Sabina
GOLD & SILVER CORP.

November 4, 2019

Richard Dwyer
Manager of Licensing
Nunavut Water Board
PO Box 119
Gjoa Haven, NU
X0B 1J0

Re: Application for Renewal of Water Licence 2BE-GOO1520

Dear Richard,

Sabina Gold & Silver Corp. (Sabina) would like to request a renewal and extension to water license 2BE-G001520 for the Goose property at the Back River Project (the Project). Sabina is requesting a renewal of the license for a further 15 years from February 19, 2020 to February 18, 2035 to allow for continued exploration in this area, concurrent with the development and operation of the Back River Project mine.

No modifications or amendments to 2BE-GOO1520 have been identified as being necessary for the purposes of this renewal. Sabina notes that activities related to the Goose land Airstrip, Airstrip Quarry and Ice Road connecting the camp to the airstrip quarry will now fall under water licence 2AM-BRP1831, as committed in *Sabina's Back River Project Type A Water Licence Technical Meeting Commitment Responses*; WTM-COMMITMENT 5 (NWB-5). Sabina has not identified any necessary amendments to the terms and conditions, or changes to the schedules, of 2BE-GOO1520 related to this reallocation.

Application Form

A completed renewal application form is included as Attachment 1. A map showing the Project location is included as Attachment 2.

Scope of Activities Proposed Under the Water Licence Renewal

This renewal does not represent a change in scope for the Project. Camp operations, population, and water use will be consistent with the exploration activities undertaken in previous years as well as with current authorizations.

As per the requirements of the Nunavut Planning and Project Assessment Act, this application was submitted to the Nunavut Planning Commission (NPC) on October 8th, 2019 for a determination of whether a land use plan conformity review and whether a screening by Nunavut Impact Review Board (NIRB) is required. This Project was initially screened by the NIRB in 2006 (see May 15, 2006 NIRB Screening Decision Report – Bolder Property – File No. 06EN033 (Attachment 3). A consolidated screening of all Dundee Precious Metals Inc.'s holdings in the Beechy Lake area (inclusive of the Back River and

Wishbone claim areas) was completed in 2008 under NIRB file 08EA084 (see reference to this on page 2 of the August 5, 2010 screening exemption decision by NIRB, included as Attachment 4).

Sabina notes that Project Proposal lies outside of a planning region with an approved regional land use plan and, being a renewal application without change, it is anticipated that neither a NPC conformity review or a NIRB screening will be required.

Updated Plans

Sabina's environmental management plans for the Goose camp and exploration project and Water Licence have been reviewed and current plans are provided with this application as Attachments 5 through 8. They include:

Date	Plan	Notes
2019 Sept	Comprehensive Non-Hazardous Waste Management Plan	Updated for this submission
2019 Sept	Comprehensive Hazardous Materials Management Plan	Updated for this submission
2018 June	Comprehensive Spill Contingency Plan	Provided to the NWB June 2018
2019 Jan	Abandonment and Restoration Plan Goose Camp and Exploration Project	Provided to the NWB March 2019

Updated Security Assessment

An updated liability assessment has been prepared to support this renewal application. This assessment is based on the provided Abandonment and Restoration Plan Goose Camp and Exploration (Jan 2019) and is included as an appendix to that plan (Attachment 8). As noted in previous correspondence, the Kitikmeot Inuit Association (KIA) holds financial security for both the Goose property and the George property, and has been doing so since 2002.

Updated Financial Statement

Sabina's most recent financial statements can be found on it's website at http://www.sabinagoldsilver.com/investors/financial-reports. 2019 second quarter interim financial results indicated that the company had cash and cash equivalents $25.5 million at June 30, 2019. More information is available at: http://www.sabinagoldsilver.com/assets/docs/fs/2019-Q2-FS-SBB.pdf

Compliance Assessment / Status Reports

The Water Resources Inspector routinely conducts inspections under this water licence and these inspections can be found on the NWB public registry. There are no outstanding issues of non-compliance in relation to this Water Licence.

English and Inuktitut Summaries of Renewal Application

Plain language summaries of the activities contemplated under the renewal are included as Attachment 9.

Application Fee and Water Use Deposit

The renewal application form requires submission of a $30 application fee plus a water use fee deposit of $30. A cheque for $60.00 addressed to the Receiver General for Canada has been forwarded to the Nunavut Water Board office in Gjoa Haven.

Closure

Should you have any questions or concerns or require additional information, please do not hesitate to contact me.

Regards,

Merle Keefe
Manager, Environmental Permitting
Sabina Gold & Silver Corp.
#1800 – 555 Burrard Street
Vancouver, BC
V7X 1M9

Enclosed:

Attachment 1 - Application Form
Attachment 2 - Project Map
Attachment 3 - May 15, 2006 NIRB Screening Decision Report (File No. 06EN033)
Attachment 4 - August 5, 2010 NIRB letter Re: Exemption from Screening
Attachment 5 - Comprehensive Non-Hazardous Waste Management Plan
Attachment 6 - Comprehensive Hazardous Materials Management Plan
Attachment 7 - Comprehensive Spill Contingency Plan
Attachment 8 - Abandonment and Restoration Plan Goose Camp and Exploration Project
Attachment 9 - Plain Language Summaries
Attachment 10 – Table of Leases and Authorizations
Attachment 11 – Certificate of Amendment of Registration

ATTACHMENT 1 - APPLICATION FORM

ATTACHMENT 1

Application for Water Licence Renewal

Document Date: April 2013

Application Submission Date:
___10/08/2019_____

Month/Day/Year

P.O. BOX 119
GJOA HAVEN, NUNAVUT
XOB 1J0
TEL: (867) 360-6338
FAX: (867) 360-6369

kNK5 wmoEp5 vtmpq
NUNAVUT IMALIRIYIN KATIMAYIT
NUNAVUT WATER BOARD
OFFICE DES EAUX DU NUNAVUT

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)		
(7)		
(8)		
(9)		
(10)		

P.O. BOX 119
GJOA HAVEN, NU X0B 1J0
TEL: (867) 360-6338
FAX: (867) 360-6369

kNK5 wmoEp5 vtmp5
NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYIT
OFFICE DES EAUX DU NUNAVUT

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-GOO1520_____

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.

Name: *Sabina Gold & Silver Corp.*

Address: *#1800 – 555 Burrard Street Box 220, Vancouver, BC V7X 1M9*

Phone: __604-998-4175_____
Fax: ___604-998-1051_____
e-mail: _mkeefe@sabinagoldsilver.com__

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

Name:

Address:

Phone: _____
Fax: _____
e-mail: _____

(Attach authorization letter.)

3. NAME OF PROJECT

Is the name of the project the same as that considered in the existing water licence?

✔ Yes ☐ No

Indicate the name of the project including the name of the location: _Goose Lake, Back River Project____

4. LOCATION OF UNDERTAKING

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

✔ Yes ☐ No

Project Extents

NW:	*Latitude: (65 ° 47 ' N)*	*Longitude: (107 ° 07' W)*
NE:	*Latitude: (65 ° 47 ' N)*	*Longitude: (106 ° 15' W)*
SE:	*Latitude: (65 ° 24 ' N)*	*Longitude: (106 ° 15' W)*
SW:	*Latitude: (65 ° 24 ' N)*	*Longitude: (107 ° 07' W)*

Camp Location(s) – Goose Lake Camp (base of operations)

Latitude: (65 ° 32' 40" N) *Longitude: (106° 25' 35" W)*

Temporary camps are also included under this Licence

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.
See Figure 1 – Location of Project and Mineral Claims (Attachment 2)

NTS Map Sheet No.: _portions or 76B, 76C, 76F, 76G, 76K_ Map Name: __Claims Leases and Prospector Permits_____Map Scale: _1:250,000___

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: _____ Date of expiry: _____

Surface

✔ Crown Land Use Authorization from Indian and Northern Affairs Canada (INAC)
Date (expected date) of issuance: _____ Date of expiry: _____

✔ Inuit Owned Land (IOL) Authorization from Kitikmeot Inuit Association (KIA)
Date (expected date) of issuance: _____ Date of expiry: _____

☐ 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: _____

Sabina holds a number of mineral leases and land use authorizations associated with this Water Licence. These are provided in Attachment 10.

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: *Sabina Gold & Silver Corp.*

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. _*This renewal application has been provided to the NPC for a conformity determination. A determination is anticipated within 45 days October 8, 2019. Sabina notes that Project Proposal lies outside of a planning region with an approved regional land use plan.*

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

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. _May 15, 2006 NIRB Screening Decision Report – Bolder Property – *File No. 06EN033 (Attachment 3).*

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. *This application has been provided to the NPC who will make a determination on whether a screening is required by the NIRB. This determination is anticipated to occur within 45 days of the 2019 submission.*

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 the non-technical summary (Attachment 9) as well as the environmental management plans provided in Attachments 5 through 8. No changes to the undertakings are proposed.

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.
Over the life of this water licence, this Project has undergone multiple optimizations and subsequent Water Licence amendments. At this time, no further no changes to this already-established Project have been identified.

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 cross a watercourse
- ☑ To alter the flow of, or store water
- ☐ Other: _____
- ☐ To divert a watercourse
- ☐ To modify the bed or bank of a watercourse
- ☐ Flood control

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): *Winter – Goose Lake and Llama Lake; Summer - Goose Lake, Umwelt Lake and Llama Lake and water sources proximal to drill targets*
(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): *Usage of water to the amount permitted in the Water Licence was assessed under summer and winter conditions by Rescan Environmental Services Limited. Water capacity of Goose Lake, Llama Lake and Umwelt Lake was determined to be sufficient for the volumes indicated in the Water Licence. The quality of water for potable uses from Goose Lake is suitable for drinking following disinfection.*

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: *297* m^3/day

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: *As per Part C, Item 1 of the Water Licence, Sabina "…shall obtain all water for domestic camp use from Goose Lake and local lakes in area of temporary camps. Total camp water use shall not exceed thirty (30) cubic metres per day. Drill water (including for miscellaneous industrial use) shall be obtained from Goose Lake and Llama Lake in winter and from Goose Lake, Llama Lake and Umwelt Lake in summer as outlined in the Application, including proximal sources to drilling targets, and shall not exceed two hundred and sixty seven (267) cubic metres per day. The volume of water for the purposes of this Licence shall not exceed two hundred and ninety seven (297) cubic metres per day"*

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.): *Domestic use: 30 m3/day; Drilling (including miscellaneous industrial use): 267 m3/day*

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

Describe the method(s) of extraction: *same as existing licence; intakes equipped with fish screens meeting the DFO water intake guidelines*

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): up to 267 m^3/day

Are the quality(s) of water(s) returned to source(s) the same as those considered in the existing licence?
☐ N/A ✔ Yes ☐ No

Describe the quality(s) of water(s) returned to source(s): Drill return water is water circulated through the drill continuously but not used in the drilling process itself. This water may be returned to the source waterbody chemically unaltered.

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
- ☐ Other (describe):_____
- ✔ Waste oil
- ✔ Greywater
- ✔ Sludges
- ✔ Contaminated soil and/or water

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	Composition	Quantity Generated	Treatment Method	Disposal Method
Sewage	Pacto toilet waste in bags	2-3 bags/day	Incineration	Offsite
Solid Waste	Paper, plastic, wood, burlap, absorbent material, food wastes	20 bags a day	Incineration and/or Open burning (untreated wood and cardboard)	Offsite
Hazardous	Batteries, contaminated materials	Variable	Backhauled to Yellowknife	Offsite
Bulk Items/ Scrap Metal	Empty drums	Variable	Drained, crushed and strapped or shipped whole	Offsite
Waste Oil	Waste Oil	Variable	Backhauled to Yellowknife/burned in on site waste oil furnaces	Offsite
Greywater	Kitchen, bathing and laundry water	7 m3/d	Grease trap, Natural attenuation	Collection sump or discharge to wetland

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

For each provide the following:
Authorization: _____
Administering Agency: _____
Project Activity: _____

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

A full list of authorizations associated with the Goose Project is provided in Attachment 10 (Leases and Authorizations).

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

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

The potential environmental impacts related to the use of water and the disposal of waste from camp operation and drilling are as follows:

- *Water for the camp water supply is derived from Goose Lake, which has sufficient capacity*
- *Camp waste is incinerated or removed from site*
- *Greywater is discharged to a wetland with a long flow path to Goose Lake*
- *Drills and drilling supplies are positioned using helicopters to minimize ground disturbance when the ground is unfrozen.*
- *When drilling on land, salt (calcium chloride) is added to drill water to keep the drill rods from freezing in the hole.*
- *Brine is not required for drilling on the ice into the bottom of larger lakes as these lakes are not underlain with permafrost.*
- *Water from drilling operations is recirculated to minimize the quantity of both water and salt used and to minimize runoff near the drill site.*
- *Drill cuttings are collected and subsequently deposited in a sump*
- *Drilling in lake bottoms occurs within a casing to minimize sedimentation.*
- *At each drill site (except those drilled from ice) drillholes are backfilled with cuttings and cement or bentonite.*

Cumulative impacts of drilling are minimized because of the above mitigation measures, as well as progressive reclamation (backfilling) of drill holes. Sabina notes that past inspection reports by the CIRNAC Water Resources Inspector have commended Sabina on the handling of wastes and drill hole 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.

Sabina has reached an agreement for compensation for water use with the Kitikmeot Inuit Association.

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

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).

No substantial effects to the quality, quantity or flow of waters through IOL is expected to occur from water use and waste disposal contemplated in this licence renewal. Sabina has reached an agreement for compensation for water use with the Kitikmeot Inuit Association.

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.

No consultation meetings were held in conjunction with this request. However, Sabina has carried out extensive consultation with nearby communities regarding it's Back River Project, as documented in Volume 3 of its final Environmental Impact Statement.

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.

An updated liability assessment for the Goose camp is provided in the updated Abandonment and Restoration Plan submitted as Attachment 8.

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.

Sabina's most recent financial statements can be found on it's website at http://www.sabinagoldsilver.com/investors/financial-reports. 2019 second quarter interim financial results indicated that the company had cash and cash equivalents $25.5 million at June 30, 2019. More information is available at: http://www.sabinagoldsilver.com/assets/docs/fs/2019-Q2-FS-SBB.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

Provide a list of the officers of the company.

Bruce McLeod. President/CEO
Elaine Bennett. Vice-President. Finance & CFO
Nicole Hoeller. Vice-President. Communications & Corporate Secretary
Lello Galassi. Vice-President. Project Development and Construction
Angus Campbell. Vice-President. Exploration
Matthew Pickard. Vice-President, Environment & Sustainabilitv

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 Attachment 11.

23. STUDIES UNDERTAKEN TO DATE

List and attach updated studies, reports, research etc.

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.

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.

Sabina has conducted extensive studies related to the Back River Project. A comprehensive compilation of these studies can be found in Sabina's Back River Project EIS, available on the NIRB public registry and Sabina's Type A Water Licence Application, available on the NWB public registry. Monitoring under the 2BE-GOO1520 Water Licence is presented in the 2018 Annual Report (March 2019).

The Water Resources Inspector routinely conducts inspections under this water licence. Inspector reports can be found on the NWB public registry at ftp://ftp.nwb-oen.ca/registry/2%20MINING%20MILLING/2B/2BE%20-%20Exploration/2BE-GOO1520%20Sabina/3%20TECH/0%20SCOPE%20ENFORCE%20(A)/1%20INSPECTION/ Any issues raised during these inspections were addressed as identified. No non-compliances remain outstanding for 2BE-GOO1520.

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 ✔ No

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

Construction
Proposed Start Date: *Already Constructed* (month/year) Proposed Completion Date:_____ (month/year)

Operation
Proposed Start Date: *February 19, 2020* (month/year) Proposed Completion Date: *February 18, 2035* (month/year)

Closure
Proposed Start Date:_____ (month/year) Proposed Completion Date:_____ (month/year)

Closure is not currently planned for exploration activities. Sabina hopes to move into the mine development phase at the Back River Project and anticipates that exploration will continue in parallel to mining activities; throughout the mine life and beyond.

Post - Closure
Proposed Start Date:_____ (month/year) Proposed Completion Date:_____ (month/year)

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

Construction
☐ Winter ☐ Spring ☐ Summer ☐ Fall ☐ All season

Operation
☐ Winter ☐ Spring ☐ Summer ☐ Fall ✔ All season

Closure
☐ Winter ☐ Spring ☐ Summer ☐ Fall ☐ All season

Post - Closure
☐ Winter ☐ Spring ☐ Summer ☐ Fall ☐ All season

25. PROPOSED TERM OF LICENCE

On what date does the existing licence expire? ____February 18, 2020_____

Indicate the proposed term of the renewal (maximum of 25 years): __15 years_____

Requested date of renewal issuance: _February 19, 2020_ (month/year) Requested Expiry Date: _February 18, 2035__ (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 _____

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.
A cheque for $60.00 addressed to the Receiver General for Canada has been forwarded to the Nunavut Water Board office in Gjoa Haven for payment of the Application Fee and the Water Use Deposit.

✔ Yes ☐ No If no, date expected _____

28. SIGNATURE

I, Merle Keefe (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.

Signature

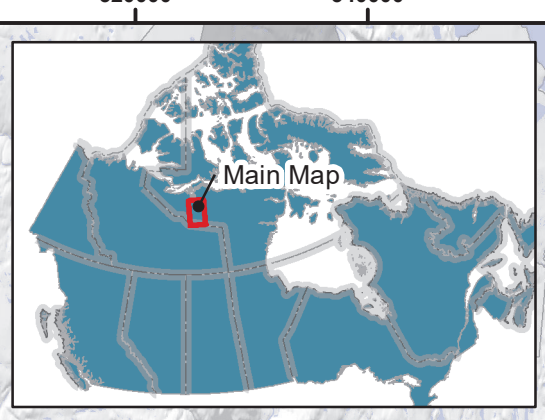
Oct. 8/19
Date

ATTACHMENT 2 - PROJECT MAP

W:\BackRiver\04_Exploration\BackRiverRegion\GIS_Products\ESRI_MXD\Permitting\BR_WL_CT_GSE_Tenements.mxd

320000 340000 360000 380000 400000 420000 440000 460000

7430000 7400000 7370000 7340000 7310000 7280000 7250000 7220000 7190000



N

Legend

- MLA
- Camp Locations
- Cat Train Route
- WIR 2019
- 2BE-GOO1520
- 2BE-GEO1520
- 2BE-MLL1722
- 2AM-BRP1831
- Lease
- Claim
- Waterbody

Inuit Owned Land

- Surface
- Subsurface and Surface

1:650,000

NAD83 UTM Zone 13N

0 5 10 20

Kilometers

MLA

Arctic Circle

George

George Camp

Hackett Camp

Boulder

Boot

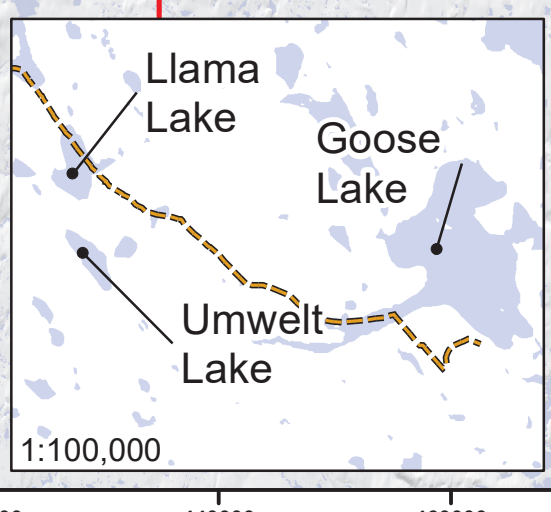
Goose

Goose Camp

Del

Wishbone

Malley



ATTACHMENT 3 - MAY 15, 2006 NIRB SCREENING DECISION REPORT (FILE NO. 06EN033)

SCREENING DECISION REPORT
Dundee Precious Metals Inc. Boulder Property

NIRB File No.: 06EN033

May 15, 2006

Hon. Jim Prentice
Minister of Indian affairs and Northern Development
Ottawa, ON

Vía email: minister@inac.gc.ca

Dear Hon. Prentice:

Authority:

Section 12.4.4 of the Nunavut Land Claim Agreement states:

Upon receipt of a project proposal, NIRB shall screen the proposal and indicate to the Minister in writing that:

a) the proposal may be processed without a review under Part 5 or 6; NIRB may recommend specific terms and conditions to be attached to any approval, reflecting the primary objectives set out in Section 12.2.5;
b) the proposal requires review under Part 5 or 6; NIRB shall identify particular issues or concerns which should be considered in such a review;
c) the proposal is insufficiently developed to permit proper screening, and should be returned to the proponent for clarification; or
d) the potential adverse impacts of the proposal are so unacceptable that it should be modified or abandoned.

