regulatory requirements:
- ✓ ARTICLE 13 – *NCLA -Nunavut Land Claims Agreement*
  - ✓ NWNSRTA – *The Nunavut Waters and Nunavut Surface Rights Tribunal Act, 2002*
  - ✓ *Northwest Territories Waters Regulations, 1993*
  - ✓ NWB - Water Licensing in Nunavut - Interim Procedures and Information Guide for Applicants
  - ✓ NWB - Interim Rules of Practice and Procedure for Public Hearings
  - ✓ RWED – *Environmental Protection Act, R-068-93- Spill Contingency Planning and Reporting Regulations, 1993*
  - ✓ RWED A Guide to the Spill Contingency Planning and Reporting Regulations, 2002
  - ✓ NWTWB - Guidelines for Contingency Planning
  - ✓ *Canadian Environmental Protection Act, 1999 (CEPA)*
  - ✓ *Fisheries Act, RS 1985 - s.34, 35, 36 and 37*
  - ✓ DFO - Freshwater Intake End of Pipe Fish Screen Guideline
  - ✓ NWTWB - Guidelines for the Discharge of Treated Municipal Wastewater in the NWT
  - ✓ Canadian Council for Ministers of the Environment (CCME); Canadian Drinking Water Quality Guidelines, 1987
  - ✓ Public Health Act - Camp Sanitation Regulations
  - ✓ Public Health Act - Water Supply Regulations
  - ✓ *Territorial Lands Act and Territorial Land Use Regulations; Updated 2000*



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NUNAVUT IMALIRIYIN KATIMAYINGI  
OFFICE DES EAUX DU NUNAVUT

## EXPLORATION/ REMOTE CAMP SUPPLEMENTARY QUESTIONNAIRE

**Applicant:** Sabina Gold & Silver Corp.

**Licence No:** \_\_\_\_\_  
(For NWB Use Only)

### ADMINISTRATIVE INFORMATION

1. Environment Manager: Elizabeth Sherlock  
Tel: 604-998-4175  
Fax: 604-998-1051  
E-mail: esherlock@sabinagoldsilver.com
2. Project Manager: Doug Cater  
Tel: 604-998-4175  
Fax: 604-998-1051  
E-mail: dcater@sabinagoldsilver.com
3. Does the applicant hold the necessary property rights? Yes
4. Is the applicant an 'operator' for another company (i.e., the holder of the property rights)? If so, please provide letter of authorization. No.
5. Duration of the Project  
☐ One year or less      Start and completion dates: \_\_\_\_\_  
☒ Multi Year:

If Multi-Year indicate proposed schedule of on site activities

Start: April 1, 2010      Completion: March 31, 2015

### CAMP CLASSIFICATION

6. Type of Camp  
☐ Mobile (self-propelled)  
☐ Temporary  
☒ Seasonally Occupied: March-October  
☒ Permanent  
☒ Other: Temporary diamond drill sites

7. What is the design, maximum and expected average population of the camp?

The Goose Lake camp has a maximum capacity of 80 people. In previous years, the typical population at any given time has been approximately 30-60 people, depending on activity levels, crew rotations, and guests/contractors on site.

The camp consists of winterized wooden buildings for accommodation, office, kitchen and dry facilities. Two Quonset huts are set up for vehicle maintenance and storage, and the core processing facility consists of a wooden building with attached weatherhavens. Six 60,000L envirotanks are located in a bermed area on site for storage of seasonal supplies of diesel fuel. Drummed jet fuel is stored in artificial berms adjacent to the diesel tank farm. Power to the camp is supplied by a 65 kW generator.