Primary Objectives:

The primary objectives of the Nunavut Land Claims Agreement are set out in section 12.2.5 of the Land Claims Agreement. This section reads:

In carrying out its functions, the primary objectives of NIRB shall be at all times to protect and promote the existing and future well-being of the residents and communities of the Nunavut Settlement Area, and to protect the ecosystemic integrity of the Nunavut Settlement Area. NIRB shall take into account the well-being of the residents of Canada outside the Nunavut Settlement Area.

The decision of the Board in this case is 12.4.4 (a) **the proposal may be processed without a review under Part 5 or 6; NIRB may recommend specific terms and conditions to be attached to any approval, reflecting the primary objectives set out in Section 12.2.5;**

Reasons for Decision:
NIRB's decision is based on specific considerations that reflect the primary objectives of the Land Claims Agreement. Our considerations in making this decision included:

- the impact of drilling activities on the ecosystem;
- disposal of drill cuttings and waste water;
- impact to water quality, aquatic habitat and wildlife and fish populations from chemicals, drill waste, drill fluids and potential fuel spills;
- storage and disposal of chemicals, fuel, garbage, sewage, and gray water, and impact of these on the ecosystem;
- the impact of noise from drilling activities and their disturbance to wildlife and traditional users of area;
- the potential impact of aircraft/helicopter on wildlife;
- the impact of campsite and equipment on terrain;
- the impact of exploration activities on archaeological sites or cultural landmarks in the area; and
- clean up/restoration of the camp site and drilling locations upon abandonment.

Terms and Conditions:
That the terms and conditions attached to this screening report will apply.

General

1. The Permittee shall maintain a copy of the Project Terms and Conditions at the sites of operation at all times.

2. The NIRB shall be notified prior to any changes in operating plans or conditions associated with this project.

3. Prior to commencing on-site activities, the Proponent shall submit to NIRB copies of all permits, licenses and authorizations required to undertake the project.

4. The Permittee shall submit to Board, at the end of the field season, a map showing the approximate location of drill sites.

5. The Permittee shall ensure that all on-site personnel, including any contractors, are familiar with these Terms and Conditions and any license or permit requirements.

6. This Permittee shall be aware they are required to register with the Government of Nunavut, Department of Environment – Environmental Protection Service regarding the movement of any hazardous wastes through a Waste Manifest.

7. The Permittee shall file a report with the Board no later than March 31 of the year following the calendar year reported, which shall contain the following information:
    a. A summary of activities undertaken for the year, including but not limited to the amount of drilling;
    b. A work plan for the following year;
    c. The results of environmental studies undertaken and plans for future studies;
    d. Wildlife encounters and actions/mitigation taken and any results from a Wildlife Monitoring/Reporting Plan;
    e. A summary of local hires and initiatives;
    f. A summary of community consultations undertaken and the results;
    g. A summary of site-visits by inspectors with results and follow-up actions;
    h. A summary of site-visits with community members;
    i. Site photos;
    j. The number of take-offs & landings from an airstrip with approved flight path with date and location;
    k. The number of helicopter touch-downs on the land with date, location and reason (provide reason unless confidential);
    l. Results of a Wildlife Monitoring/Reporting Plan;
    m. Progressive reclamation work undertaken; and
    n. A summary of how it has complied with all project Terms and Conditions.

Drill Sites

1. The Permittee shall not conduct any land based drilling within thirty (30) metres of the normal high water mark of a water body.

2. The Permittee shall ensure that all drill cuttings are removed from ice surfaces.

3. The Permittee shall ensure that drilling wastes do not enter any water body. The use of biodegradable, salt free drill additives is encouraged over non-biodegradable types.

4. The Permittee shall not use drilling muds or additives in connection with drill holes unless they are recirculated or contained such that they do not enter the water, or are certified to be non-toxic. Further, the Permittee is hereby informed that the Canadian Environmental Protection Act has recently listed CaCl as a toxic substance. If CaCl is to be used as a drill additive, the proponent shall ensure that all sumps containing CaCl are properly constructed and located in such a manner as to ensure that the contents will not enter any waterbody.

5. The Permittee shall ensure that when “on-ice drilling”, the return water released must be non-toxic, and not result in an increase in total suspended solids in the immediate receiving waters above the Canadian Council of Ministers for the Environment (CCME) Guidelines for the Protection of Freshwater Aquatic Life (ie. 10 mg/L for lakes with background levels under 100 mg/L, or 10% for those above 100 mg/L).

6. The Permittee shall ensure that any drill cuttings and waste water that cannot be re-circulated be disposed of in a properly constructed sump.

7. The Permittee shall ensure that the sump/depression capacity is sufficient to accommodate the volume of waste water and any fines produced to reduce additional impacts.

8. The Permittee shall not locate any sump within thirty (30) metres of the normal high water mark of any water body.

9. The Permittee shall ensure that disturbance of vegetation from deposit of drill fluids/cuttings is restricted to the area of the sump, and the ground prepared for revegetation upon abandonment.

10. The Permittee shall not use mechanized clearing within 30 meters of the normal high water mark of a watercourse, in order to maintain a vegetative mat for bank stabilization.

11. The Permittee shall, where flowing water from bore holes is encountered, plug the bore hole in such a manner as to permanently prevent any further outflow of water. The occurrence shall be reported to the Nunavut Water Board and Land Use Inspector within 48 hours.

Water

1. The Permittee shall ensure that all water intake hoses are equipped with a screen with an appropriate mesh size to ensure that there is no entrapment of fish.

2. The Permittee shall only use water from sources approved by the Nunavut Water Board.

Fuel and Chemical Storage

1. The Permittee shall update its Spill Contingency Plan on an annual basis. Once revised in the 2007 year, this plan must include the Government of Nunavut – Department of Environment Waste Manifest for tracking hazardous wastes, as well as updated contacts reflecting, but not limited to, the current ownership/optioning rights, and relevant Environment Canada officers.

2. The Permittee shall locate fuel caches and other hazardous materials in such a manner as to prevent their release into the environment.

3. The Permittee shall ensure that fuel storage containers are not located within thirty (30) metres of the ordinary high water mark of any body of water. Further, secondary containment such as self supporting insta-berms shall be used when storing barrel fuel on location, rather than relying on natural depressions.

4. Fuel storage containers in excess of 4,000 litres capacity shall either be double-walled, self bermed construction, or diked with adequate storage capacity. An impermeable liner shall be used to ensure that no fuel escapes. The Permittee shall take all reasonable precautions to

prevent the possibility of migration of spilled petroleum fuel or chemicals over the ground surface.

5. All fuel storage containers should be situated in a manner that allows easy access and removal of containers in the event of leaks or spills.

6. The Permittee shall examine all fuel and chemical storage containers daily for leaks. All leaks should be reported immediately.

7. The Permittee shall seal all container outlets except the outlet currently in use.

8. The Permittee shall mark all fuel containers with the Permittee's name.

9. The Permittee shall dispose of all combustible waste petroleum products by incineration and all ashes shall be removed from the site.

10. The Permittee shall ensure that all activities, including maintenance procedures and refueling, are controlled to prevent the entry of petroleum products or other deleterious substances into the water or onto the land.

11. The Permittee shall ensure that all on site personnel are properly trained in fuel and hazardous waste handling procedures as well as spill response procedures.

12. The Permittee shall immediately report **all** spills of petroleum and hazardous chemicals to the twenty-four (24) hour spill report line at (867) 920-8130. Spills shall also be reported to Environment Canada at (867) 920-5131.

13. The Permittee shall maintain a supply of spill kits, shovels, barrels, sorbents, and pumps on-site.

14. The Permittee shall use drip pans when refueling equipment and should consider having portable spill kits located at each drill site location.

15. Chemicals containing salts, which may attract wildlife to the site, should be stored so that they are inaccessible to wildlife.

Waste Disposal

1. The Permittee shall not discharge or deposit any refuse substances or other waste materials in any body of water, or on the banks thereof, which will impair the quality of the waters of the natural environment.

2. The Permittee shall not locate any sumps or areas designated for waste disposal within thirty (30) metres of the ordinary high water mark of any body of water. Sumps and areas designated for waste disposal shall be sufficiently bermed or otherwise contained to ensure that substances to do not enter a waterway unless otherwise authorized.

3. The Permittee shall use an approved incinerator for the disposal of combustible camp wastes. The Permittee shall incinerate all combustible and food wastes daily.

4. The Permittee shall keep all ash in a covered metal container until it is disposed of at an approved facility. The Permittee shall keep all non-combustible garbage and debris in a covered metal container until disposed of at an approved facility.

5. The Permittee shall deposit all scrap metal, discarded machinery and parts, barrels and kegs, at an approved disposal site.

6. The Permittee shall ensure that any hazardous materials, including waste fuel and oil, receive proper treatment and are backhauled for disposal at an approved facility.

Structure & Storage Facilities

1. The Permittee shall not erect structures or store material on the surface ice of lakes or streams.

2. The Permittee shall locate all structures and storage facilities on gravel, sand or other durable land.

Camps

1. The Permittee shall locate all camps on gravel, sand, or other durable land.

2. The Permittee shall not erect camps or store material on the surface ice of lakes or streams.

3. The Permittee shall keep the camp clean and tidy at all times so as not to attract carnivores.

Physical Environmental

1. The Permittee shall ensure that the land use area is kept clean and tidy at all times.

2. The Permittee shall prepare the site in such a manner as to prevent rutting of the ground surface.

3. The Permittee shall not do anything that will cause erosion of the banks of any body of water on or adjacent to the land and shall provide necessary controls to prevent such erosion. The Permittee shall adopt such measures as required to control erosion by surface disturbance. Sediment and erosion control measures should be implemented prior to, and maintained during the work to prevent sediment entry into the water during a spring thaw.

4. The Permittee shall be required to undertake corrective measures in the event of any damage to the land or water as a result of the Permittee's operation.

5. The Permittee shall not remove any material from below the ordinary high water mark of any waterbody.

6. The Permittee shall not move any equipment or vehicles unless the ground surface is in a state capable of fully supporting the equipment or vehicles without rutting or gouging.

7. The Permittee shall suspend overland travel of equipment or vehicles if rutting occurs.

Wildlife

1. The Permittee shall ensure that there is no damage to wildlife habitat in conducting this operation.

2. The Permittee shall ensure that there is minimal disturbance to any nesting birds and wildlife in the area. Harassment of wildlife is prohibited. This includes persistently worrying or chasing animals, or disturbing large groups of animals.

3. Pursuant to the Migratory Bird Convention Act Regulations the Permittee shall not disturb or destroy the nests or eggs of migratory birds. The period from May 15 to July 31 is the general migratory bird breeding season. If nests containing eggs or young are encountered, the Permittee shall avoid these areas until nesting is complete and the young have left the nest.

4. The Permittee must be in compliance with the *Migratory Birds Convention Act* and *Migratory Birds Regulations* during all phases and in all undertakings related to the project.

5. The Permittee shall be aware that the Species at Risk Act (SARA), came into full effect on June 1, 2004. Section 79 (2) of SARA, states that during an assessment of effects of a project, the adverse effects of the project on listed wildlife species and its critical habitat must be identified, that measures are taken to avoid or lessen those effects, and that the effects need to be monitored. This section applies to all species listed on Schedule 1 of SARA, but as a matter of best practice, species listed on other Schedules of SARA and under consideration for listing should also be included in this type of assessment.

Species at Risk	Category of Concern	Schedule of SARA
Grizzly Bear	Special Concern	Pending
Wolverine (Western Population)	Special Concern	Pending
Peregrine Falcon (subspecies tundris)	Special Concern	Schedule 3
Short-eared Owl	Special Concern	Schedule 3

The Permittee should consult with the Government of Nunavut and Environment Canada to develop appropriate status reports, action plans, and management plans to minimize effects to these species from the project. The Permittee should also consider the development of appropriate monitoring for these species.

6. The Permittee shall follow procedures outlined in the "Safety in Bear Country Manual", and should contact the Regional/Area Biologist or the Wildlife manager for information and

advice on measures which should be taken to minimize the possibility of conflicts/interactions with bears or carnivores. Should the Permittee encounter carnivores, they are advised to contact the local or regional wildlife officers.

7. The Permittee shall ensure that aircraft pilots adhere to flight altitudes of greater than 610 m above ground level, unless there is a specific need for low-level-flying which does not to disturb wildlife. Concentrations of caribou and calves should be avoided by low-level aircraft at all times.

8. The Permittee shall ensure that aircraft maintain a vertical distance of 1000m and a horizontal distance of 1500m from groups/flocks of birds.

9. The Permittee shall ensure that the drill sites avoid known environmentally sensitive areas (denning, nesting etc.) by a minimum of 250 metres.

10. The Permittee shall not locate any operation so as to block or cause substantial diversion to migration of caribou.

11. The Permittee shall not construct any camp, cache any fuel or conduct blasting within 10 km, or conduct any drilling operation within 5 km, of any "designated caribou crossing". The regional biologist should be contacted for known crossings.

12. From May 15 to July 15, the Permittee shall cease activities that interfere with caribou migration or calving, such as the movement of equipment, drilling activities and ATV or snowmobile use until the caribou and their calves have vacated the area.

13. The Permittee shall ensure that during the presence of caribou and muskox within sight and sound of a camp that all personnel will remain quietly in camp.

14. The Permittee shall not conduct any activity associated with the land use operation if critical periods of wildlife cycles are observed (eg. caribou migration, calving, fish spawning or raptor nesting).

15. That the Permittee shall ensure that there is no hunting by employees of the company or any contractors hired unless proper Nunavut authorizations have been obtained.

16. The Permittee shall ensure that there is no fishing by employees of the company or any contractors hired unless proper permits are obtained.

17. The Permittee shall not feed wildlife.

18. The Permittee shall contact the Kitikmeot Regional Biologist to identify areas which should be avoided. Raptor nesting sites and concentrations of nesting or molting waterfowl should be avoided by aircraft at all times.

19. The Permittee shall ensure compliance with Section 36 of the Fisheries Act which requires that no person shall deposit or permit the deposit of a deleterious substance on any type in water frequented by fish or in any place under any conditions where the deleterious substance may enter such a water body.

20. The harmful alteration, disruption or destruction of fish habitat is prohibited under Section 35 of the Fisheries Act. No construction or disturbance of any stream/lake bed or banks of any definable watercourse, is permitted unless authorized by DFO.

21. The Permittee shall not detonate explosives within fifteen (15) metres of any body of water which is not completely frozen to the bottom.

Archaeological Sites

1. The Permittee/ Licensee shall keep a distance of 30 meters away from the known archaeological sit within the project area (See attached letter from GN-CLEY). An archaeological site is defined as a site or work within the Nunavut Settlement Area of archaeological, ethnographical or historical importance, interest or significance or a place where an archaeological specimen is found, and includes explorers' cairns.

2. The Permittee/ Licensee shall follow all terms and conditions for the protection and restoration of archaeological and palaeontological resources as outlined by GN-CLEY in the attached letter.

Reclamation

1. The Permittee shall advise NIRB and the Land Use Inspector in writing at least 15 days prior to the completion of activities.

2. The Permittee shall remove all scrap metal, discarded machinery and parts, barrels and kegs, buildings and building material upon abandonment.

3. The Permittee shall remove all empty barrels from its exploration sites as soon as possible in a progressive manner and shall ensure that all barrels are removed from the land by the end of each field season. Empty barrels shall be disposed of at an approved facility.

4. The Permittee shall complete all clean-up and restoration of the lands used prior to the expiry date of the permit.

5. The Permittee shall undertake ongoing restoration for any land which is no longer required for the Permittee's operation on the land.

6. The Permittee shall plug or cap all bore holes and cut off any drill casings that remain above ground to ground level upon abandonment of the operation.

Other Recommendations

1. NIRB would like to encourage the proponent to hire local people and services, to the extent possible.

2. NIRB strongly advises proponents to consult with local residents regarding their activities in the region, and to do community consultation on the project to keep the communities informed.

3. NIRB would like to encourage the proponent to continue baseline monitoring.

4. Any amendment requests deemed by NIRB to be outside the original scope of the project will be considered a new project.

Validity of Land Claims Agreement

Section 2.12.2
Where there is any inconsistency or conflict between any federal, territorial and local government laws, and the Agreement, the Agreement shall prevail to the extent of the inconsistency or conflict.

Dated ___May 15, 2006____ at Cambridge Bay, NU

_____ _____
Elizabeth Copland, A/Chairperson

ATTACHMENT 4 - AUGUST 5, 2010 NIRB LETTER RE: EXEMPTION FROM SCREENING

NIRB File Nos.: 06EN033, 08EA084
NWB File No.: 2BE-GEO0210
INAC File No.: N2010C0016

August 5, 2010

Honourable Chuck Strahl
Minister of Indian and Northern Affairs Canada
c/o Spencer Dewar
Manager Land Administration
Indian and Northern Affairs Canada
Iqaluit, NU

Via email: spencer.dewar@inac-ainc.gc.ca

Re: Application exempt from Screening pursuant to Section 12.4.3 of the NLCA: Sabina Gold & Silver Corp.'s "Back River" project

Dear Spencer Dewar:

On July 5, 2010 the Nunavut Impact Review Board (NIRB or Board) received an application from Indian and Northern Affairs Canada (INAC) for a new Land Use Permit (LUP) for Sabina Gold & Silver Corp.'s (Sabina) "Back River" project. Sabina is required to apply for a *new* LUP to replace a previously issued permit which is no longer eligible for renewal (N2006C0008).

Please be advised that the original "Back River" exploration project proposal (NIRB File No.: **06EN033**) was received by the NIRB from INAC on April 18, 2006. The proposal was screened in accordance with Part 4, Article 12 of the Nunavut Land Claims Agreement (NLCA) and on May 15, 2006 the NIRB issued a 12.4.4(a) screening decision to the Minister of INAC which indicated that the proposed project could proceed subject to the project-specific terms and conditions recommended by the NIRB.

Original project components included the following:

- Surface mapping, sampling and diamond drilling activities;
- Exploration program supported by Caterpillar and loader equipment, helicopter, snowmobile, and all terrain vehicle;
- Transportation and storage of fuel, chemical, and hazardous materials;
- Establishment and use of winter roads and trails; and
- Reclamation of drill sites and camp upon project completion.

On December 9, 2008 the NIRB received an amendment and renewal request from Dundee Precious Metals Inc. for their holdings in the Beechy Lake area (including the Back River and Wishbone Trend areas). The request resulted in the consolidation of previous screenings of Dundee Precious Metals Inc.'s holdings within the Back River area into one comprehensive NIRB screening, File No. **08EA084**. The NIRB issued a 12.4.4(a) screening decision to the Minister of INAC for this file on March 3, 2009. The NIRB's assessment of File No. 08EA084 included the following project activities:

- Base metal mineral exploration including prospecting, sampling, soil sampling, exploration trenching, diamond drilling (on land and ice), and air and ground geophysics;
- Use of existing Goose Lake Camp site as base of operations, with maximum capacity of 80 personnel;
- Helicopter assisted drill program, including daily transportation of field crew to drill sites;
- Potential use of snow machines around the Goose Lake area;
- Temporary storage of small fuel caches (up to 19 drums each) throughout the area to support exploration activities;
- Fuel storage at Goose Lake (6 bulk tanks) and George Lake (2 bulk tanks plus drums);
- Storage of chemicals and hazardous materials at site;
- Water use for drilling purposes and camp use;
- Sewage, greywater and waste production related to camp operation;
- Incineration of sewage and combustible wastes;
- Use of Goose Lake for site access via charter aircraft (ice-strip to be used during winter months); and,
- Potential use of esker strip at George Lake camp or gravel strip northwest of Goose Lake during spring "break up" period.

In 2009, Sabina acquired Dundee Precious Metals Inc., including exploratory works undertaken in the "Back River" area.

The current application and the original NIRB screening file for the Back River exploration project (File No. **06EN033**) are available from the NIRB's ftp site at the following link:

http://ftp.nirb.ca/SCREENINGS/COMPLETED%20SCREENINGS/ARCHIVE/2006_SCREENINGS/06EN033-Dundee_Precious_Metals_Inc.(Boulder_Pond)/1-SCREENING/.

Furthermore, the NIRB's consolidated screening of Sabina's exploration of the Beechy Lake area (File No. **08EA084**) including the current request and all related correspondence, is available at:

http://ftp.nirb.ca/SCREENINGS/COMPLETED%20SCREENINGS/ARCHIVE/2009_SCREENINGS/08EA084-Dundee%20Precious%20Metals/1-SCREENING/.

CURRENT APPLICATION

Sabina is applying for a new LUP to authorize its operations at the George Lake and Goose Lake camps, in addition to outlying areas of operation including claim groups at Boot Lake, Boulder Pond and Del Lake – for a period of two years (commencing November 1, 2010). In addition to previously permitted activities in the Back River area, Sabina proposes to include the following activities, which <u>have not been previously screened</u> by the NIRB:

- Establishment of small temporary camps and ice airstrips proximal to exploration areas on an "as-needed" basis; and,
- Storage of fuel and chemicals to be used for exploration activities at locations other than Goose Lake Camp, with established fuel and material storage at the George Lake Camp site.

Please note that Section 12.4.3 of the NLCA states that:

> *"Any application for a component or activity of a project proposal that has been permitted to proceed in accordance with these provisions shall be exempt from the requirement for screening by NIRB unless:*
>
> *(a) such component or activity was not part of the original project proposal; or*
>
> *(b) its inclusion would significantly modify the project."*

On July 14, 2010 the NIRB distributed the current application for a new LUP to a regional distribution list, requesting submission of any comments or concerns related to the application by August 3, 2010.

The following is a summary of comments received from parties regarding the application:

<u>Kitikmeot Inuit Association</u>

- Current application poses no significant change to the general scope of the original project activities
- Previously issued NIRB terms and conditions should be re-issued to current application

<u>Government of Nunavut – Executive and Intergovernmental Affairs (Consolidated Submission)</u>

- No objection to the application for a new LUP including new activities outlined in the application
- Comments submitted during screening of NIRB file 08EA084 still apply to existing activities and to new activities

<u>Department of Environment</u>

- Request Proponent provide full information regarding use of camps and any new activities to be based out of the camps at least 45 days prior to establishment of camp
- Recommendations regarding the closure of winter infrastructure

<u>Government of Nunavut – Culture, Language, Elders and Youth</u>

- No record of known heritage resources within the area identified by the proponent
- Terms and Conditions for the protection and restoration of archaeological and palaeontological resources as issued to the Proponent in 2006 continue to apply

Government of Nunavut – Economic Development and Transportation

- No concerns regarding new LUP application
- Recommend that original terms and conditions be re-issued for the Back River project
- New project components do not significantly change the scope of the original project

Indian and Northern Affairs Canada

- Application does not provide information about the storage of fuel associated with the proposed ice-airstrip
- Request the proponent provide the Lands Administration office with coordinates for new fuel cache locations once established

Environment Canada

- Commend the proponent for thorough Spill Contingency Plans
- Recommend the inclusion of further information within Spill Contingency Plans
- Recommend locations for copies of Plans to be made available

After completing a review of the information provided in support of the current application and the comments received from interested parties, the NIRB is of the understanding that the application for a new LUP does not change the general scope of the original project activities, and the exceptions noted in NLCA 12.4.3(a) and (b) do not apply. Therefore, this application is exempt from screening as per Section 12.4.3 of the NLCA and the activities therein remain subject to the terms and conditions recommended in the original May 15, 2006 and March 3, 2009 Screening Decision Reports (enclosed).

If you have any questions or concerns, please contact Amanda Hanson, Technical Advisor, at 867-983-4615 or ahanson@nirb.ca.

Sincerely,

Stephanie Autut
Executive Director

cc: Peter Manojlovic, Sabina Gold & Silver Corp.
Elizabeth Sherlock, Sabina Gold & Silver Corp.
Phyllis Beaulieu, Nunavut Water Board

Enclosures (2): NIRB Screening Decision Reports, File No.: 06EN033 – May 15, 2006; 08EA084 – March 3, 2009

ATTACHMENT 5 - COMPREHENSIVE NON-HAZARDOUS WASTE MANAGEMENT PLAN

BACK RIVER PROJECT
Comprehensive Non-Hazardous Waste Management Plan

October 2019

BACK RIVER PROJECT

Comprehensive Non-Hazardous Waste Management Plan

Table of Contents

Document Revision Record

Date	Section	Page	Revision	Prepared by:
January 2013			Document prepared in support of Back River exploration activities	Sabina Gold and Silver Corp. (Sabina)
October 2019	All	All	Updates throughout, removal of overlap with the Comprehensive Hazardous Waste Management Plan and conversion to current Sabina management plan format	Katsky Venter on behalf of Sabina

Sabina Representative Responsible for this Plan Update: Merle Keefe
Department: Environment & Sustainability
Title: Manager, Environmental Permitting

Date:

Signature:

Sabina Representative Responsible for Review and Approval of this Update: Matthew Pickard
Department: Environment & Sustainability
Title: Vice President – Environment & Sustainability

Date:

Signature:

1. Introduction

The Comprehensive Non-Hazardous Waste Management Plan (the Plan) has been developed to outline management and incineration operational practices during Sabina Gold & Silver Corp.'s (Sabina's) activities in the Back – Wishbone area. The purpose of this Plan is to ensure sound management of non-hazardous waste management and to minimize the amount of waste generated and ensuring the safe handling and disposal of all generated wastes. Mineral waste management related to exploration activities is also included in this Plan. Hazardous waste management practices are outlined in the Comprehensive Hazardous Waste Management Plan.

Managing wastes and working responsibly will ensure the protection of the environment and personnel safety. Sabina will continue to look for opportunities to minimize or eliminate negative impacts to the environment as a result of its activities, products and services at Sabina's Projects.

1.1 EXISTING FACILITIES

The Back River project is located in western Nunavut, south of Bathurst Inlet within the Slave Structural Province. It lies approximately 525 kilometres northeast of Yellowknife, Northwest Territories and 400 kilometres south of Cambridge Bay, Nunavut (Figure 1). The Back River Project includes the established Goose Camp and George Camp areas as well as the seasonally operated Marine Laydown Area where bulk supplies are received annually during the summer sealift and then transported, during winter, over a winter road to the Goose or George camp areas.

Temporary camps for up to 20 people may be established seasonally in target areas located 20 km or more from the main camps and would be established for safety, environmental and economic reasons. All solid waste generated at these temporary camps will be carried to the existing camps and be disposed of as outlined in this Plan.

1.2 SCOPE

This Plan has been written to meet requirements under the NWB license and applies to all Sabina exploration projects in the Kitikmeot Region. Subject to annual internal review and revision, it will remain applicable throughout the duration of the NWB license, or until a material change in the scope of the Project occurs.

The goal of any waste management plan is to reduce and prevent impacts to the environment. Managing wastes and working responsibly will also ensure personnel safety while involved in mineral exploration activities.

Sabina conducts waste management under the following guidance:

- Wherever and whenever possible, Sabina and its employees will work toward the 3Rs – reduce, reuse and recycle;
- Sabina is committed to considering additional best management practices and alternatives to hazardous products; and if an appropriate method and/or substitute is identified then it will be incorporated into exploration activities;
- Every effort will be made to purchase products from suppliers with programs and policies of return for used containers and/or unused product where available and economically

feasible to do so; and
- Compliance with company policies, legislation and terms and conditions of water licenses and land use permits.

With this guidance, Sabina understands the steps of waste management to include:

- Understand waste streams
- Reduce amount generated
- Separate
- Safe handling/transportation and disposal
- Incineration

2. Roles and Responsibilities

2.1 ALL EMPLOYEES

- Place all waste in properly marked containers.
- Encourage and participate in general good housekeeping within camp boundaries and buildings.

2.2 ENVIRONMENTAL SUPERINTENDENT/ MANAGER

- Periodically ensure waste management containers and methods are followed.
- Assist Operations Superintendent with tracking, monitoring and reporting as per terms and conditions of permits and licenses.
- Co-ordinate any inspections by applicable agencies.
- Update and distribute the Comprehensive Waste Management Plan as needed.

2.3 OPERATIONS SUPERINTENDENT

- Responsible for the overall management of waste as per the Comprehensive Waste Management Plan.
- Ensures all staff are instructed on the Comprehensive Waste Management Plan.
- Ensures all legal requirements, including the completion of waste manifests, are filed prior to any shipment.
- Record backhaul volumes for non-hazardous waste.
- Conduct ongoing monitoring as required as per terms and conditions of permits and licenses.
- Summarizes and reports waste management as per terms and conditions of permits and licenses, or as required by Sabina Senior Management.

3. Understanding Waste and Wastewater Streams

This Plan covers wastes generated as a result of exploration operations. Wastes considered include, but are not limited to, waste generated through the operation and maintenance of exploration facilities such as:

- Drill sites – used oil, antifreeze, used absorbent pads, greases, lubricants, batteries, scrap metal, empty fuel drums, timber/lumber scraps, drill rods, drilling fluids and additives, and drill cuttings with a potential for acid generation/metal leaching.
- Generators and Heavy Equipment - used oil, antifreeze, used absorbent pads, greases, lubricants, batteries, scrap metal, empty fuel drums
- Camp (kitchen, offices and sleeping quarters) – recyclables, food, wood, cardboard, plastic, rubber, glass, batteries, solvents, scrap metal, empty fuel drums, sewage, greywater, construction debris, paint.
- Fuel storage – contact water from within berm, used absorbent pads, scrap metal, empty fuel drums

4. Waste Classification and Management

It is important that wastes are sorted and safely handled and disposed of. Whenever practical waste is sorted at the source and divided into the following categories:

1. Non-hazardous
    a. Combustible
    b. Non-combustible
        i. Recyclables
        ii. Reusables
        iii. For disposal
2. Hazardous (addressed in the Hazardous Materials Management Plan)

Non-hazardous waste includes food, sewage, wood, cardboard, plastic, rubber, glass scrap metal and empty fuel drums. Hazardous waste, including used oil, oil filters, used absorbent pads, paint, chemicals, batteries and used grease is addressed in the Comprehensive Hazardous Materials Management Plan.

The following outlines management of non-hazardous materials on site.

4.1 NON-HAZARDOUS WASTE MANAGEMENT

Non-hazardous waste are identified below with a description of how they will be separated on site, sorted and disposed of:

- Combustible wastes – will be incinerated on site as per guidance from "Technical Document for Batch Waste Incineration", Environment Canada (March 2009) incorporated into this plan. This includes kitchen waste, pacto sewage waste, cardboard, wood. Cardboard and unpainted wood may also be disposed of through open burning. The waste ash will be stored and backhauled to Yellowknife for disposal.
- Recyclable and Reusable wastes – will be collected, sorted and stored until they can be backhauled to Yellowknife for inclusion in their recycling program. This may include plastic and aluminum drink containers, printer cartridges, metal containers, plastics (#1 thru #6).
- Non-combustible inert waste – will be sorted and stored on site until backhaul to Yellowknife for inclusion in recycling programs and/or disposal in municipal landfill as appropriate. This includes glass containers, paint cans and batteries.
- Non combustible waste disposed on site - Greywater from the camp kitchen and the drys is run through a grease trap and effluent is periodically discharged to the permitted greywater disposal area located more than 31 m from water with an automatic, float-controlled pump.
- Scrap metal – will be separated, sorted and stored until backhaul available to Yellowknife and included in scrap metal recycling program. This includes principally empty 205L fuel drums that will be stacked and stored in secondary containment; this also includes some construction waste and equipment parts.

Note that backhaul quantities will be tracked and recorded by camp management to include the type and volume of waste backhauled and note of final destination. Combustible material will be tracked as identified under "incineration management".

In future it is anticipated that a landfill will be constructed on site. At that time inert non-hazardous wastes may be deposited in that facility instead of backhauled off site. Use and management of the Landfill will be outlined in the Landfill Management Plan which will be developed prior to landfill use.

4.2 MINERAL WASTE MANAGEMENT

These are non-hazardous wastes associated with exploration activities. They are identified below with a description of how they will be separated on site, sorted and disposed:

- Where mineral exploration drilling occurs without the use of calcium chloride, near, or on lakes, the drill return water containing drill cuttings will be pumped well back from the shore of the lake to a natural depression, or sump, the location of which is surveyed and recorded. Because drill cuttings are mechanically pulverized rock, they are geologically similar to the locally present glacial till. If the drill cuttings have a potential for acid rock drainage/metal leaching, it is anticipated that the distance from the water will minimize the impact if the potential is realized. It is expected that drill cuttings will, in time, be colonized by plants and lichen.
- Mineral waste is also associated with rock/core sampling that involves cutting using a rock saw. The rock saw is expected to produce approximately 1/2 m3 of sludge cleaned from the bottom of the settling container in the course of the season. The sludge will consist mostly of sulfides. The sludge will be cleaned from the settling container on an as needed basis, and either placed in emptied and cleaned 205L fuel drums, allowed to dry out, and

eventually flown out to the Yellowknife for disposal at a hazardous waste materials handling facility or disposed of in exploration trench at Goose camp.

- For management of drill cuttings produced when using calcium chloride, see the Comprehensive Hazardous Waste Management Plan

4.3 CONTACT WATER MANAGEMENT

Contact water in this Plan refers to waste waters associated with fuel storage. It is the water that may accumulate in the secondary containment following precipitation or spring melt. The water is usually non-hazardous. For fuel storage facilities specified under the water licences, water will be tested for the parameters outlined within the water licence prior to release. Should water not meet licence requirements it will be treated with an oil-water separator, retested, and released on receipt of compliant results and Inspector approval. For other fuel storage facilities (e.g. temporary fuel storage), water will be filtered through an oil-water separator prior to discharge. All discharges to the environment will occur in a manner that does not cause erosion or channelization.

4.4 HAZARDOUS WASTE MANAGEMENT

Management of hazardous waste is outlined in the Comprehensive Hazardous Materials Management Plan.

4.5 WASTE INCINERATION

The incinerator system at Goose and George camps consist of Ketek CY-50-CA's. These are diesel-fired, two stage, dual chambered controlled air batch incinerators contained within their own buildings on site. The capacity of the incinerator, based on typical mixed camp waste, is about 200lbs indicating that 2 to 4 cycles can be processed on a daily basis to incinerate the camp waste.

Adequate training is an important component of successful operation of the incinerator. Westland Services, the incinerator manufacturer, provides initial on-site training to Sabina personnel including incinerator maintenance. Camp management will track who completes this training and any refresher courses completed. They also record all preventative maintenance activities undertaken on the equipment.

4.5.1 Incinerator Guidelines

- Be sure to wear proper PPE including gloves, goggles, dust mask and face shield before handling waste or incinerator ash.
- Separate waste into what can be burned, and what cannot be burned at the source (e.g. kitchen)
- Burn food wastes daily to avoid accumulation of garbage (minimizes wildlife attractant). The operation of the incinerator will be recorded on a daily basis.
- Make sure the ash is cleaned out prior to recharging for the next burn cycle
- Once cooled the incinerator can be opened and the ash placed in an empty drum which will be sealed, labeled and properly stored for backhaul and disposal in approved landfill. The weight of ash for backhaul will be recorded.
- Waste to be added to the incinerator should be monitored recording type of waste and

weight. Note that Pacto toilet waste should make up 1/5 of each batch.

- When the incinerator is charged with the appropriate mix and quantity of waste, the door should be closed, ensure it is locked and the burn cycle started.
- When satisfied that the burn is proceeding in a controlled manned, the incinerator operator may leave the area while the equipment completes the burn cycle.
- Do not add waste to the incinerator once started.
- Do not use waste oil or any hydrocarbon as an accelerant
- Keep the area around the incinerator tidy

Items that cannot be burned include:

- Styrofoam
- Wood treated with preservatives
- Metal

5. Review of the Non-Hazardous Waste Management Plan

The activities and costing of waste management activities will be reviewed as required by changes in operations and/or technology and will be modified accordingly. Any necessary revisions shall be submitted to the Nunavut Water Board.

ATTACHMENT 6 - COMPREHENSIVE HAZARDOUS MATERIALS MANAGEMENT PLAN

BACK RIVER PROJECT
Comprehensive Hazardous Materials Management Plan

October 2019

BACK RIVER PROJECT

Comprehensive Hazardous Materials Management Plan

Table of Contents

Document Revision Record

Date	Section	Page	Revision	Prepared by:
January 2012			Document prepared in support of Exploration activities at Goose and George camps	Sabina Gold and Silver Corp. (Sabina)
October 2019	All	All	Minor revisions throughout and conversion to current Sabina management plan format	Sabina Gold and Silver Corp. (Sabina)

Sabina Representative Responsible for this Plan Update:	Merle Keefe
Department:	Environment & Sustainability
Title:	Manager, Environmental Permitting
Date:	
Signature:	
Sabina Representative Responsible for Review and Approval of this Update:	Matthew Pickard
Department:	Environment & Sustainability
Title:	Vice President – Environment & Sustainability
Date:	
Signature:	

Acronyms and Abbreviations

Terminology used in this document is defined where it is first used. The following list will assist readers who may choose to review only portions of the document.

CCME	Canadian Council of Ministers of the Environment
EPS	Environmental Protection Service
ERP	Emergency Response Plan
HMMP	Hazardous Materials Management Plan
MSDS	Materials Safety Data Sheets
OHSC	Occupational Health & Safety Committee
OPEP	Oil Pollution Emergency Plan and Oil Pollution Prevention Plan
PPE	Personal Protective Equipment
Sabina	Sabina Gold & Silver Corp.
SCP	Spill Contingency Plan
TDG	Transportation of Dangerous Goods
TDGA	Transportation of Dangerous Goods Act
WCB	Workers' Compensation Board
WHMIS	Workplace Hazardous Materials Information System

1. Introduction

1.1 PURPOSE AND SCOPE

The purpose of this plan is to provide a consolidated source of information on the safe and environmentally sound transportation, storage, and handling of the major hazardous products that are used at Sabina's Back River Project during exploration activities. A hazardous material is one that, as a result of its physical, chemical, or other properties, poses a hazard to human health or the environment when it is improperly handled, used, stored, disposed of, or otherwise managed. In combination with Sabina's Emergency Response Plan (ERP) and Spill Contingency Plan (SCP), this Hazardous Materials Management Plan (HMMP) provides instruction on the prevention, detection, containment, response, and mitigation of accidents that could result from handling hazardous materials.

The plan is based on the following principles of best practice management for hazardous materials:

- identify and prepare materials and waste inventories;
- characterize potential environmental hazards posed by those materials;
- allocate clear responsibility for managing hazardous materials;
- describe methods for transport, storage, handling, and use;
- identify means of long-term storage and disposal;
- prepare contingency and emergency response plans;
- ensure training for management, workers, and contractors whose responsibilities include handling hazardous materials; and
- maintain and review records of hazardous material consumption and incidents in order to anticipate and avoid impacts on personal health and the environment.