8. Provide history of the site if it has been used in the past.

1982	Exploration initiated by Trigg, Woollett, Olson Consulting Ltd. And Back River Joint Venture (BRJV) formed.
1983-1985	Prospecting, mapping, sampling, aeromagnetic surveys conducted.
1984-1987	Claims staked at George Lake.
1985	First diamond drilling completed; 2518 m in 35 holes at George Lake. Prospecting permits acquired for Goose Lake.
1987	Claims staked at Goose Lake. Homestake Mineral Development entered into option agreement to earn into BRJV, and completes 20 diamond drill holes at George Lake.
1988-1991	No field work at Goose Lake.
1989	Homestake purchased Esso Minerals Canada's share of the BRJV. Drilling defined Locale 1, Locale 2, Lone Cow Pond, GH and Slave resource zones at George Lake. BRJV partitioned into 2 separate agreements – George Lake Joint Venture (GLJV) and "Outside Properties".
1990	Homestake undertook George Lake feasibility study.
1991	Locale 1, Locale 2 infill drilling occurred (143 holes).
1992	Homestake acquired operator rights for BRJV. Conducted till sampling, geophysical surveys, diamond drilling at Goose South (2744 m in 19 holes).
1992-1996	No significant exploration at the George Lake property.
1993	Diamond drilling – 5967 m in 31 holes.
1994	Diamond drilling – 4900 m in 21 holes.
1996	Arauco acquired option to purchase BRJV and GLJV. Arauco conducted pre-feasibility study.
1997	Arauco acquired 100% interest in the properties with 5% royalty payment to certain previous BRJV partners. Diamond drilling – 15,500 m in 143 holes at George Lake; 4035 m in 26 holes at Goose Lake; 1612 m in 15 holes at Boot Lake. Prospecting at Boot Lake, Boulder Pond. Arauco changed name to Kit Resources.
1999	Kinross optioned George Lake from Kit for a 70% interest. Pre-feasibility study and operating cost estimate conducted for 1500 tpd processing plant and tailings disposal. Resource estimate for Goose Lake completed.
2000	Diamond drilling – 10,915 m in 41 holes at Goose Lake. Mag/VLF and IP/resistivity surveys at Goose Lake.
2001	Sampling, mapping, soil/till sampling. Diamond drilling – 9842 m in 55 holes. Kinross entered into agreement with Wheaton Minerals (merged with Kit Resources) to purchase interest in George Lake.
2002	Diamond drilling – 7685 m 33 holes.

- 2003-2004 Miramar entered option agreement with Kinross to purchase interest in properties. NI 43-101 report prepared.
- 2005 Dundee Precious Metals (DPM) acquired option from Miramar.  
DPM & Kinross enter into letter of agreement for DPM 60% earn-in.  
Diamond drilling – 15,922 m in 46 holes.
- 2006 DPM acquired 100% of Back River project.
- 2007-2008 Exploration and infill drilling, prospecting, mapping, soil sampling, geophysics  
Staking of claims along Wishbone Trend.
- 2009 Back River project (including Wishbone Trend) purchased by Sabina Silver Corp.  
Sabina Silver Corp. changed name to Sabina Gold & Silver Corp.

## CAMP LOCATION

9. Please describe proposed camp location in relation to biogeographical and geomorphological features, and water bodies.

The Goose Lake camp is located approximately 520 km northeast of the city of Yellowknife and 160 km south of the hamlet of Bathurst Inlet. The camp is situated on the southern shore of Goose Lake, approximately 25 km northeast of Beechy Lake (a part of the Back River).

10. How was the location of the camp selected? Was the site previously used? Was assistance from the Regional Inuit Association Land Manager sought? Include maps and/or aerial photographs.

The camp has been in existence since approximately 1987 and has grown with the project over time. Site selection was likely based on proximity to both the Goose Lake mineral occurrence and the lake as a water source and access location for floatplanes. As the site was established prior to the formation of the Territory of Nunavut, it is assumed that there was no assistance from the RIA Land Manager.

11. Is the camp or any aspect of the project located on:

- |                                     |                     |                                |             |
|-------------------------------------|---------------------|--------------------------------|-------------|
| <input checked="" type="checkbox"/> | Crown Lands         | Permit Number (s)/Expiry Date: |             |
|                                     |                     | N2006C0008                     | (5/22/2010) |
| <input type="checkbox"/>            | Commissioners Lands | Permit Number (s)/Expiry Date: |             |
| <input checked="" type="checkbox"/> | Inuit Owned Lands   | Permit Number (s)/Expiry Date: |             |
|                                     |                     | KTL304C017-amended             | (3/13/2010) |
|                                     |                     | KTL309C002                     | (3/16/2011) |
|                                     |                     | KTL204C012-amended             | (3/14/2010) |
|                                     |                     | KTL204C020-amended             | (3/12/2010) |

12. Closest Communities (direction and distance in km):

The hamlet of Bathurst Inlet is 160 km north of the camp at Goose Lake; potential drill sites are between 130-200 km south to southwest from Bathurst Inlet.