All hazardous materials to be used at the Sabina's operation will be manufactured, delivered, stored, and handled in compliance with all applicable federal and territorial regulations. Sabina is committed to preventing, to the greatest extent possible, both inadvertent release of these substances to the environment and accidents resulting from mishandling or mishap. Sabina has instituted programs for employee training, facility inspection, periodic drills to test systems, and procedural review to address deficiencies, accountability, and continuous improvement objectives.

Sabina actively works towards minimizing the generation of hazardous wastes by investigating alternatives to the use of hazardous materials, by recycling products and containers wherever feasible, and by treating wastes before any release to the environment.

As with all other aspects of health and safety policy at the Back River Project, all employees will be expected to comply with all applicable precautions and handling procedures with regard to hazardous materials. Employees are also expected to report any concerns to their supervisors, the Occupational Health & Safety Committee (OHSC), or senior site management. All staff is encouraged to bring forward suggestions for improvements that can be incorporated into procedure revisions as appropriate.

1.2 APPLICABLE LEGISLATION

Both federal and territorial legislation regulate the management of hazardous materials in Nunavut. Copies of relevant legal documents will be kept on file at the Project. Sabina will regularly update the HMMP with respect to applicable legislation and ensure that current legislation documents are available at the site.

Management and safety personnel will provide an overview of the applicable regulations to all employees as part of their initiation and ongoing training. The acts, regulations, and guidelines pertinent to the hazardous products that will be used are listed in Appendix A.

The Transportation of Dangerous Goods Act classifies hazardous materials into nine main classes according to an internationally recognized system, as follows:

- Class 1 – Explosives
- Class 2 – Gases
- Class 3 – Flammable liquids
- Class 4 – Flammable solids
- Class 5 – Oxidizing substances and organic products
- Class 6 – Poisonous (toxic) and infectious substances
- Class 7 – Nuclear substances, within the meaning of the Nuclear Safety and Control Act, which are radioactive
- Class 8 – Corrosives
- Class 9 – Miscellaneous products or substances.

2. Overview of Hazardous Materials

2.1 HAZARDOUS MATERIALS AND FUEL STORAGE DESCRIPTION

Diesel fuel is required to generate power on-site, heat buildings and to fuel mobile equipment. The diesel fuel storage at the camps consists of 205L drums as well as double walled tanks (up to 70,000L ULC-approved) and bladders (up to 50,000L) situated within a lined secondary berm. Secondary containment (Instaberms) is used for all of the drummed fuel on site.

Supplies are replenished with quantities dependent on the scope of the program. Inventories of fuel at each site are dynamic and dependent on exploration activities and personnel in camp.

Drummed fuel is required to support drilling and helicopter activities outside of camp and strategically relocated as required. All drums are located at least 31 metres above the high water mark of any water body to a maximum volume of 10,000 L (approximately 50 drums) in each cache. Specialized oils and greases used by the drilling contractors are stored in sheds or sea-cans designated for that purpose.

Propane tanks are stored on pallets, strapped together and area marked with pylons.

There are minimal quantities of reagents such as dilute HCl (<5L), concentrated HNO3 (vials of <10mL), and other materials on site for geological testing and environmental sample preservation.

Chlorine bleach is used to treat the drinking water supply prior to filtration and U/V treatment. It is also used to clean and disinfect surfaces in camp, for example in the kitchen. It is stored in the original plastic 8.8L jug (household bleach) and stored on shelves near the water supply tanks.

Antifreeze and plumbing antifreeze are also used on site in the equipment and plumbing to protect against freezing. This is brought to camp on an 'as-needed' basis and stored in the original 4L plastic jugs in the shop areas. Waste antifreeze from the equipment is collected into metal drums, sealed and shipped out to Yellowknife for disposal. Waste plumbing antifreeze is released to the graywater sump area.

Calcium chloride is added to the fresh water to form a brine solution that acts as antifreeze when drilling in permafrost conditions. The drilling return water is reheated and reused using a mega-bag system which catches the drill cuttings as well. Salt is stored in bags, with 28 bags sealed in a megabag and placed on a pallet.

Fire extinguishers and dust suppression is also used on site as needed and is stored in appropriate facilities. Small quantities of various household chemicals are on site for domestic use.

Material Safety Data Sheets (MSDS) are collected and kept at the site for all chemicals and fuel products. Appropriate storage and handling of these products will be undertaken.

Waste chemicals that require special attention and handling include waste oil, hydraulic oil, lubricating oil, calcium chloride, grease, and ethylene glycol.

Waste oil is used to either heat the maintenance and core logging facilities, or to fuel the incinerator. If not used to fuel heaters or incinerator, waste oil and oil from filters are backhauled for appropriate disposal. Drained spent oil filters will be stored in drums for removal from the site for disposal at an authorized disposal facility.

Waste batteries are sealed in plastic drums and shipped to Yellowknife for disposal; smaller batteries from handheld equipment is sealed in plastic bags and shipped to Yellowknife for recycling or disposal.

2.2 TYPES OF HAZARDOUS MATERIALS

The Back River Project will require the use of the following types of classified hazardous materials:

- Petroleum Products and Lubricants – diesel fuel, oils, greases, anti-freeze, and solvents used for equipment operation and maintenance
- Water Treatment Consumables – Chlorine
- Calcium Chloride - to be used for exploration drilling

2.3 GENERAL HAZARDOUS MATERIAL STORAGE GUIDELINES

Sabina is committed to the safe and appropriate storage of fuels, hazardous materials and hazardous wastes. The following sections outline general guidelines for storing fuels, hazardous materials and hazardous wastes.

2.3.1 General Guidelines for Storage Drums/Containers

Hazardous materials/waste shall be stored in drums/containers according to the following guidelines:

- In the original containers, where possible, or in containers compatible with the material being stored to prevent corrosion or chemical interaction that could lead to leaks or fires.
- Storage containers shall be in good condition, sealable and not damaged or leaking.
- Drums containing hazardous materials/wastes expected to be in storage for more than six months shall be placed on pallets or on a well-drained storage area to prevent rusting.
- Each container shall be clearly labelled to identify the substance being stored according to the requirements of the Work Site Hazardous Materials Information System (WHMIS).
- Containers shall be kept closed except when adding or removing product.
- Containers with product shall be kept in the upright position; empty drums can be placed horizontally with a 3-9 configuration.
- Containers shall be arranged to prevent damage from falling or dislodging.
- Containers shall be arranged to allow for easy access and inspections.

2.3.2 General Guidelines for Storage Areas

To assist in the safe and secure storage of fuels, hazardous materials and hazardous wastes, the following general guidelines for storage areas/facilities are followed as appropriate:

- Design of storage areas are in compliance with the National Fire Code, where appropriate.
- The Canadian Council of Ministers of the Environment (CCME) publication, "Environmental Code of Good Practice for Above Ground Storage Tank Systems Containing Petroleum Products" are followed. This CCME code deals with inventory control, inspections, corrosion protection, records and monitoring. Environment Canada's Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations outline registration and documentation requirements for storage tanks.
- Storage areas are adequately signed indicating that hazardous materials/wastes are stored therein and only authorized personnel are allowed.
- Storage locations are clearly defined and marked to prevent damage of storage drums and containers in the event they are covered by snow.
- Incompatible materials are segregated by chemical compatibility within the storage area to prevent contact between materials in the event of a release.
- Storage areas are located at least 31 metres from surface water and on a low- permeability area.
- Storage areas are readily accessible for fire fighting and other emergency procedures.
- Secondary containment is installed to allow for the containment of at least 110% of the volume of the largest tank or 100% of the capacity of the largest tank plus 10% of the largest tank or 10% of the aggregate tanks capacity, whichever is greater.
- Storage areas are constructed, or provided with barriers, to protect containers from physical damage.
- Adequate spill and emergency response equipment have been installed at each storage area (i.e. spill control, fire protection, etc.). A list of spill control equipment is provided in the SCP.

3. Hazardous Materials Life Cycle Management

3.1 LIFE CYCLE MANAGEMENT

"Life cycle management" implies the assessment of a particular product over its entire life – from the time a material need is identified to the time the product is fully consumed or disposed of as waste. It covers product supply, transportation, storage, handling, recycling, and waste disposal. Sabina is committed to ensuring proper life cycle management of all products used at the site, including hazardous materials. Sabina and its contractors will deal only with reputable, certified suppliers, transporters, and expediters.

3.1.1 Delivery

All hazardous materials are delivered to site by commercial carriers in accordance with the requirements of the Canadian Transportation of Dangerous Goods Act (TDGA). Carriers are licensed and inspected as required by the Department of Transportation. All required permits, licences, and certificates of compliance are the responsibility of the carrier. All shipments are properly identified and labelled. Shipping papers are accessible and include information describing the substance, immediate health hazards, fire and explosion risks, immediate precautions, fire- fighting information, procedures for handling leaks or spills, first aid measures, and emergency response telephone numbers.

Each transportation company is required to develop a spill prevention, control, and countermeasures plan to address the materials they are importing. In the event of a release during transport, the commercial transportation company is responsible for first response and cleanup. Sabina intends to periodically verify the qualifications of transport companies, their personnel and the existence of their spill prevention, control and countermeasures plan.

3.1.2 On-Site Handling

Once dangerous goods are received at the workplace, additional regulations apply. The federal Workplace Hazardous Materials Information System (WHMIS) calls for the proper labelling of products, the availability of product information in the form of MSDS, and employee education on how to identify and handle hazardous products. Sabina obtains MSDS with new product deliveries, keeps MSDS current (i.e. no older than three years), and maintains a system of hardcopy or electronic MSDS that are readily accessible by all employees.

All hazardous materials are stored in secured areas to prevent access by unauthorized personnel or any tampering. All tanks used for the storage of diesel fuel have been installed in secondary containment areas sized to hold at least 110% of the volume of the largest tank or 100% of the capacity of the largest tank plus 10% of the largest tank or 10% of the aggregate capacity, whichever is greater. Additional guidelines for the storage of hazardous materials are provided in Section 2.3.2.

In support of pollution prevention, Sabina has established procedures for the regular monitoring of storage containers and facilities. If deficient conditions are identified, appropriate corrective actions are taken and documented. Additional details for inspection of storage areas are provided in Section 6. Emergency response procedures for spilled chemical substances are provided in the SCP. These procedures outline the response to accidental spills or releases of hazardous materials to minimize health risks and environmental effects. Included are procedures for evacuating personnel, maintaining safety, cleanup and neutralization activities, emergency contacts, internal and external notifications to regulatory authorities, and incident documentation.

3.1.3 Wastes

On becoming wastes, materials are stored and/or disposed of in accordance with specific government regulations and guidelines. Sabina stores most waste materials on site in secure facilities until they can be transported to other provincial jurisdictions for recycling or disposal.

The Department of Environment, Environment Protection Service (EPS) monitors the movement of hazardous waste, from the generator to final disposal, through use of a tracking document known as a Waste Manifest. Accordingly, a Waste Manifest accompanies movements of hazardous wastes for the Sabina Project. As a registered waste generator, Sabina and will employ only registered waste carriers to transport waste to registered/approved waste receivers. A copy of the completed manifest will be maintained for a period of two years after the hazardous waste is received by the authorized waste disposal facility.

3.1.4 Empty Product Containers

Many empty chemical containers are not safe to dispose of directly and require handling precautions identical to those for full containers. Chemical users must be familiar with safe waste handling and storage procedures supplied by manufacturers in MSDS. The containers are backhauled to Yellowknife for disposal at an approved registered facility.

4. Petroleum Products

4.1 PRODUCT DESCRIPTION

The operation will use fuel and lubricants (petroleum products) transported, stored, handled and transferred and used in compliance with the appropriate legislation and applying Best Management Practices.

4.2 DELIVERY TO SITE

With the exception of diesel fuel, most petroleum fuel and lubricant products will be delivered to site and stored in the original packing container from the manufacturer. These types of containers include a variety of sealed drums, pails, cans, and tubes.

Due to transportation restrictions, a full year's supply of fuel and lubricants will be transported and stored on-site, in order to meet the demand of the upcoming year. A large proportion of the petroleum products (diesel) is delivered in bulk during the winter months or summer shipping period. Winter delivery to camp is via aircraft specifically outfitted for bulk fuel transport and transfer. Summer bulk fuel delivery is by marine vessel and is conducted as outlined in the Oil Pollution Emergency Plan & Oil Pollution Prevention Plan (OPEP) filed with Transport Canada prior to each year's shipment. This fuel is then transferred to Goose or George camps via a Winter Road.

All fuel transfer and storage facilities have been designed in accordance with the Canadian Council of Ministers for the Environment (CCME, 1994) Environmental Code of Practice for Above Ground Storage Tank Systems Containing Petroleum Products, and the National Fire Code.

Appropriate measures are in place to minimize impacts to surface water, groundwater and soils from potential vehicle accidents when transporting hazardous materials to the site. Details of spill responses are presented in the SCP and OPEP.

4.3 FUEL TRANSFER PROCEDURES

General procedures for transferring fuel from the aircraft to the bulk storage tanks and bladders are listed below. Similar procedures would be followed for transfer of fuel out of drums.

Before fuel transfer, verify that:

- All fuel transfer hoses are connected properly and couplings are tight.
- Secondary containment is available at all pumps and connection points.
- Transfer hoses are not obviously damaged.
- Fuel transfer personnel are familiar with procedures. Typically these personnel are referred to as "fuel walkers" and they will supervise the connection and transfer of the fuel.
- Personnel are located at both the fuel delivery ship/truck and fuel transfer tank(s) and can manually shut off the flow of fuel.
- Fuel transfer will then proceed per the established procedures of the contract supplier and/or personnel responsible for transferring fuel.
- Any accidents or spills must be reported immediately to the 'fuel walkers' and reported to the Operations Supervisor. Notification and response procedures are detailed in the SCP.

Details of the bulk transfer procedures of fuel from marine vessels is found in the OPEP, which is updated prior to each offload to reflect that year's fuel supplier and related offload requirements.

4.4 CONTAMINATED SOILS AND SPILLS

Contaminated spill pads and soils resulting from the storage and handling of fuels and lubricants will be salvaged at the time such impacts are identified, and put into megabags or into 205L drums, labelled and eventually shipped off-site to an approved disposal facility. Contaminated pads and absorbent material are also incinerated on-site.

In future it is anticipated that landfarm(s) will be constructed at site. At that time contaminated soils, snow and/or water may be deposited in that facility instead of backhauled off site. Management of the Landfarm will be outlined in the Landfarm Management Plan which will be developed prior to landfarm use.

4.5 USED PETROLEUM PRODUCTS

Used oil that is no longer suitable for its intended use is classified as a hazardous waste. The discharge of used oil into the environment, including but not limited to landfills, sewers and water bodies, is prohibited.

Where possible, waste oil is used in waste oil burners to heat the Quonset huts. Otherwise, used oil products will be collected in tanks or drums marked "Waste Oil" and disposed of at an approved facility. Empty petroleum containers will be stored on site in a designated area and returned to the supplier on backhauls. Oil filters will be punctured and/or crushed and drained of their contents for 24 hours prior to disposal.

5. Calcium Chloride and Other Chemicals

5.1 PRODUCT DESCRIPTION

Calcium Chloride is used at the site to assist in exploration drilling. Other chemicals on-site include bleach and antifreeze.

5.2 DELIVERY TO SITE

Chemicals will be delivered to site and stored in the original packing container from the manufacturer. These types of containers include a variety of bags and plastic jugs.

Due to transportation restrictions, a full year's supply of calcium chloride will be transported and stored on-site, in order to meet the demand of the upcoming year. Salt may be delivered in bulk during the winter months via aircraft or in summer via the summer sealift to the MLA and transported to camp via a winter road.

Other chemicals are brought to site on an "as-needed" basis over the exploration season.

5.3 TRANSFER

The release or spillage of any of these substances would possibly result in environmental impacts and pose a potentially hazardous situation for those personnel exposed to these materials. It is essential that materials deemed to be potentially hazardous be dealt with in a cautious manner, in strict adherence to recommended regulations outlined in the legislation, whether the substance is provided in large or smaller quantities as this will prevent serious repercussions should an accidental release of material happen.

General procedures for transferring chemicals from the aircraft or barge to storage are listed below. Similar procedures would be followed for transfer of chemicals for use.

Before transfer, verify that:

- Area is clear and PPE equipment is in use.
- Spill response material is available.
- Containers are not obviously damaged.
- Personnel are familiar with transfer procedures, including helicopter slinging procedures if required.
- Only those personnel that are familiar with transfer procedures to conduct transfer.
- Any accidents or spills must be reported immediately to the Operations Supervisor. Notification and response procedures are detailed in the SCP.

5.4 WASTE

Once salt is used it is part of the drill cuttings and remaining drill water. The polydrill system is used at the Back River Project and allows the collection and containment of drill cuttings. This material is either

disposed of proximal to the drill in a depression or returned to camp and disposed of in either the designated disposal area.

Used bleach and plumbing antifreeze is released to the greywater discharge. Used equipment antifreeze is collected and sealed in drums marked "Waste Antifreeze" and backhauled to Yellowknife for disposed of at an approved facility.

6. Inventory, Inspection, and Records

A contract expediting company in Yellowknife will arrange all deliveries to the Back River Project and will include the hazardous materials discussed in this plan. The Operations Supervisor will have ultimate responsibility for supervising the receipt, inspection, and recording of all material inventories at site. The inventory control will reconcile total amounts received against amounts ordered.

Inventory control tracks and monitors use of these materials. If any issues are noted during this tracking, it is reported to the Operations Supervisor. Exploration staff conduct daily and weekly inspections of drilling areas and if any issues are noted, it is reported to the Exploration Manager and Drill Foreman.

6.1 PETROLEUM PRODUCTS

6.1.1 Inventory Management

Diesel fuel use will be metered automatically when it is pumped from the bulk tanks. The metered volumes will be summarized routinely and reconciled against tank levels determined manually with a dipstick from the top of the tanks.

Aviation fuel will be dispensed from drums as required under the supervision of aircraft personnel. Consumption and on-site volumes will be reconciled routinely.

Lubricants and other petroleum products will be inventoried routinely.

6.1.2 Inspection

The Operations Superintendent will ensure that fuel and lubricant storage areas are routinely inspected. The condition of hazardous materials storage areas, containers, tanks, connectors and associated plumbing will be checked. Any concerns will be addressed or documented for future corrective action. Drums/containers will be inspected for the presence and legibility of symbols, words or other marks identifying the contents, signs of deterioration or damage such as corrosion, rust, leaks at seams or signs that the drum/container is under pressure such as bulging and swelling, spillage or discoloration on the top or sides of the drum/container. If leaks or deterioration are encountered, it will be noted and addressed in a timely manner.

The hazardous materials area's secondary containment will be inspected, and the condition of the secondary containment will be noted. Arrangements will be made for repairs if necessary.

Any accidental damage to containment structures will be inspected immediately and appropriate repairs undertaken. The extent of damage will be reported in writing to the Operations Supervisor. The report

will note any remedial repairs that may be made, the date of any repairs, and the need for any follow-up inspection.

6.1.3 Records

Records pertaining to storage, use, and loss of fuels and lubricants are required by CCME and the Fire Marshal (under the National Fire Code). The following records will be prepared under the supervision of the Operations Superintendent:

- reconciliation of bulk inventory from resupply logs
- weekly use summaries
- weekly reconciliation for each storage tank
- inspections and maintenance checks of the storage tank, piping, and delivery systems
- reports of leaks or losses
- reports of spill responses
- records of training

6.2 MISCELLANEOUS HAZARDOUS/TOXIC MATERIALS

6.2.1 Inventory Management

Adequate quantities of all hazardous chemicals will be reconciled against orders on receipt. The appropriate group responsible for the miscellaneous chemicals is responsible for reconciling the resupply inventory.

6.2.2 Inspection

During operations, the appropriate group responsible for storage and handling of the miscellaneous chemicals are to regularly inspect all areas where such hazardous materials are used and stored. Any problems will be noted and reported to the Operations Superintendent. The Operations Superintendent will be responsible for weekly or monthly inspections of miscellaneous hazardous materials and storage areas.