13. Has the proponent notified and consulted the nearby communities and potentially interested parties about the proposed work?

Since the sale of the Back River and Wishbone projects to Sabina Gold & Silver Corp. in the early part of 2009, there have not been any direct consultations with the nearby communities. Sabina representatives will be attending the Yellowknife Mining Symposium in November, as well as attending meetings in Cambridge Bay, both of which will provide opportunities for informal discussions about the projects.

14. Will the project have impacts on traditional water use areas used by the nearby communities?

There are no anticipated impacts on traditional water use areas. Drilling and exploration activities take place over a very restricted area, typically 100 m<sup>2</sup> or less. Precautions are taken to minimize impact on the local environment, and best practices are employed to handle waste and cuttings. Should any concerns arise over traditional water use areas, Sabina will work with the affected parties to address them.

Will the project have impacts on local fish and wildlife habitats?

There are no anticipated impacts to local fish and wildlife habitats. Current land use permits provide guidance on minimizing disturbance to local wildlife, and these best practices will continue to be employed.

### PURPOSE OF THE CAMP

15. ☒ Mining (includes exploration drilling)  
☐ Tourism (hunting, fishing, wildlife observation, adventure/expedition, etc.)  
(Omit questions # 16 to 21)  
☐ Other \_\_\_\_\_

16. Activities (check all applicable)

- ☐ Preliminary site visit  
☒ Prospecting  
☒ Geological mapping  
☒ Geophysical survey (airborne)  
☒ Diamond drilling  
☐ Reverse circulation drilling  
☐ Evaluation Drilling/Bulk Sampling (also complete separate questionnaire)  
☐ Other: \_\_\_\_\_

17. Type of deposit (exploration focus):

- ☒ Lead Zinc  
☐ Diamond  
☒ Gold  
☐ Uranium  
☒ Other: Copper, Silver

### DRILLING INFORMATION

18. Drilling Activities

- ☒ Land Based drilling  
☒ Drilling on ice

19. Describe what will be done with drill cuttings?

Sludge from the drills is currently captured using the megabag system and deposited in a dedicated sump at the Goose Lake camp. Owing to the significant transport distance to the Wishbone property, as per Part F, Section 2 of the current terms and conditions of the licence, a natural depression in the vicinity of drilling may be used for disposal of the cuttings in lieu of transporting them for extended distances by helicopter back to Goose Lake. Doing so will reduce both the costs of the operation as well as the risk of a spill by transporting the cuttings over such a long distance. Should a change of drill contractors occur, it may also become necessary to use a local sump under Part F, Section 2 for cuttings disposal (i.e. not all drill systems are equipped to use the megabag for cuttings capture).

20. Describe what will be done with drill water?

Water from the drill will be recycled to minimize the quantity used, and allowed to freeze in the hole upon completion of the drilling. Experience in this region indicates that freezing of the hole takes place in a timeframe ranging from hours to days. Clarified water drains through the megabag and is allowed to disperse on the tundra (directed away from any surface water body) where it percolates into the ground and returns to the local watershed.

21. List the brand names and constituents of the drill additives to be used? Includes MSDS sheets and provide confirmation that the additives are non-toxic and biodegradable.

MSDS sheets for drill additives are appended.

22. Will any core testing be done on site? Describe.

No core testing will take place at the drill sites. Core will be flown back to the existing facility at Goose Lake for logging and sampling. Core will be logged and with intervals of potential economic interest sampled by sawing the core in half. Half of the core will remain in the core box for archiving and the other half will be bagged and shipped for analysis at laboratories in any of Vancouver, Saskatoon, Ancaster, or elsewhere as deemed appropriate. Point load testing (hardness), magnetic susceptibility, and oriented core testing (orientation of sub-surface rocks in 3D space) may also be completed at Goose Lake.