6.2.3 Records

The quantity of hazardous materials received, used, and in possession of personnel are recorded by Inventory Control. Everyone is to comply with the environmental regulations.

6.3 ENVIRONMENTAL EMERGENCY REGULATIONS

The Environmental Emergency Regulations (E2 regulations) require that a notification be provided when quantities of certain products exceed set threshold amounts. In some cases, a product-specific environmental emergency plan will also need to be developed.

Sabina will routinely screen inventoried quantities of products against applicable thresholds of Schedule 1 (List of Substances) of the E2 Regulations. Any substances approaching, or likely to approach E2 thresholds at a given project site will be re-assessed with each annual bulk supply delivery. Notifications and environmental emergency plans will be submitted as needed and following the E2 requirements.

7. Training

7.1 GENERAL

All staff and contractors will receive the following training:

- Site orientation and operations overview
- WHMIS
- Emergency and spill response (see also the SCP and ERP)

Employees will receive additional training in mine safety as specified by the Mine Health and Safety Act and regulations. Sabina will ensure compliance with the training requirements specified in the Act and regulations.

A record of training received will be maintained.

7.2 PETROLEUM PRODUCT HANDLERS

Personnel who handle petroleum products will be expected to be conversant with relevant MSDS information. As well, appropriate personnel will be given training in the following:

- Transportation of dangerous goods (TDG)
- Sabina's fuel handling procedures
- Spill response and cleanup procedures for petroleum (see the SCP)
- Emergency response, especially firefighting procedures (see the ERP).
- Equipment operations and PPE requirements
- Slinging and helicopter safety (if helicopter is being used for transfer)

7.3 CALCIUM CHLORIDE AND OTHER PRODUCT HANDLERS

Only trained and certified persons will work with Calcium Chloride or other products and will undertake formal training and on-the-job training. Training requirements will include (but not necessarily be limited to):

- First aid
- Transportation of dangerous goods (TDG; depending on product)
- WHMIS
- Spill response and cleanup procedures (see the SCP)
- Equipment operations and PPE requirements
- Slinging and helicopter safety (if helicopter is being used for transfer)

7.4 THIRD PARTY CONTRACTORS

It is expected that third party contractors receive adequate and comprehensive training to conduct their work tasks from their employer. Sabina intends to review the general qualifications of third party contractors prior to having them work at the site. In addition, the contractor companies may also be requested to confirm the qualifications of specific individuals that they may have working at the site.

Third party contractors working on the site will be expected to participate in and complete a site-specific health and safety training session. The training session is envisioned to be valid for a period of one year, after which time the contractor may be required to complete the training again or attend a refresher. The training session will outline site specific hazardous and response procedures that they should be aware of in the course of conducting their work on site. The training session will cover hazardous materials management.

APPENDIX A

List of Applicable Legislation
Federal Legislation and Guidelines, Federal Codes and Other Guidance Documents
And Territorial Legislation and Guidelines

The following is a list of federal and territorial legislation and guidelines that regulate the management of hazardous materials in Nunavut, and which are considered potentially applicable to Back River Project. As part of Sabina's overall environmental management system for the Project, this list is updated at least annually to ensure it represents current and relevant information.

Federal Legislation

- CANADIAN ENVIRONMENTAL PROTECTION ACT, 1999 S.C. 1999, c. 33
  - Code of Practice for the Reduction of Chlorofluorocarbon Emissions from Refrigeration and Air Conditioning Systems.
  - Environmental Code of Practice for Elimination of Fluorocarbon Emissions from Refrigeration and Air Conditioning Systems.
  - Environmental Code of Practice on Halons Code of Practice EPS 1/RA/3E.
  - Environmental Emergency Regulations SOR/2003-307.
  - Environmental Guidelines for Controlling Emissions of Volatile Organic Compounds from Aboveground Storage Tanks, CCME-EPC-87-E, as amended.
  - Export and Import of Hazardous Waste and Hazardous Recyclable Material Regulations SOR/2005-149.
  - Federal Halocarbon Regulations, 2003 SOR/2003-289.
  - Interprovincial Movement of Hazardous Waste Regulations SOR/2002-301. Ozone-Depleting Substances Regulations, 1998 SOR/99-7..
- TRANSPORTATION OF DANGEROUS GOODS ACT, 1992 S.C. 1992, c. 34
  - Transportation of Dangerous Goods Regulations SOR/2001-286.
  - Transportation of Dangerous Goods Regulations - Schedules SOR/2001-286.
  - Federal Codes and Other Guidance Documents
  - National Fire Code.
  - Indian and Northern Affairs Canada. 2005. DEW Line Cleanup Barrel Protocol.
  - Canadian Council of Ministers for the Environment (CCME) - Environmental Code of Practice for Above-Ground and Underground Storage Tanks Systems containing Petroleum Products and Allied Petroleum Products (2003).
  - CCME - Canadian Wide Standards for Petroleum Hydrocarbons in Soil.
  - CCME - Canadian Environmental Quality Guidelines.
  - Environment Canada (Tilden & Westerman). 1990. Guidelines for the Preparation of Hazardous Material Spill Contingency Plans.
  - Department of Fisheries and Oceans. 1998. Guidelines for the Use of Explosives in or Near Canadian Fisheries Water.
  - Territorial Legislation
- ENVIRONMENTAL PROTECTION ACT R.S.N.W.T. 1988, c. E-7
  - A Guide to the Spill Contingency Planning and Reporting Regulations January 2002.
  - Environmental Guideline for Contaminated Site Remediation November 2003.

- Environmental Guideline for Waste Lead and Lead Paint.
- Guideline for Ozone Depleting Substances.
- Guideline for the General Management of Hazardous Waste in the NWT.
- Guideline for the Management of Waste Antifreeze.
- Guideline for the Management of Waste Batteries.
- Guideline for the Management of Waste Paint.
- Guideline for the Management of Waste Solvents.
- Guideline for Dust Suppression, February 1998.
- Spill Contingency Planning and Reporting Regulations R-068-93.
- Used Oil and Waste Fuel Management Regulations R-064-2003.
- Plain Language Guide to the Used Oil and Waste Fuel Management Regulations.

- TRANSPORTATION OF DANGEROUS GOODS ACT, 1990 S.N.W.T. 1990, c. 36
  - Transportation of Dangerous Goods Regulations R-049-2002.
- EXPLOSIVES USE ACT R.S.N.W.T. 1988, c. E-10
  - Explosives Regulations R.R.N.W.T. 1990, c. E-27.
- FIRE PREVENTION ACT R.S.N.W.T. 1988, c. F-6
  - Fire Prevention Regulations R.R.N.W.T. 1990, c. F-12.
  - Propane Cylinder Storage Regulations R-094-91.
- MINE HEALTH AND SAFETY ACT (NUNAVUT) S.N.W.T, 1994, c. 25
  - Mine Health and Safety Regulations R-125-95.
- SAFETY ACT R.S.N.W.T. 1988, c. S-1
  - General Safety Regulations R.R.N.W.T. 1990, c. S-1.
  - Work Site Hazardous Materials Information System Regulations R.R.N.W.T. 1990, c. S-2.

ATTACHMENT 7 - COMPREHENSIVE SPILL CONTINGENCY PLAN

Comprehensive Spill Contingency Plan

June 2018

Table of Contents

List of Figures

List of Tables

1. Introduction and Background

1.1. BACKGROUND

Sabina Gold & Silver Corp. (Sabina) is actively exploring the Back River property mineral rights Including the Goose Property (and primary exploration camp at Goose Lake), as well as George Property (and a temporary exploration camp), unoccupied claim groups referred to as Boot Property, Boulder Property, Wishbone Property, Malley/Needle Property, and Del Property (Figure 1) and development works for the Back River Project (the Project).

1.2. PURPOSE

This spill emergency plan has been implemented to ensure that Sabina respects all applicable laws, regulations and requirements from federal and territorial authorities. Sabina has obtained and complies with all required permits, approvals, and authorizations required for the operations. The following regulations and documents constitute an integral part of the Plan:

- Government of Nunavut's *Spill Contingency Planning and Reporting Regulations.*
- The Canadian Environmental Protection Act controls hazardous substances from their production and/or import, their consumption, storage and/or disposal.
- The federal *Fisheries Act* protects fish and their habitat from pollution and disturbances. Fisheries and Oceans Canada reviews permit applications and restoration plans submitted by other agencies.
- The federal *Transportation of Dangerous Goods Act* and Regulations ensure the protection of public health and safety, and the environment during the handling and transport of dangerous goods. The Regulations apply to all modes of transportation, by road, by sea, and by air.
- The federal *Territorial Land Use Regulations* define regulatory measures to maintain appropriate environmental practices for any land use activities on territorial lands that are under the control, management and administration of the Crown. These regulations require that land use permits be issued for operations such as mineral exploration and mining.
- The Guidelines for Preparation of Hazardous Material Spill Contingency Plans describe parameters that should be considered in the development of hazardous material spill emergency plans. It also defines the information that should be incorporated into a comprehensive contingency plan.
- The CCME Code of Practice for Used Oil Management defines appropriate environmental options for handling, storage, collection, recycling, transport, reuse, and/or disposal of used oils in Canada. It helps regulatory authorities formulate provincial and/or regional strategies for used oil management.
- The *Nunavut Environmental Protection Act* governs the protection of the environment from contaminants. The Act defines offences and penalties as well as the powers of government inspectors.
- The *Nunavut Spill Contingency Planning and Reporting Regulation*s describe requirements for spill reporting and emergency planning.

- The Field Guide for Oil Spill Response in Arctic Waters developed for the Emergency Prevention, Preparedness and Response Working Group, describes precise response methods and strategies for emergency response operations and provides technical support documentation.
- The *Land Transportation Emergency Response Guideline* for Petroleum Spills developed by the Canadian Petroleum Products Institute outlines scope, emergency response code of practice, response time guidelines, response equipment and personnel capability requirements.
- The *Canada Shipping Act* (CSA), as amended by Chapter 36, stipulates that operators of designated Oil Handling Facilities must have an on-site Oil Pollution Emergency Plan.
- The *Canada Shipping Act* Response Organizations and Oil Handling Facilities Regulations (sor/95-405) apply.

This document is a review and analysis of the preparedness for events which may occur due to unforeseen circumstances. The plan details response actions to be taken in the event of unintentional materials release during the ongoing exploration program and associated support such as camps and overland transport. The plan is dynamic and will be updated at least annually to address any significant changes in operating plans, should they occur.

A copy of the Plan will be available at the exploration camps and headquarter offices. **This plan applies to water licenses 2BE-GOO1520, 2BE-GEO1520, 2BE-MLL1722, and 8BC-BRP1718.** Sabina believes building on experience and practices gained through implementation and management of spill measures under existing water licence and supports the implementation of a coordinated approach to spill response.

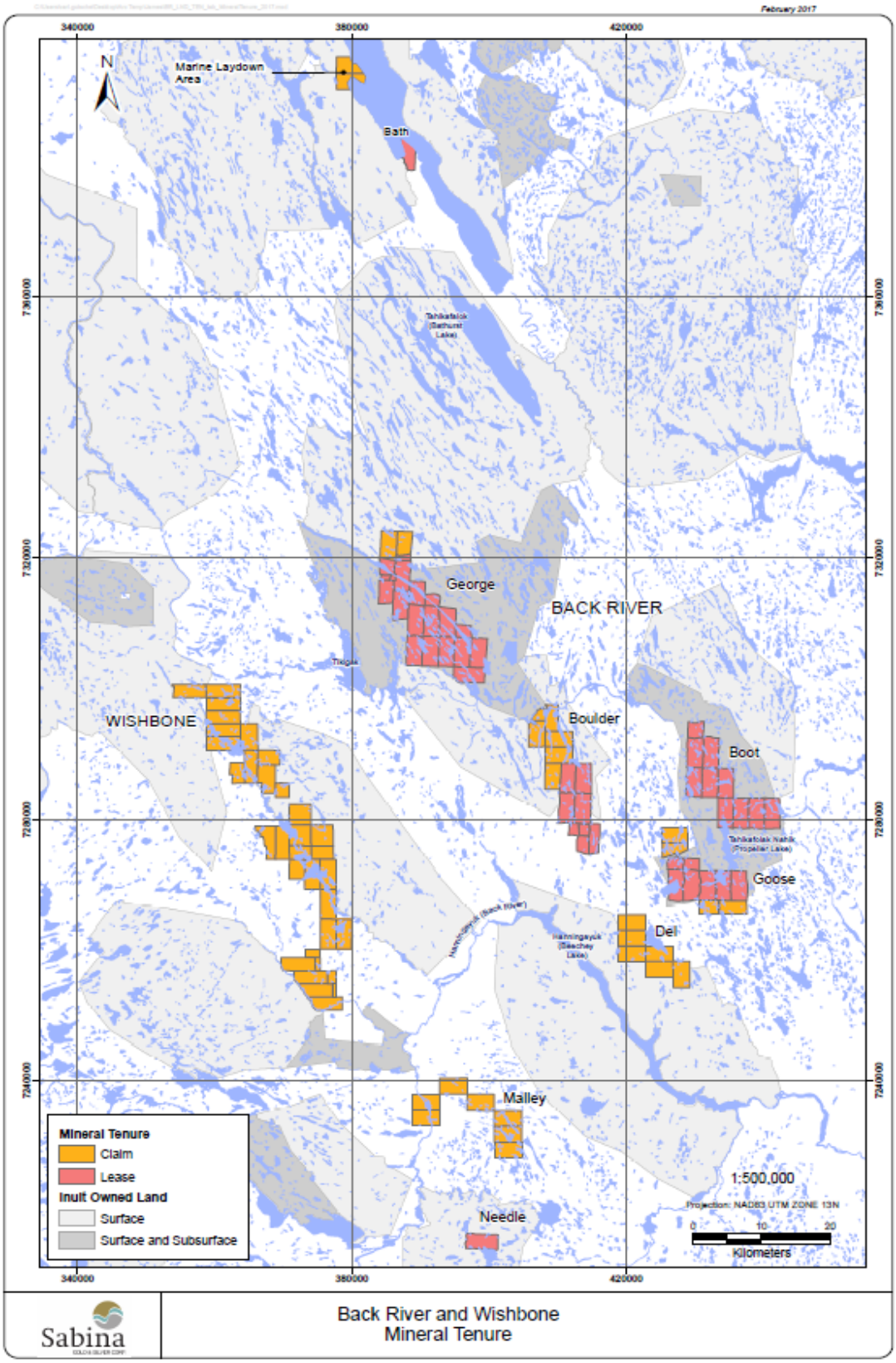


Figure 1. Location Map of Sabina Exploration Properties within western Nunavut.

1.3. SABINA SOCIAL AND ENVIRONMENTAL POLICY

Sabina is committed to environmentally responsible and socially acceptable exploration and mining practices. We are dedicated to creating and maintaining a safe environment for both the land we occupy and the people that drive its success. The company's philosophy is to conduct its operations to protect not only the environment, but the health and safety of its employees and the public as well.

Sabina also subscribes to the principles of sustainable development in mining. While exploration and mining cannot occur without an impact on the surrounding natural environment and communities, our responsibility is to limit negative environmental and social impacts and to enhance positive impacts.

To achieve these goals, Sabina is committed to:

- Seeking to be environmental leaders in the mining community by integrating responsible environmental management as an essential component of all business decisions;
- Comply with all applicable laws, regulations and standards; uphold the spirit of the law and where laws do not adequately protect the environment, apply standards that minimize any adverse environmental impacts resulting from its operations;
- Communicate openly with employees, the regulatory community and the public on environmental issues and address concerns pertaining to potential hazards and impacts;
- Assess the potential affects of operations and integrate protective measures into the planning process to prevent or reduce impacts to the environment and on public health and safety;
- Take appropriate corrective actions should unexpected environmental impacts occur. This will also include taking appropriate action to prevent reoccurrence of these impacts.
- Provide adequate resources, personnel and training so that all employees are aware of and able to support implementation of the environmental and social policy;
- Conduct and support research and programs that improve understanding of the local environment, conserve resources, minimize waste, improve processes, and protect the environment.
- Working with the appropriate local regulators and agencies, maximize benefits to the affected communities and residents;
- Balance all decisions with best management practices, scientific principles, and Traditional Knowledge.

1.4. SABINA POLICY ON INITIATION FOR CLEANUP ACTIVITIES

Sabina initiates cleanup activity when, in the opinion of management, Sabina is clearly associated, or likely associated with the spilled product. The guiding principles of Sabina’s Comprehensive Spill Contingency Plan is to comply or exceed existing regulations to ensure protection of the environment, and to keep employees, government officials, and the public aware of our plans.

1.5. RISK MANAGEMENT

The likelihood of a significant spill event occurring at the Project at either the Goose or George tank farms is very low, due to the double-walled tanks contained in the lined, bermed area, and the prescribed procedures for fuel transfer and anti-siphon devices in the tanks.

The greatest likelihood of an incident is associated with drummed fuel including the rupture of drums during movement or leaks during storage. The first risk can be mitigated through proper operator training

of equipment operation, clear marking and segregation of fuel supplies and heightened operator awareness when working near fuel supplies. The second risk is mitigated with secondary containment and frequent inspection of the drums (carried out during regular yard duties). Additional hazards are present during refuelling operations (mitigated with drip trays and absorbent mat), and during local drum movement (e.g., from storage to helipads), which is mitigated by using experienced operators, carefully securing the drums to the loader during movement, and safe driving practices.

As salt is delivered in pelletized form, any spill is easily cleaned-up. Regular inspection of this storage area will allow for rapid detection of any spill.

Explosives will be delivered in designated compartments approved for transport of explosives and stored within the original packaging in the magazines. Strict housekeeping and tracking standards will be kept. Any spill of explosive material would be easily cleaned up and regular inspection will allow for rapid detection of any spill.

Frequent inspections of the greywater line will turn up any leaks in the system which can be quickly repaired. Any issues would likely be noticed by most people in camp as either moisture and/or an odour would be present.

The likelihood of drill additives entering a waterbody is extremely small. With the exception of on-ice drilling, drills are located at least 31 m above the high water mark of lakes, ponds and streams, unless otherwise approved by the Board, with vegetation and overburden material providing an effective mechanical barrier to the transport of materials to the waterbody. As an added mitigation measure, geo-textile cloth fences are constructed on the downhill side of all new drill setups. For on-ice drilling, excess return water is pumped to a point on shore more than 31 m from the estimated high water mark (difficult to determine conclusively due to snow cover). Snow and lake ice also create an effective barrier and containment mechanism for spills of material at the drill site, allowing for easy cleanup. Drill sites are inspected for cleanliness upon completion of the hole.

Despite the mitigation measures taken, should any incident arise as a result of human error or unforeseen circumstances, the operating procedures outlined in this document will be implemented.

1.6. EXISTING FACILITIES

The Sabina mineral exploration camps are located in the Kitikmeot Region approximately 520 km northeast of Yellowknife, NWT and 400 km southwest of Cambridge Bay, NU.

1.6.1. Goose Exploration Camp

The Goose Exploration Camp is the primary camp for the Project and is located on the slope of the western shore of Goose Lake (Figure 2). It has the capacity to support up to 120 people (as of June 2012) and is accessible by air only using Goose Lake (ice and open water), a gravel airstrip north of Goose Lake and an all-weather airstrip and road west of the camp. The lakeshore is approximately 50 m toward the north and the regional topographical gradient surrounding the camp ranges from 2 to 6% towards the north. The camp is approximately 300 m in length from east to west and 100 m wide from north to south, covering an area of 30,000 m^2. The camp facilities are located on natural tundra underlain by a 10 cm organic layer overlying silt-sand parent material.

- Latitude: 65º 32’N, Longitude: 106º 25’W
- UTM Coordinates 569405 E, 7265007N on NTS Map Sheet 76G/09

Figure 2. Aerial image of Goose Exploration Camp looking west. Photograph taken August 2013.