## SPILL CONTINGENCY PLANNING

23. The proponent is required to have a site specific Spill Contingency Plan prepared and submitted with the application. This Plan should be prepared in accordance with the *NWT Environmental Protection Act*, *Spill Contingency Planning and Reporting Regulations*, July 22, 1998 and *A Guide to the Spill Contingency Planning and Reporting Regulations*, June 2002. Please include for review.

The most recently amended (November 2009) Spill Contingency Plan is appended.

24. How many spill kits will be on site and where will they be located?

There will be 1 spill kit located with each drill. Numerous spill kits will be located throughout the camp as outlined in the Spill Contingency Plan. At a minimum, spill kits will be located adjacent to areas where fuel or other hydrocarbons are involved (i.e. tank farm, helipads, generator shack, incinerator, dock, drummed fuel storage).

25. Please describe the types, quantities, and method of storage of fuel and chemicals on site, and provide MSDS sheets.

Diesel fuel will be stored at the Goose Lake camp in the double-walled Envirotanks located within the lined, bermed tank farm. There are a total of 6 tanks with a volume of 60,000 L each.

Drummed fuel on site will primarily consist of Jet A and/or Jet B. Drums will be stored on their sides within artificial berms with bungs horizontal. Quantities are highly variable, with the greatest amount of fuel on site during the resupply period at the start of the season. Depending on the scope of the exploration program, quantities sufficient for up to 1500 hours of flying may be required. This amount translates into approximately 1500 drums. Lesser amounts of diesel, gasoline and avgas may also be stored on site in a similar manner. Quantities of these fuels will also vary with program requirements (if needed at all in any given year), but are not anticipated to exceed 100 drums of each with the current scope of work.

Diesel fuel will be stored in 205L drums and in small double-walled fuel cells at each drill site. Quantities will be dynamic, but should not exceed 4-6 full drums at a time. All drums will be stored in artificial berms.

Fuel caches of Jet-A and/or Jet-B for the helicopters may be located throughout the area. As per licensing regulations, quantities will not exceed 4000L, and will consist of 205L drums contained within artificial berms, where practical. In 2008, serious human safety hazards were identified with using these berms at remote locations in the winter, as the plastic becomes extremely slippery and may result in a lone pilot becoming seriously or critically injured in the field and unable to call for or receive help in a reasonable time. As federally regulated transport professionals, pilots are well-trained in safe fuel handling procedures and it is felt that the risk of serious personal injury presented by a slippery berm is significantly greater than the risk of a fuel spill during the relatively short period of time any given drum will be stored on site. It is also felt that snow acts as an effective absorbent and barrier to all but the largest spills (which can be avoided with safe, diligent handling procedures); minor spills can be cleared away with no impact to the actual ground. As a best management practice, these caches will be documented and reported to the INAC and KIA Lands Inspectors.

A variety of substances are used in the day to day operation of the camp. Hydraulic fluid, motor oil and various lubricants are required for maintenance of vehicles and heavy equipment on site. These materials are currently stored in the former generator shed near the office complex which has been retrofitted with plastic sheeting and enviromat in the floor to serve as a secondary containment facility.

Chemicals used during drilling activities include calcium chloride (salt) used to prevent freezing of the water in the hole, Visco which is used as a lubricant in the hole, linseed soap for cleaning of drill string components, and heavy grease to prevent seizure of drill rods to each other. Salt will be stored in instaberms or other secondary containment as appropriate, while the other materials are stored within the drillers' sea-cans located on site. Small quantities of each material are also located with each drill. MSDS sheets for the above materials are appended to this application.

A number of products are used for cleaning and personal hygiene throughout the camp such as dish soap, laundry detergent, shampoo, and household cleaner. These materials are stored throughout the camp where needed, and are in containers typically not exceeding 1 L in volume. As such, any spill will be contained simply by the building within which the spill occurs and can be readily cleaned up, eliminating the need for any special storage requirements. The actual products may change depending on availability. Sabina maintains a database of MSDS sheets for a large number of products which can be viewed by an inspector upon request.

## WATER SUPPLY AND TREATMENT

26. Describe the location of water sources.

The licence currently allows for water use from Goose Lake for camp use and "unnamed lakes in the vicinity of drilling operations". At Goose Lake camp, the water source is adjacent to the dock, approximately 30 feet offshore in 6-8 feet of water.

Drilling operations may occur anywhere within the claim groups identified on the map included with this application and are subject to change according to exploration priorities from year to year. Sabina will endeavour to keep the appropriate authorities informed as to exploration plans. Water sources will consist of lakes within the vicinity of the drills, which will allow for flexible exploration planning as well as help to prevent frequent freezing of water lines during winter operations.

27. Estimated water use (in cubic metres/day):

- ☒ Domestic Use: Max. 15m<sup>3</sup>/day (average 6-8 m<sup>3</sup>) Water Source: Goose Lake  
☒ Drilling: 35m<sup>3</sup>/day/drill (max. 4 drills) Water Source: Proximal to drill(s)  
☐ Other: \_\_\_\_\_ Water Source: \_\_\_\_\_

28. Describe water intake for camp operations? Is the water intake equipped with a mesh screen to prevent entrapment of fish? (see *DFO 1995, Freshwater Intake End-of-Pipe Fish Screen Guideline*) Describe:

The water intake is located adjacent to the dock at the Goose Lake camp. It is equipped with a screen to prevent entrapment of fish.

29. Will drinking water quality be monitored? What parameters will be analyzed and at what frequency?

Drinking water samples are collected weekly and submitted to Stanton Hospital for testing for pathogens (E. Coli.).

30. Will drinking water be treated? How?

Drinking water is pumped into a holding pool located in a heated shed adjacent to the kitchen and dry facility. Any larger particles will settle to the bottom of the pool. Filtration is then used to remove smaller suspended material. Final treatment consists of UV and chlorination.

31. Will water be stored on site?

The holding pool for camp water will store up to 11 m<sup>3</sup> of water. The pool is normally filled on a daily basis (sometimes every other day), though the entire tank is not usually drawn down. Records of use at the site (cf. 2008 annual report for 2BE-GOO0510) indicate the typical daily water draw is approximately 6-8 m<sup>3</sup>.

Up to 5 m<sup>3</sup> will be stored in a plastic tank in the core processing facility at Goose Lake camp for on-demand use with the core splitting saws. Refilling of this tank is anticipated to occur once every few days when the saws are in use.

Small volumes (up to 500 L) will be temporarily stored at the drill site should additional water be required during the drilling operations.

## WASTE TREATMENT AND DISPOSAL

32. Describe the characteristics, quantities, treatment and disposal methods for:

✓ **Camp Sewage (blackwater)**

Pacto toilets are used for collection of human waste. The bags are collected daily (approximately 2-3 garbage bag-size) and disposed of in the camp incinerator.

✓ **Camp Greywater**

Greywater (kitchen, showers, sinks, laundry) is plumbed to a main line which drains in the area behind the camp away from Goose Lake. To the extent possible, a sump has been constructed, however due to the shallow depth of overburden over bedrock and the shallow depth to permafrost, the drainage area has been lined with rocks and gravel to dissipate the outflow of greywater and prevent erosion of surficial materials. Outflow of greywater is not metered, however as with a typical municipal water bill the majority of the usage can reasonably be assumed to be discharged (shower, laundry, dishes, etc.). Given a daily water draw of 6-8 m<sup>3</sup>, it can therefore be assumed that up to approximately 7 m<sup>3</sup> of greywater is discharged per day.

✓ **Solid Waste**

The disposal method for burnable solid waste such as paper, cardboard, plastic, wood, burlap cloth, fuel or oil-soaked absorbent material, semi-solid waste from Pacto toilets and food preparation waste would be by burning in the camp incinerator. A new incinerator was installed on site in 2007. It is estimated that on average up to approximately 20 garbage bags (121 litre capacity) of such burnable waste would be generated each day. Any remaining ashes and unburned residue would be collected in cleaned 205 L drums, sealed for transport, and flown out for disposal at a suitable waste management facility.