1.6.2. Temporary Camps for Resupply for Exploration

Temporary camps for up to 20 people are established for a season in target areas away from the main camps and would be established for safety, environmental, and economic reasons. The intent is not to establish a network of camps across the exploration area, but to have the opportunity and flexibility to establish these temporary camps as needed. No sewage system will be installed in the camp as no water is needed for Pacto toilets. All solid waste will be carried to the existing camps (Goose and/or George) and disposed as outlined in the approved waste management plan.

Grey-water is pumped to a suitable disposal sump or natural depression located 31 metres away from the ordinary high water mark of any local waterways and would be allowed to naturally percolate into the underlying ground.

1.6.3. Overland Corridors

A winter road links the two camps (Goose and George) and extends to Bathurst Inlet. Temporary camp facilities and fuel and chemical storage areas may also be accessed as needed to support exploration activities.

Overland transportation occurs during mid-February to mid-May depending on environmental conditions and operational requirements. Environmental conditions that will determine the route include:

- Ice thickness of a sufficient thickness to support heavy equipment so that pumping and using water to build up will be unnecessary.
- Snow thickness will be a minimum of 15 cm on land to prevent damage to soil and vegetation.
- Weather conditions permit safe transport of equipment and materials.

Diesel fuels and lubricants will be used during the construction and operation of the winter road. Other fuel and materials to be transported along the corridor include diesel fuel, aviation gas, drilling additives such as calcium chloride and construction materials.

Storage of these products and wastes will be in compliance with legislation and the National Fire Code that ensures the hazardous materials are stored safely, in a dry manner with clear labeling and secondary containment. All storage areas will be clearly identified with proper labeling and signage. All storage areas will be regularly inspected and stored at least 100m from the high water mark of any waterbody within secondary containment.

Material Safety Data Sheets (MSDS) information for the potential contaminants and products to be transported along the winter road are available on-site.

2. Materials Transport and Storage

2.1. FUEL STORAGE

As per 2BE-GOO1520 and 2BE-GEO1520, diesel fuel is required to generate power on-site, heat buildings, and to fuel mobile equipment. The diesel fuel storage at the camps consists of 205 L drums, as well as double walled tanks (up to 75,000 L ULC-approved) and bladders (up to 40,000 L) situated within a lined secondary berm. Secondary containment (Instaberms) is used for all of the drummed fuel on-site.

Supplies will be replenished with quantities dependent on the scope of the program. Inventories of fuel at each site are dynamic and dependent on exploration activities and personnel in camp.

Drummed fuel is required to support drilling and helicopter activities outside of camp and strategically relocated as required. All drums are located at least 30 m above the high water mark of any waterbody. Specialized oils and greases used by the drilling contractors are stored in sheds or sea-cans designated for that purpose. Propane tanks are stored on pallets, strapped together, and area marked with pylons.

For development works no additional fuel storage is required at the Goose Property; existing permitted fuel requirements under 2BE-GOO1520 will be maintained. The Goose Property has thirteen 75,000 L double walled tanks and one 40,000 L bladder. Fuel required to support development works, ongoing exploration activities, and environmental monitoring programs, will be initially mobilized to the MLA in twenty approximately 30,000 L double walled fuel tanks. These tanks are installed within tertiary arctic-grade Insta-berms. This temporary storage of fuel is required as permanent storage tanks are under construction. As built drawings, will be provided 90 days following installation.

One 15 ML field erected fuel tank will be constructed at the MLA. Construction of the fuel tank and the fuel storage area and transfer facilities is proposed to occur under this Application; however, Sabina does not intend to mobilize fuel into this tank as part of this Type B Water Licence. The MLA Fuel Storage Area will be constructed in conformance with the Canadian Council of Ministers of the Environment (CCME) Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products (CCME 2003), and the Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations (2008). Project fuel storage facilities will be designed to have bermed spill containment with capacity equal to the volume of the largest tank plus 10% of the volume of the remaining tanks, or 110% volume of the largest tank, whichever is greater. The fuel tank storage areas embankments (or bund) will be lined with HDPE for spill containment. The fuel storage areas will be provided with standard instrumentation and controls to monitor and safely manage the inventory in the tanks. For additional information related to the design of the fuel storage facilities, please see the Fuel Management Plan. Sabina is committed to provide detailed designs for construction of the 15 ML fuel storage and fuel transfer facilities at the MLA to the NWB at least 60 days prior to construction.

2.2. DOMESTIC GREYWATER, SEWAGE AND CONTACT WATER

Greywater from the kitchen and shower facilities is screened for coarse particles (e.g., food), and released to a sump for settling, after which it is released to the environment. Sewage is dealt with using a Pacto toilet system with incineration of the waste generated.

Contact water is water that collects within the fuel secondary containment berms. This water is transferred out of each containment once the depth of water is equal, or greater, than 10 cm and treated

using oil/water separator. Post treatment, the contact water is contained within a dedicated berm/tank system and tested for compliance with current water licence thresholds. If in compliance with current thresholds of the water licence it is released to the environment.

For development works no additional management of domestic greywater, sewage and contact water is required. Management will be done in accordance with 2BE-GOO1520 and 2BE-GEO1520 water licence terms and conditions.

2.3. SOLID WASTE

Combustible solid wastes generated from the camp activities are incinerated. Products such as putrescible domestic and office waste are burned. Noncombustible wastes such as scrap metal, non-reusable barrels, incinerator ash, etc., are placed in megabags and are removed from site using back-haul flights to Yellowknife. Hazardous solid waste for backhaul is sealed in drums for transport to Yellowknife.

Although the potential for waste rock (including drill core) currently stored to be acid producing is unlikely, any such waste would be disposed of in an approved location and under acceptable practices.

Drill cuttings are collected and returned from the drill location to Goose Exploration Camp for disposal in the trench. Sludge from the core saws is also collected and disposed in the exploration trench south of camp.

For development works no additional management of solid waste is required. Management will be done in accordance with 2BE-GOO1520 and 2BE-GEO1520 water licence terms and conditions.

2.4. CHEMICALS

Sabina is committed to the safe and proper handling of waste materials to ensure minimal environmental impact and land disturbance. Waste chemicals that require special attention and handling include waste oil, hydraulic oil, lubricating oil, calcium chloride, grease, and ethylene glycol.

Waste oil is used to either, heat the warehouse, maintenance and core logging facilities, or to fuel the incinerator at Goose Exploration Camp. If not used to fuel heaters or incinerator, waste oil and oil from filters are backhauled for appropriate disposal. Drained spent oil filters will be stored in drums for removal from the site for disposal at an authorized disposal facility.

There are minimal quantities of reagents such as dilute HCl (<5L), concentrated HNO_3 (vials of <10mL), and other materials on-site for geological testing and environmental sample preservation.

Sabina anticipates the maximum quantity of ammonium nitrate (in sold form) at the MLA during initial development works at any time during the calendar year to be 1525 tonnes.

Calcium chloride is added to the fresh water to form a brine solution that acts as antifreeze when drilling in permafrost conditions. The drilling return water is reheated and reused using a mega-bag system which catches the drill cuttings as well. Salt is stored in bags, with 28 sealed in a megabag and placed on a pallet.

Explosive products, when/if on-site, will be stored in appropriate facilities at designated explosives storage site(s).

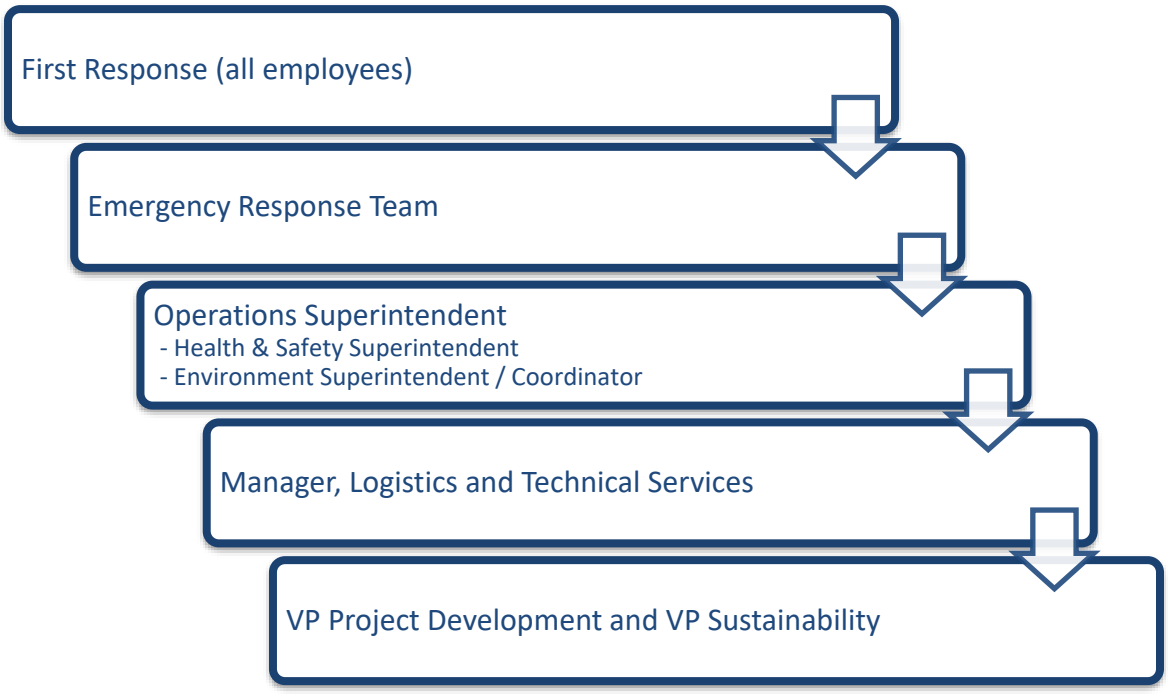
Fire extinguishers and dust suppression is also used on-site as needed and is stored in appropriate facilities. Small quantities of various household chemicals are on-site for domestic use.

MSDS will be collected and kept at the site for all chemicals and fuel products. Appropriate storage and handling of these products will be undertaken.

For development works no additional management of hazardous waste is required. Management will be done in accordance with 2BE-GOO1520 and 2BE-GEO1520 water licence terms and conditions.

3. Roles and Responsibilities

The general response and notification chart is presented in the following:



3.1. ALL EMPLOYEES (FIRST RESPONDERS)

- Immediately warn other personnel working near the spill area.
- Evacuate the area if the health and safety of personnel is threatened.
- Notify direct supervisor or Site Superintendent, who will initiate the spill response operations.
- In the absence of danger, take any safe and reasonable measure to stop, contain and identify the nature of the spill.
- Participate in spill response as directed by the Site Superintendent.

3.2. EMERGENCY RESPONSE TEAM (SPILL CLEANUP CREW)

- Members determined by Site Superintendent based on response needs.
- Conduct cleanup of significant spills under direction of Site Superintendent.

3.3. SITE SUPERINTENDENT

- Assemble and manage the Emergency Response Team, as required.
- Ensures cleanup is completed to Sabina standards in line with direction from the Manager, Logistics and Technical Services (TS), Health & Safety Superintendent, Environmental Superintendent and Environmental Coordinator.

- Notify Manager, Logistics and TS, Health & Safety Superintendent, and Environmental Superintendent/Coordinator of incident.
- Provides update within Sabina in camp and headquarters.
- Record date, location (GPS), material spilled, volume, reason for release, any negative impact, status of cleanup, and corrective actions taken.
- Keep and maintain database of all reportable and non-reportable spills as identified in the Plan.
- Conducts ongoing monitoring of cleanup operations leading to close-out.
- Notify HQ staff including VP Project Development and VP Sustainability for any reportable spills as identified in this plan
- Classify spill level as minor, moderate or major and ensure appropriate response initiated
- Assists in developing effective spill management and prevention practices.
- As directed by the VP Project Development and Manager, Logistics and TS report spill to 24-hour Spill Reporting Line.
- Liaise with NWT/NU applicable agencies regarding on-going cleanup activities.
- Co-ordinate inspections and spill closure by applicable agencies.
- Assist in spill response training and exercises.

3.4. MANAGER LOGISTICS AND TECHNICAL SERVICES

- Provides advice and ensures cleanup is completed to Sabina standards in line with direction from the Site Superintendent and VP Sustainability.
- Ensures Emergency Response Team is adequately trained in spill response.
- Ensures Emergency response and/or monitoring equipment and supplies are regularly inspected and maintained
- Organize with Site Superintendent spill response training and exercises.
- Lead investigation and identify measure and/or training to prevent similar spills.

3.5. ENVIRONMENTAL SUPERINTENDENT AND COORDINATOR

- Provides advice and ensures spill is documented appropriately as per this plan and regulatory requirements.
- Record date, location (GPS), material spilled, volume, reason for release, any negative impact, status of cleanup, and corrective actions taken; confirm these details with Site Superintendent.
- Obtain photographs of spill site before cleanup starts if possible and after the cleanup has been completed. Take pictures of undisturbed area beside the spill area for a comparison. If spill occurs on snow, stake or otherwise identify the affected area so that it can be evaluated once the snow melts.
- As directed by the VP Sustainability and Site Superintendent liaise with NWT/NU applicable agencies regarding on-going cleanup activities, inspections and incident closure
- Assist in initial and ongoing response efforts.
- Provide advice to assist with cleanup.
- Co-ordinate inspections and spill closure by applicable agencies.
- Assist with investigation and identify measure and/or training to prevent similar spills.

3.6. HEALTH & SAFETY SUPERINTENDENT

- Assist in initial and ongoing response efforts.
- Provide advice to assist with cleanup.
- Assist with investigation and identify measure and/or training to prevent similar spills.

3.7. VP PROJECT DEVELOPMENT AND VP SUSTAINABILITY

- Engage Legal Counsel and Sabina Senior Management and Board of Directors as required.
- Notify and update Senior Management and Board members as required.
- Notify and communicate with the Kitikmeot Inuit Association regarding any spills reported to the NT/NU Spill Report Line

4. Training and Testing

4.1. TRAINING

4.1.1. Site Orientation

On-site orientation will be provided to all on-site personnel to ensure employees are aware of:

- What First Responders are to do in case of a spill.
- The location of MSDS sheets and Spill Report Forms.
- The location of the Spill Response Kits.
- The general locations of fire extinguishers and firefighting equipment.
- The location of the Spill Action Plan and the Fire Action Plan.

4.1.2. Role Specific

Specific on-site training will be provided to all employees, whose job function may have a higher probability of experiencing a spill, to ensure they are aware of:

- WHMIS and Transportation of Dangerous Goods.
- Identify and avoid the conditions which may lead to a spill.
- Develop an understanding of the potential environmental impacts of a spill.
- Develop and understanding of the financial costs of a spill.
- Recognize the hazards associated with sources of ignition (smoking, electrical sparks) near a fuel source.
- Spill kit contents and use of them.
- Turn off valves to stop the flow of fuel.

For employees involved in fuel handling, additional training would be provided regarding appropriate refuelling techniques and drum handling procedures.

4.1.3. Emergency Response Team

Members of the Emergency Response Team will be provided a higher level of training to allow for safe and adequate response. This includes:

- All information given as part of the Role Specific Training.
- Fire extinguishers and water pump locations and use.
- Details of the Spill Action Plan and the Fire Action Plan.
- Identify, evaluate and mitigate the hazards posed by any spilled product by using appropriate PPE (personal protective equipment).

4.1.4. Community Support

Sabina is committed to providing spill response training to representatives of the communities of Kingaok and Umigmaktok. This includes:

- Spill training;
- Emergency response; and
- Notification.

4.2. TESTING

A spills drill is to be held twice annually, approximately 6 months apart, at each field operation. This drill must include a familiarization of all on-site personnel on their responsibilities including what to do in case of a spill. The drill must also include a hands-on scenario where the Emergency Response Team utilizes equipment to deal with the spill scenario. The drill may be broken down into two or more sessions to ensure adequate coverage. Records of this testing are to be kept on file and posted to provide access for those who were unable to attend.

5. Spill Response Equipment

5.1. GENERAL EQUIPMENT

Heavy equipment and aircraft may be used in the area for emergency use to respond to spill incidents. Spill kits and spill response equipment are to be located in key locations and are to be accessible to responders.

Site specific maps illustrating spill kit locations onsite can be found in Appendix D. Sabina will post these maps at every operating site.

5.2. SPILL KITS

Table 1. Location of Spill Kits.

Goose Exploration Camp	Marine Laydown Area	Communities
Tank Farm	Shoreline Pad	Kingoak*
Drummed Fuel Storage	Freight Storage Pad	Umigmaktok*
Generator Buildings	Generator	
Coreshack	Camp Location	
Drum Crusher	Temporary AN and Fuel Storage	
Incinerator	Construction Laydown Pad	
Helipad Area	Mechanics Shop	
Dock	Quarry Area	
Each Diamond Drill		
South Quonset		
Shop North Quonset		

**will include standard spill kit and nuisance kit (or similar)*

Table 2. Spill Kit Contents.

Quantity	Item(s)
1	45 gal, 16 Gauge Open Top Drum, c/w Bolting Ring & Gasket
20	Short Putty Epoxy Sticks
1	48” x 48” x 1/16” Neoprene Pad (Drain Stop)
1	Splash Protective Goggles
1	Pkg. - Polyethylene Disposable Bags (5 ml) 10 per Package
1	Shovel (Spark Proof)
1	Case T-123” x 10’ Absorbent Boom, 4-Booms/Case;
1	Pkg. – Universal absorbent Mats, 16 ½” x 20”, 100 Mats per Package
1	Roll – Oil only absorbent mats 150’ x 33”
1	16’ Aluminum Boat (at MLA only)

** Drill rigs are equipped with a roll of absorbent mat for minor spills. Other appropriate equipment for spill response (PPE, shovel, bags) is typically already located at the drill for general use.*

5.3. MOBILE RESPONSE UNIT

A mobile Environmental Response Unit is available to Sabina from a major fuel supplier (Shell) in Yellowknife or Cambridge Bay. This unit can be transported to the site from Cambridge Bay in less than three hours weather permitting.

6. Spill Response Procedure

A spill is defined as the discharge of a hazardous product out of its containment and into the environment. Potential hazards to humans, vegetation, water resources, fish, and wildlife vary in severity, depending on several factors including nature of the material, quantity spilled, location, and season. Fuel is the main product that may be spilled and therefore spill response procedures focus on this hazardous material. Other chemicals that may be spilled include sewage water, and small quantities of lubricants and oils.

All site personnel are briefed on the procedures to be followed to report a spill and initiate spill response. The first person to notice a spill must take the following steps:

- Immediately warn other personnel working near the spill area.
- Evacuate the area if the health and safety of personnel is threatened.
- Notify their direct supervisor or Site Superintendent, who will initiate the spill response operations.
- In the absence of danger, and before the spill response team arrives at the scene, take any safe and reasonable measure to stop, contain and identify the nature of the spill.

The following details the steps to be taken in the event of a spill. Steps are listed in order of importance; however, circumstances and conditions may alter the order of these steps to meet a specific situation.

6.1. SOURCE CONTROL

Reduce or stop the flow of product without endangering anyone. This may involve very simple actions such as turning off a pump, closing a valve, sealing a puncture hole with almost anything handy (e.g., a rag, a piece of wood, tape, etc.), raising a leaky or discharging hose at a level higher than the product level inside the tank, or transferring fuel from leaking containers.

6.2. CONTROL OF FREE PRODUCT

Prevent or limit the spread of the spilled material. Accumulate/concentrate spilled product in an area to facilitate recovery. Barriers positioned down-gradient of the spill will slow or stop the progression of the spill. Barriers can consist of absorbent booms, dykes, berms, or trenches (dug in the ground or in ice).

6.3. PROTECTION

Evaluate the potential dangers of the spill in order to protect sensitive ecosystems and natural resources. Block or divert the spilled material away from sensitive receptors. This can also be achieved by using various types of barriers.

6.4. CLEANUP THE SPILL

Recover and containerize as much free product as possible. Recover and containerize/treat contaminated soil, water, and snow. Pressure-wash contaminated bedrock surfaces, shorelines, ice and recover as much as possible oily water for containerization and/or treatment.

6.5. CLEAN REPORT THE SPILL

Provide basic information such as date and time of the spill, type and amount of product discharged, photographic records, location and approximate size of the spill, actions already taken to stop and contain the spill, meteorological conditions and any perceived threat to human health or the environment.

6.6. RESPONSE BY SPILL LOCATION

6.6.1. Spills on Land

Response to spills on land will include the general procedures previously detailed. The main spill control techniques involve the use of two types of barriers: dykes and trenches. Barriers should be placed down-gradient (down-slope) from the source of the spill, and as close as possible to the source of the spill. Barriers slow the progression of the fuel and also serve as containment to allow for recovery.

Depending on the volume spilled, the site of the spill as well as available material, a dyke may be built with soil, booms, lumber, snow, etc. A plastic liner should be placed at the foot of and over the dykes to protect the underlying soil or other material and to facilitate recovery of the fuel. Construct dykes in such a way as to accumulate a thick layer of free product in a single area (V shaped or U shaped).

Trenches are useful in the presence of permeable soil and when the spilled fuel is migrating below the ground surface. A plastic liner should be placed on the down-gradient edge of the trench to protect the underlying soil. Liners should not be placed at the bottom of the trench to allow water to continue flowing underneath the layer of floating oil.

The use of large quantities of absorbent materials to recover important volumes of fuel should be avoided. Large volumes of free-product should be recovered, as much as possible, by using vacuums and pumps, and containerized. Mixtures of water and fuel may be processed through an oil-water separator. Absorbent sheets should be used to soak up residual fuel on water, on the ground (soil and rock), and on vegetation.

6.6.2. Spills on Water

Response to spills on water includes the general procedures previously detailed. Various containment, diversion and recovery techniques are discussed in the following sections. The following elements must be taken into consideration when conducting response operations:

- Type of waterbody or water course (lake, ocean, stream, river).
- Water depth and surface area.
- Wind speed and direction.
- Resonance and range of tides.
- Type of shoreline.
- Seasonal considerations (open-water, freeze-up, break-up, frozen).

Containment of an oil slick on the ocean requires the deployment of mobile floating booms to intercept, control, contain and concentrate (i.e., increase thickness) the floating oil. One end of the boom is anchored to shore while the other is towed by a boat or other means and used to circle the oil slick and return it close to shore for recovery using a skimmer. Reducing the surface area of the slick increases its

thickness and thereby improves recovery. Mechanical recovery equipment (i.e., skimmers and oil/water separators) will be mobilized to site if required.

If oil is spilled in a lake it may not be possible to deploy booms using a boat. In this case, measures are taken to protect sensitive and accessible shoreline. The oil slick is monitored to determine the direction of migration. In the absence of strong winds the oil will likely flow towards the discharge of the lake. Measures are taken to block and concentrate the oil slick at the lake discharge using booms where it will subsequently be recovered using a portable skimmer, a vacuum, or sorbent materials.

In small slowly-flowing rivers, streams, channels, inlets or ditches, inverted weirs (i.e., siphon dams) is used to stop and concentrate moving oil for collection while allowing water to continue to flow unimpeded. In the case of floating oil, in a stream, heading for a culvert (i.e., at a road crossing) a culvert block is used to stop and concentrate moving oil for collection while allowing water to continue to flow unimpeded. In both cases oil will then be recovered using a portable skimmer or sorbent materials.

In the case of spills in larger rivers, with fast moving currents, diversion booming is used to direct the oil slick ashore for recovery. Single or multiple booms (i.e., cascading) may be used for diversion. Typically, the booms are anchored across the river at an angle. The angle will depend on the current velocity. Choosing a section of a river that is both wider and shallower makes boom deployment easier. Diversion booming may also be used to direct an oil slick away from a sensitive area to be protected.

For development works, spills in the marine environment with be managed in accordance with the Oil Pollution Emergency Plan (OPEP) and the Shipboard Oil Pollution Emergency Plan (SOPEP) required by Transport Canada.

6.6.3. Spills on Snow and Ice

In general, snow and ice will slow the movement of hydrocarbons. The presence of snow may also hide the oil slick and make it more difficult to follow its progression. Snow is generally a good natural sorbent, as hydrocarbons have a tendency to be soaked up by snow through capillary action. However, the use of snow as a sorbent material is to be limited as much as possible. Snow and frozen ground also prevent hydrocarbons from migrating down into soil or at least slow the migration process. Ice prevents seepage of fuel into the water.

Response to spills on snow and ice includes the general procedures previously detailed. Most response procedures for spills on land may be used for spills on snow and ice. The use of dykes (i.e., compacted snow berms lined with plastic sheeting) or trenches (dug in ice) slow the progression of the fuel and also serve as containment to allow recovery of the fuel. Free-product is recovered by using a vacuum, a pump, or sorbent materials. Contaminated snow and ice is scraped up manually or using heavy equipment depending on volumes. The contaminated snow and ice is placed in containers or within plastic lined berms on land. If required, a contaminated snow storage site is to be located in close proximity to one of the four (4) main work sites to facilitate inspection and monitoring, in an area which is still easily accessible once it is time to remove the snow (i.e., spring or summer), and at least 30 m away from any body of water or ditch. Once enough snow has melted, the oily water is removed from the storage and processed through an oil-water separator that would be mobilized to site. Hydrocarbons recovered will be burned in the camp incinerator or shipped off-site for processing.

6.7. RESPONSE BY MATERIAL SPILLED

6.7.1. Fuel

Detection of leaks will be using two methods - a fuel inventory reconciliation and inspection. A weekly reconciliation of storage volumes will be completed and a spill response will be initiated in the event of any unexplained loss over five or more weeks.

Weekly inspections will be conducted to ensure either there has not been a leak or that the conditions of the area could result in a leak. These inspections will include the fuel drums and storage containers, secondary containment sumps and associated spill containment devices, any pumps and product-handling equipment, and an overfill protection devices. These inspections will be recorded to include who completed the inspections, areas included in the visual inspection and any deficiencies noted.

Fuel spills, leaks at storage facilities or vehicle accidents will be handled by following these steps:

- Identify the source of the leak or spill.
- Contact the Environmental Coordinator/Site Superintendent.
- Stop leaks from tank or barrel by.
- Turning off valves.
- Utilizing patching kits to seal leaks.
- Placing plastic sheeting at the foot of the tank or barrel to prevent seepage into the ground.
- Contain the spill and the source if possible.
- Take photographs of the spill site before and after the cleanup.

Small spills will be cleaned up by removing the contaminated soil and storing it in empty 205 L drums for backhaul and disposal at an approved hazardous waste disposal site. Should a large spill occur, cleanup and disposal efforts will be coordinated as necessary with the appropriate authorities and agencies.

Further information on the handling of fuel spills is detailed in Appendix 2.

6.7.2. Domestic Sewage, Solid Waste, and Contact Water

Any problems with the incinerator or other waste disposal mechanism will be immediately reported to the Site Superintendent.

In the event of a power failure, the stand by generator will be put into operation as soon as possible. Similarly, in the case of a pump failure, the backup pump will be put on-line. Any greywater drainage problems will be addressed as quickly as possible to minimize the chance of a spill. As necessary appropriate safety equipment and personal protective clothing will be available to site personnel.

6.7.3. Chemical

Assess the hazard of the spilled material by referring to the relevant MSDS sheet. Each response will vary based on the material. If the chemical is hazardous, ensure personnel protective equipment is utilized (latex gloves, eye protection, etc.) before approaching the spill. As chemicals are only used in extremely small quantities on-site use absorbent mats to soak up spilled liquids and place in appropriate container for treatment and/or disposal.

6.8. RESPONSE TO A FIRE

Various products, including fuel, may be flammable under certain circumstances. It is important to ensure that the spill does not present a risk of fire prior to commencing the cleanup. If a fire does break out refer to relevant site firefighting procedures.

6.9. DISPOSAL

Appropriate disposal, as directed by the Environmental Manager, for any recovered product and contaminated soil, water, or absorbent cleanup material is regulated and must be authorized by the agency investigating the incident. Obtain approval from all appropriate government agencies before disposal. A hazardous waste generator number has been acquired and used by the expeditor when disposing of camp waste.

Fuel contaminated soil can be remediated at camp through incineration or alternatively, the contaminated soil can be flown out to Yellowknife for disposal in an approved disposal/treatment site.

Any non-reusable recovered product, contaminated soil and cleanup material, which cannot be incinerated, will be stored in containers and returned to camp prior to disposal.

7. Spill Potential Analysis

7.1. CAMPS

7.1.1. Fuel

Fuel spills could potentially occur from:

- Fuel storage containment (tanks, barrels) leaks.
- Spills during drum transport from aircraft to fuel storage area.
- Spills from vehicles or equipment as a result of accidents.
- Spills during fuel transfer from barrels to equipment or heaters.
- Spills during transport from barge to fuel storage area.
- Spills during marine transport.

Spills occurring during fuel handling, transfer, or storage operations will be minimized by:

- Secondary containment and/or drip trays.
- Proper storage of barrels.
- Inspections of the storage facilities and barrels.
- Inventory tracking.
- Staff training in proper fuel handling procedures.
- Spill response training for personnel associated with fuel handling.
- Immediate cleanup of minor spills.
- Enclosing spigots on fuel containers with absorbent mat to collect any slow drips.
- Fuel line walkers will be used to monitor the fittings etc. during fuel transfers
- Implementation of approved OPEP and SOPEP for transport in marine waters.

The potential for spills affecting surface waters is low, as fuel storage and transfer points are located away from watercourses and lakes. Close inspection of fuel transfer activities will be undertaken during all times while fuel is being pumped/transferred to equipment. Secondary containment will be used at all refuelling points and storage areas.

7.1.2. Domestic Sewage and Solid Waste

Waste from the kitchen and Pacto systems are carried to the incinerator in a small trailer, with virtually no risk of spillage. The greywater lines are routinely inspected for leaks and repaired as necessary. The screens at the greywater sump are cleaned of debris daily.

7.1.3. Solid Waste

Failures may occur in the handling of solid waste through the following situations:

- Incinerator at Goose Exploration Camp fails.
- Accidental damage to the incinerator and it components, or the heaters and/or their fuel supplies.
- Mechanical breakdown.
- Improper maintenance.

Visual inspection of the incinerator and its combustion products will be carried out frequently, typically in the normal course of operation. The incinerator will be operated according to the manufacturer's instructions.

7.1.4. Chemicals

Any chemicals brought on-site are stored in manufacturers' approved packaging. Although unlikely, leaks may occur resulting in minor spills of chemical product in storage. It is more likely a leak will occur during the transfer of chemicals or from accidental failure of containers.

Sabina provides training to its staff in product handling and inspection procedures, which we feel, will result in reduced occurrences of chemical spills.

7.2. OVERLAND TRANSPORT

The following table identifies possible incidents which may occur along the winter and all-weather road, the consequences of that incident and the preventative measures to be implemented.

Table 3. Summary of Potential Incidents and Preventative Measures along Transportation Corridors

Incident	Description	Consequences	Preventative Measures
Refuelling of vehicles	Refuelling hose could break, spring a leak, overfilling of equipment tank, spillage from gas storage tank	Puddles of fuel over limited area Hose breaks at equipment and sprays a large amount of fuel over a larger area "slick" flows steadily from equipment	All refuelling will occur in area 30m from waterways in designated areas Personnel will be aware of emergency shut-off valves and trained in spills response Spill Kit available Refuelling occur within containment and/or absorbent material in place
Vehicle storage and operation	Vehicles could leak fuel while in operation or during a stop along route.	Puddles of fuel over limited area to the entire contents of a tank being discharged.	Vehicles will stop 31 m from waterways Vehicles parked on ice will have absorbent material placed underneath Personnel will be trained in spills response Spill Kit available
Fuel containers leaking	Fuel being brought to the vehicles could leak fuel while in operation or during a stop along route.	Puddles of fuel over limited area to the entire contents of a tank being discharged.	Regular visual inspection will occur to ensure tanks are not leaking Personnel will be trained in spills response Spill Kit available

(continued)

Table 3. Summary of Potential Incidents and Preventative Measures along Transportation Corridors (completed)

Incident	Description	Consequences	Preventative Measures
Vehicle accident	Accident on road that involves equipment going off road/overturning	This worst case scenario could result in a tank of fuel and any materials being transported spilling entire contents over a large area.	Safe road corridor will flagged Speed limits will be in effect Transportation of Dangerous Goods manifest if necessary Coordination and communication between the cat-haul and camps will be maintained Camp personnel will be ready to mobilize in case of accident Spill kit available with cat-haul and on-site
Temporary fuel storage leakage and/or spill	Fuel caches leak fuel or due to accident contents are spilled	Puddles of fuel over limited area Storage container breaks and fuel spreads over a larger area	All storage will occur in area 30m from waterways Secondary containment berms will be used for fuel caches Personnel will be aware of emergency shut-off valves and trained in spills response Spill Kit available Regular monitoring and inventory tracking will occur at these remote/temporary fuel storage areas
Calcium Chloride spill	Bags of salt could be torn and spilled in temporary storage area or in transport	Tears and bag breakages could lead to salt spread over limited area Bags could break in a manner that salt is spread over a larger area	Personnel will be trained in proper material handling and transport methods Salt will be stored and transported in 50lb bags on pallets wrapped in plastic Secondary containment will be used at temporary storage locations Spill kits and equipment available.

7.3. FIRE PREVENTION

The most serious spill incident would involve fire and a hydrocarbon-based fuel source. To minimize the risk of fire, **No Smoking** and **Flammable** signs will be posted as needed at storage areas and with the cat-haul train along with a dry chemical fire extinguisher. Workers will be trained in the use of the fire extinguisher and be instructed of the risk caused by electrical and open flame fire hazards near fuel.

8. Reporting Procedures

All spills are to be reported to the Site Superintendent or their designated representative. It is their responsibility to notify headquarters staff and external parties as outlined in the roles and responsibilities of this plan.

An internal log of spills, no matter how small, is to be kept and maintained by the Site Superintendent. Each record will include date, location, material spilled, volume, reason for release, any negative impact, status of cleanup, and corrective actions taken. Photo's (before, during and after cleanup) shall also be taken of all significant spills. To assist with internal tracking a Sabina Spill Form is included in Appendix C.

Reportable spills, as identified in this plan, are to be externally reported to the NWT/Nunavut Spill Response Line. The Site Superintendent will ensure spills are reported externally as required. The Spill response form (Appendix C) is to be completed for all externally reported spills and forwarded to the NWT/Nunavut Spill Response Centre within the required 24 hour reporting period. The Manager, Logistics and TS, or their designate, will notify Sabina Headquarter senior management of any reportable spills as listed below.

Any spill, or incident that may likely result in a spill, of an amount equal to or greater than the amount listed in the table below shall be promptly externally reported. Spills adjacent to or into a surface water or ground water access shall be externally reported regardless of quantity.

Spills within secondary containment will be reported and included in the internal log. In the situation that the spill within the containment is above the thresholds noted below, an external report to the NWT/Nunavut Spills will be submitted if the spill exceeds 40% capacity of the secondary containment.

Notification of spills within the marine environment will also be provided to community representatives of Kingaok and Omingmaktok.

Table 4. External Reporting Volumes

TDGA Class	Description of Contaminant	Amount Spilled
1	Explosives	Any amount
2.1	Compressed gas (flammable)	Any amount of gas from containers with a capacity greater than 100 litres
2.2	Compressed gas (non-corrosive, non-flammable)	Any amount of gas from containers with a capacity greater than 100 litres
2.3	Compressed gas (toxic)	Any amount
2.4	Compressed gas (corrosive)	Any amount
3.1, 3.2, 3.3	Flammable liquid	100 litres
4.1	Flammable solid	25 kg
4.2	Spontaneously combustible solids	25 kg
4.3	Water reactant solids	25 kg
5.1	Oxidizing substances	50 litres or 50 kg
5.2	Organic Peroxides	1 litre or 1 kg
6.1	Poisonous substances	5 litres or 5 kg
6.2	Infectious substances	Any amount
7	Radioactive	Any amount
8	Corrosive substances	5 litres or 5 kg
9.1 (in part)	Miscellaneous products or substances,	50 litres or 50 kg
9.2	Environmentally hazardous	1 litre or 1 kg
9.3	Dangerous wastes	5 litres or 5 kg
9.1 (in part)	PCB mixtures of 5 or more parts per million	0.5 litres or 0.5 kg
None	Other contaminants	100 litres or 100 kg

Appendix A. Sabina Spill Response Team

(will be reviewed and updated on an as-needed basis)

Sabina Contacts:

Environmental Engineer	Merle Keefe	(604) 998-4175
Exploration Manager	James Maxwell	(604) 998-4175
Site Superintendent - Goose	Rob Davidson	(867) 975-3318
Site Superintendent - MLA	Jaymes Dircks	(867) 681-0156
VP Sustainability	Matthew Pickard	(604) 998-4175
Environmental Coordinator	Mitchell Kearney	(867) 681-0156

Additional assistance may be obtained, as necessary, from the following organizations:

Det'on Cho Logistics	(867) 873-6970
Shell Canada, Mobile Environmental Response	(867) 874-2562
Kitnuna	(867) 983-7500
Nuna Logistics Ltd.	(866) 817-0924
Dupont (Fuel Dye)	(905) 821-5660
Frontier Mining (Sorbents)	(867) 920-7617
Acklands (sorbents)	(867) 873-4100 (867) 920-5359

Key Government Contacts:

NWT/NU 24hr Spill Report Line		Fax: 867-873-6924 Email: spills@gov.nt.ca
Nunavut Water Board	Stephanie Autut, Exec. Director Karén Kharatyan, Technical Advisor	(867) 360-6338
Kitikmeot Inuit Association	John Roesch, Senior Project Office	(867) 983-2458
Environment and Climate Change Canada	Craig Broome, Manager of Enforcement Wade Romanko, Env. Emergencies Officer	(867) 669-4730 (867) 669-4736
Indigenous and Northern Affairs Canada	Primary: Andrew Keim, Manager of Field Operations Eva Paul, Water Resources Officer Baba Pederson, Resource Management Officer	T: (867) 975-4295 F: (867) 975-6445 (867) 982-4308 (867) 975-4296
Government of Nunavut Environmental Protection	Robert Eno, Director Environmental Protection	(867) 975-7729
Department of Fisheries and Oceans	Suzanne Erkidjuk, Area Admin Clerk	(867) 979-8000
RCMP (Yellowknife)		(867) 669-1111
RCMP (Cambridge Bay)		(867) 983-2111

Appendix B. Procedure In The Event Of A Spill

Priority 1 – Identify spill source and assess hazard

- Ensure safety of all people in the area.
- Check for fire and explosion risk:
    - Extinguish all ignition sources in the area
- If unsafe, raise alarm and close off affected area

Priority 2 – Stop flow of spill

- Stop flow at source of spill
- Contain spill utilizing absorbent pads, drip pans, or other secondary containment berms to catch any slow or unexpected leaks.
- Attempt to limit the spread of the spill. Prevent movement using sorbent material and berms to form a barrier
- If the spill occurs on ice, attempts should be made to stop the spill from reaching ice-free ground.

Priority 3 – Notify direct Supervisor or Site Superintendent

- Provide as much information as possible about the source, material, amount, fire risk, injuries etc.

Priority 4 – Spill Containment

- For all spills, use absorbents to contain and soak up the fuel
- Prevent spread of fuel by using booms and berms
- Response operations should not be commenced in the affected area until it is safe.