✓ **Bulky Items/Scrap Metal**

Empty drums are drained of residual fuel, crushed and strapped together for removal to Yellowknife and subsequent disposal at an approved facility or recycling as scrap metal. Larger items are packaged either in empty drums or on pallets and removed to Yellowknife for disposal at an appropriate facility, landfill or for recycling.

✓ **Waste Oil/Hazardous Waste**

Waste oil and residual fuel is diluted with diesel and burned in the new waste oil furnace installed to provide heat for the Quonset.

Hazardous waste (as outlined in the Government of Nunavut Environmental Guideline For General Management of Hazardous Waste) will be packaged appropriately, labeled, and backhauled to Yellowknife for disposal at an appropriate facility.

✓ **Empty Barrels/Fuel Drums**

Empty drums are drained of residual fuel (stored for use in the waste oil furnace), crushed and strapped together for removal to Yellowknife and subsequent disposal at an approved facility or recycling as scrap metal.

☐ **Other:**

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33. Please describe incineration system if used on site. What types of wastes will be incinerated?

A forced air – dual stage, diesel fueled incinerator system is used on site. Burnable solid waste such as paper, cardboard, plastic, wood, burlap cloth, fuel or oil soaked absorbent material, semi-solid waste from Pacto toilets and food preparation waste would be disposed of by burning in the incinerator.

34. Where and how will non-combustible waste be disposed of? If in a municipality in Nunavut, has authorization been granted?

Any remaining ashes and unburned residue from the incinerator are flown out for disposal or recycling at the Yellowknife landfill site. Drums of mixed hydrocarbons and water have also been trucked to a waste recycling and treatment site near Edmonton Alberta. Aluminum pop cans, and non-dairy, food grade plastic containers are collected and shipped to Yellowknife for recycling. Remaining non-combustible waste is bagged and shipped to the municipal landfill in Yellowknife.

35. Describe location (relative to water bodies and camp facilities) dimensions and volume, and freeboard for all sumps (if applicable).

If necessary, sumps for use at the various drill sites or at the camp will be located at least 31 m back from any body of water and in a location chosen to enhance infiltration and filtering of the drill return water or camp grey water. Sumps would be chosen or constructed to have dimensions of approximately 0.38 x 2 x 2 m and would have approximately 1.5 m<sup>3</sup> capacity. The amount of freeboard would be monitored during use and if the sump was filling up a larger sump would be constructed to contain the excess or the excess is shoveled into a megabag and moved to a more suitable location with the helicopter.

Geo-textile cloth fences are constructed on the downhill side of all new drill setups, as well as below the camp sump and dry(s) and the core cutting facility..

36. Will leachate monitoring be done? What parameters will be sampled and analyzed, and at what frequency?

NA for this application.

## **OPERATION AND MAINTENANCE**

37. Have the water supply and waste treatment and disposal methods been used and proven in cold climate? What known O&M problems may occur? What contingency plans are in place?

The water supply system for the drills has been tested on prior work sites in Nunavut. If a coil stove water heater fails and the water lines freeze the frozen hose can be gathered up and thawed out in the drill shack. Water lines throughout camp (including greywater discharge) are either run through heated buildings or lines with heat trace to prevent freezing during winter conditions. A second generator is located in camp as a back-up power supply in the event that the main generator fails. Pacto-type toilets will avoid the need for a water-based sewage system. In the event that the incinerator fails, burnable waste, including the Pacto bags, can be burned in the old forced air incinerator with any unburned residue flown out to Yellowknife for disposal or all the waste can be flown out to Yellowknife until the incinerator is repaired. Any needed repairs or maintenance can be quickly accessed using the satellite telephone system or internet in camp, supplemented by a battery powered hand-held satellite telephone system.

## ABANDONMENT AND RESTORATION

38. Provide a detailed description of progressive and final abandonment and restoration activities at the site.

Camp activities at Goose Lake are ongoing on an annual basis, therefore progressive reclamation activities are minimal. An area which was used for cuttings disposal prior to DPM's ownership has been cleared of all plastic bags.

Several areas of historic drilling immediately south of Goose Lake camp had drill cuttings shovelled off of the tundra into ~50 lb bags which were subsequently moved the cuttings sump located in the area of the exploration trenches. It is estimated that well over 5000 lbs of drill cuttings were removed from the tundra (all shovelled by hand without the aid of equipment) in 2008.

During prospecting activities in the Wishbone claim group in 2008, several caches of very old fuel drums were located, typically 1-3 drums, but up to a dozen. Any markings had long since disappeared, but many of these likely date back to exploration activities which took place in the 1970s or 1980s. All of the drums were empty and there were no visible traces of hydrocarbon contamination on the ground surface in the surrounding areas. Where practical, the helicopter pilots loaded several drums into a net and returned them to the camp for disposal.

Towards the end of the 2009 season, work commenced on infilling the exploration trenches located immediately south of the camp at Goose Lake. This work will continue in 2010, with the trenches filled in using the same fill material which was removed during their creation. The ground will be recontoured to match the surrounding area, and natural vegetation will be allowed to reclaim the site. One trench is currently used as a sump for drill cuttings; this one will be maintained for this purpose.

The most recently amended (November 2009) Abandonment and Restoration Plan is appended.

## BASELINE DATA

39. Has or will any baseline information be collected as part of this project? Provide bibliography.

- ✓ Physical Environment (Landscape and Terrain, Air, Water, etc.)
- ✓ Biological Environment (Vegetation, Wildlife, Birds, Fish and Other Aquatic Organisms, etc.)
- ☐ Socio-Economic Environment (Archaeology, Land and Resources Use,
- ☐ Demographics, Social and Culture Patterns, etc.)
- Other:

Gartner Lee Limited, 2008. *Field Report – Back River Project: Back River Freshwater Aquatic Resources 2007*. Prepared for Dundee Precious Metals Inc. Toronto. 46p.

Gartner Lee Limited, 2008. *Field Report – Back River Project: Wildlife and Wildlife Habitat 2007*. Prepared for Dundee Precious Metals Inc. Toronto. 52p.

Golder Associates Ltd., 2007. *Back River Project: Environmental Baseline Studies September 2006*. Prepared for Dundee Precious Metals Inc. Toronto. Report 06-1373-45. 84p.

Golder Associates Ltd., 2006. *Environmental Baseline Studies for the Back River Project 2005*. Prepared for Dundee Precious Metals Inc. Toronto. Report 05-1373-010. 68p.

## REGULATORY INFORMATION

40. At a minimum, you should ensure you have a copy of and consult the documents below for compliance with existing regulatory requirements:

- ✓ ARTICLE 13 – *NCLA -Nunavut Land Claims Agreement*
- ✓ NWNSRTA – *The Nunavut Waters and Nunavut Surface Rights Tribunal Act, 2002*
- ✓ *Northwest Territories Waters Regulations, 1993*
- ✓ NWB - Water Licensing in Nunavut - Interim Procedures and Information Guide for Applicants
- ✓ NWB - Interim Rules of Practice and Procedure for Public Hearings
- ✓ RWED – *Environmental Protection Act, R-068-93- Spill Contingency Planning and Reporting Regulations, 1993*
- ✓ RWED A Guide to the Spill Contingency Planning and Reporting Regulations, 2002
- ✓ NWTWB - Guidelines for Contingency Planning
- ✓ *Canadian Environmental Protection Act, 1999 (CEPA)*
- ✓ *Fisheries Act, RS 1985 - s.34, 35, 36 and 37*
- ✓ DFO - Freshwater Intake End of Pipe Fish Screen Guideline
- ✓ NWTWB - Guidelines for the Discharge of Treated Municipal Wastewater in the NWT
- ✓ Canadian Council for Ministers of the Environment (CCME); Canadian Drinking Water Quality Guidelines, 1987
- ✓ Public Health Act - Camp Sanitation Regulations
- ✓ Public Health Act - Water Supply Regulations
- ✓ *Territorial Lands Act and Territorial Land Use Regulations; Updated 2000*