Priority 5 – Spill Recovery and Cleanup

- Recover as much of the spill as possible using absorbent materials and/or digging up the affected area if applicable.
- Store any contaminated or recovered material in secondary containment
- Disposal should be by approved methods and facilities as per the Site Superintendent instructions.
- Ensure spill is recorded in Environmental Incident Log

Appendix C. NWT/NU Spill Report and Sabina Internal Spill Report

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE
TEL: (867) 920-8130
FAX: (867) 873-6924
EMAIL: spills@gov.nt.ca

REPORT LINE USE ONLY

A	REPORT DATE: MONTH – DAY – YEAR	REPORT TIME	☐ ORIGINAL SPILL REPORT, OR ☐ UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER ____-_____
B	OCCURRENCE DATE: MONTH – DAY – YEAR	OCCURRENCE TIME		

C	LAND USE PERMIT NUMBER (IF APPLICABLE)	WATER LICENCE NUMBER (IF APPLICABLE)
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION	REGION ☐ NWT ☐ NUNAVUT ☐ ADJACENT JURISDICTION OR OCEAN
E	LATITUDE DEGREES MINUTES SECONDS	LONGITUDE DEGREES MINUTES SECONDS

F	RESPONSIBLE PARTY OR VESSEL NAME	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION	
G	ANY CONTRACTOR INVOLVED	CONTRACTOR ADDRESS OR OFFICE LOCATION	
H	PRODUCT SPILLED	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES	U.N. NUMBER
	SECOND PRODUCT SPILLED (IF APPLICABLE)	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES	U.N. NUMBER
I	SPILL SOURCE	SPILL CAUSE	AREA OF CONTAMINATION IN SQUARE METRES
J	FACTORS AFFECTING SPILL OR RECOVERY	DESCRIBE ANY ASSISTANCE REQUIRED	HAZARDS TO PERSONS, PROPERTY OR ENVIRONMENT
K	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS		

L	REPORTED TO SPILL LINE BY	POSITION	EMPLOYER	LOCATION CALLING FROM	TELEPHONE
M	ANY ALTERNATE CONTACT	POSITION	EMPLOYER	ALTERNATE CONTACT LOCATION	ALTERNATE TELEPHONE

REPORT LINE USE ONLY

N	RECEIVED AT SPILL LINE BY	POSITION STATION OPERATOR	EMPLOYER	LOCATION CALLED YELLOWKNIFE, NT	REPORT LINE NUMBER (867) 920-8130

LEAD AGENCY ☐ EC ☐ CCG ☐ GNWT ☐ GN ☐ ILA ☐ INAC ☐ NEB ☐ TC

SIGNIFICANCE ☐ MINOR ☐ MAJOR ☐ UNKNOWN

FILE STATUS ☐ OPEN ☐ CLOSED

AGENCY	CONTACT NAME	CONTACT TIME	REMARKS
LEAD AGENCY			
FIRST SUPPORT AGENCY			
SECOND SUPPORT AGENCY			
THIRD SUPPORT AGENCY			

SABINA INTERNAL SPILL REPORT FORM

This form is to be used for internal documentation of spills of any petroleum product, chemical, ethylene glycol (antifreeze), or other hazardous material. See recent Spill Contingency Plan for reporting thresholds and structure. Once complete file with the Operations Superintendent.

***Report Date and Time*:**	***Spill Date and Time*:** ☐ Spill occurred ☐ Spill observed
***Spill Location*:** ☐ Goose ☐ Other (e.g. Drill, Boulder Pond) ☐ George	***Describe Location*:**
***Coordinates (Lat/Long or UTM)*:**	

***Product(s) Spilled*:**	Jet fuel	Diesel (P50)	Gasoline	AvGas	Oil (type)	Antifreeze	Other (describe)
***Quantity (L or kg)*:**							

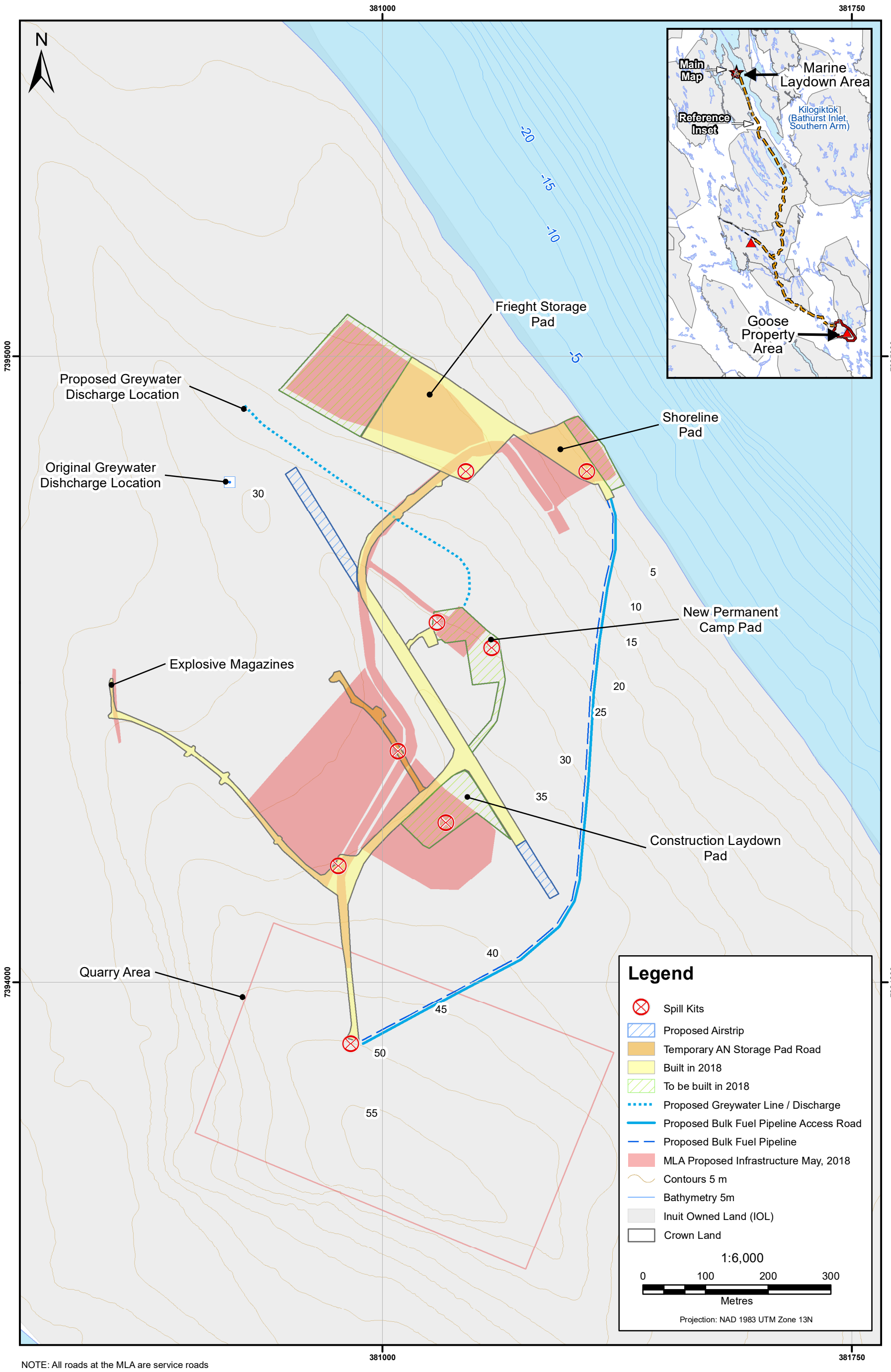
Personnel Involved:	☐ Sabina	☐ Contractor	☐ Visitor	☐ Other

***Cause of Spill*:**
***Containment/Cleanup Measures Taken*:**
***Factors Affecting Spill or Recovery (weather, snow, ground conditions, etc.)*:**
***Additional Action Required*:**
***Additional Comments*:**

	Name	***Employer***	***Signature***
***Reported by*:**			
***Reported to*:**			

Appendix D. Site Spill Kit Location Maps

GIS # BR_MLA_ENV_SPLKTS_June2018 W:\BackRiver\04_Exploration\BackRiverRegion\GIS_Products\ESRI_MXD\Water_Permitting\Spill Kits\BR_MLA_ENV_SPLKTS_June2018.mxd June 27 2018



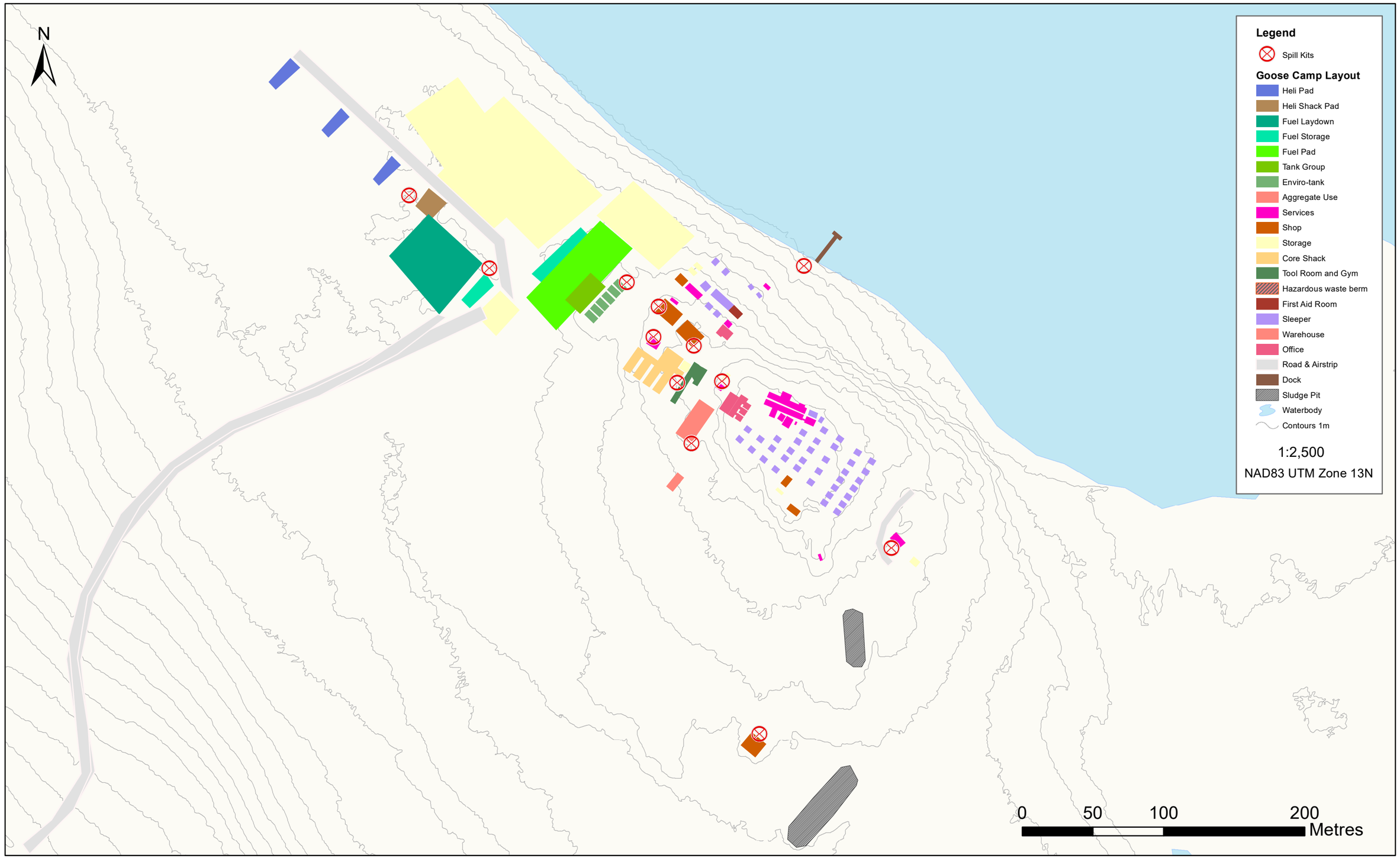
NOTE: All roads at the MLA are service roads

Sabina GOLD & SILVER CORP.

Marine Laydown Area
Potential Development Area and Layout
Spill Kit Locations June 2018

BR_GSE_ENV_SPLKTS_June2018

W:\BackRiver\04_Exploration\BackRiverRegion\GIS_Products\ESRI_MXD\Water_Permitting\Spill Kits\BR_GSE_ENV_SPLKTS_June2018.mxd



Sabina
GOLD & SILVER CORP.

Goose Exploration Camp
Spill Kit Locations June 2018

ATTACHMENT 8 - ABANDONMENT AND RESTORATION PLAN GOOSE CAMP AND EXPLORATION PROJECT

Back River Project

Abandonment and Restoration Plan

Goose Camp and Exploration Project

January 2019

Table of Contents

1.0 INTRODUCTION

1.1 General

Sabina Gold & Silver Corp. (Sabina) is actively exploring the Back River property mineral rights (encompassing the primary exploration camp at Goose Lake, as well as a satellite camp at George Lake and unoccupied claim groups at Boot Lake, Boulder Pond, Wishbone, and Del Lake). Advanced exploration programs have been carried out in previous years with similar activities anticipated as Sabina continues to advance the project.

Sabina is also responsible for maintaining all permits and claims required for the project in good standing. The Back River Project is covered by the following land use licenses:

Table 1. List of licenses and permits applicable to the Back River Project

Authorization No.	Expiry (YYYY-MM-DD)	Agency	Description
KTCL-18D001	2038-04-20	KIA	Commercial Lease - Goose
KTCL-18D002	2038-04-20	KIA	Commercial Lease - MLA
KTCL-18D003	2038-04-20	KIA	Commercial Lease – Winter Road
KTAEL-18C001	2023-04-20	KIA	Advanced Exploration Lease – George
LUL-XX	5 years from Effective Date	KIA	Land Use Licence as per KIA Framework Agreement
KTL312C004	2018-12-12	KIA	Wishbone-Malley Exploration Activities
N2018F0021	2023-10-29	CIRNAC	CAT Train Beechy Lake Area
N2017F0016	2022-07-20	CIRNAC	CAT Train connecting Bathurst Inlet - Back River Project
N2012C0003	2019-02-06	CIRNAC	Wishbone-Malley Exploration Activities
N2016C0011	2021-10-26	CIRNAC	Back River Exploration Activities
N2018F0017	2023-10-11	CIRNAC	Winter Ice Road Back River Project
Lease No. 76J/12-7-2	2048-08-14	CIRNAC	Marine environment land lease – adjacent to MLA
2BE-GOO1520	2020-02-18	NWB	Goose Water Licence (Type B)
2BE-GEO1520	2020-05-29	NWB	George Water Licence (Type B)
2BE-MLL1722	2022-06-29	NWB	Wishbone-Malley Water Licence (Type B)
2BC-BRP1819	2019-04-30	NWB	Back River Project Development Works Water Licence (Type B)
18-HCAA-00185	-	DFO	Letter of Authorization – Gander Culvert
18-HCAA-00971	-	DFO	Letter of Authorization – MLA
04 009 19R-M	2019-12-31	NRI	Back River Project Scientific Research License
2012-600767-002	-	TC	Navigation Protection Act – MLA Discharge Pipeline Permission Notice
2012-600767-003	-	TC	Navigation Protection Act – MLA Intake Pipeline Permission Notice
PC No. 007	-	NIRB	Back River Project NIRB Project Certificate

Operating and managing an exploration project on tundra requires a lot of effort from all parties involved. The area is environmentally sensitive and all aspects of exploration because of our activities, products, and services will be risk assessed with management protocols developed, implemented, and communicated to our employees, interested parties, and suppliers to eliminate or minimize any negative impacts to the receiving environment.

In 2018, the Goose Lake exploration camp (Goose camp) was operational from February 17th to October 22nd; the George Lake exploration camp (George camp) was not open this year.

During the 2018 season, crew, equipment, and supplies were flown to Goose camp utilizing the 915-m all-weather airstrip, as well as the temporary ice airstrip constructed on Goose Lake. At the end of the season, the crew was demobilized back to Yellowknife. Drill equipment and supplies may remain at the project area for use during subsequent exploration seasons.

Sabina will implement this Abandonment and Restoration Plan (ARP or the Plan) when scheduled and will continue to look for ways to minimize or eliminate negative impacts to the environment as a result of its activities, products, and services at Sabina's Back River properties.

1.2 Sabina Sustainable Development Policy

Sabina Gold & Silver Corp. regards itself as a responsible explorer and mineral developer. We are committed to fostering sustainable development throughout all stages of our activities. We constantly strive to conduct our operations in a manner that balances the social, economic, cultural and environmental needs of the communities in which we operate.

To build on this commitment, Sabina will:

- Meet or strive to exceed all relevant legislated sustainable development requirements in the regions where we work.
- Ensure appropriate personnel, resources and training is made available to implement our sustainable development objectives.
- Establish clear lines of responsibility and accountability throughout the company to meet these objectives.
- Implement proven management systems and procedures to facilitate our sustainable development objectives. A Priority will be placed on developing and implementing management structures related to the environment, health and safety, emergency response and stakeholder engagement.
- Act as responsible stewards of the environment for both current and future generations. We will make use of appropriate assessment methodologies, technologies and controls to minimize environmental risks throughout all stages of mineral development.
- Work closely with local communities and project stakeholders to understand their needs, address their concerns and provide project-related benefits to create win-win relationships. Our goal is to earn and maintain a social licence to operate at all our

operations while building partnerships.
- Pursue economically feasible projects in order to generate shareholder profitability and support long-term positive socio-economic development in the regions where we work.
- Utilize a precautionary approach as it applies to potential effects from our activities. Work with employees, contractors and stakeholders to promote a culture of open and meaningful dialogue to ensure that any k own or suspected departures from established protocols are reported to management in a timely manner.
- Regularly review this policy to ensure it is consistent with Sabina's current activities and the most recent legislation.
- Continually improve our performance and contributions to sustainable development including pollution prevention, waste minimization and resource consumption.
- Implement programs at each of our operations to monitor and report compliance and proactively address potential deficiencies in our policies and procedures.

The objectives of our sustainable development policy cannot be accomplished without the active involvement and commitment of many dedicated individuals. As such, we will regularly communicate this policy and its outcomes to our employees, contractors and relevant stakeholders. Together, we can foster a culture of sustainable development at Sabina.

1.3 Legal Requirement

Under the terms of the Kitikmeot Inuit Association (KIA) Land Use Licenses and the Nunavut Water Board (NWB) Water Use Licenses, Sabina is obligated to rehabilitate the areas used to its previous standard of human utilization and natural productivity.

1.4 Site Location and Description

The Back River exploration project is located in the Kitikmeot, south of Bathurst Inlet within the Slave Structural Province. It is approximately 525 kilometres northeast of Yellowknife and 400 kilometres south of Cambridge Bay, NU. The project area is within the zone of continuous permafrost, and is represented on National Topographic System 1:250,000 scale map sheets 76F, 76G, 76J, and 76K. The primary base of operations is at Goose camp located near Goose Lake (Figures 1 and 2), supported by a satellite camp near George Lake (Figure 1) used for resupply, staging, drill support, and emergencies. Coordinates for the camps are as follows:

Goose Camp: 65°32' north 106°25' west
George Camp: 65°55' north 107°27' west

The Goose camp is located on the slope of the western bank of Goose Lake and consists of a 158-person camp constructed for support services directed towards exploration activities. The camp is approximately 50 meters (m) south of the lakeshore, and the regional topographical gradient surrounding the camp ranges from 2% to 6% towards the north. The camp is approximately 500 metres (m) in length from east to west and 100 m wide from north to south, covering an area of 50,000 m^2. A small but visible creek runs east northeast on the eastern side of the camp. The camp facilities are

located on natural tundra underlain by a of layer overlying silt-sand material.

1.5 Scope of Reporting

This Abandonment and Restoration Plan has been written to meet the requirements of the Nunavut Water Board (NWB) licenses listed in Table 1 and applies to the Goose camp and all unoccupied claim groups referenced in Section 1.1. Subject to annual review and revision, it will remain applicable throughout the duration of the NWB licenses or until a material change in the scope of the project occurs.

The current revision of the ARP has been prepared for on-going exploration activities. The Plan also takes into consideration the likelihood of premature camp closure due to:

- Sudden drop in gold prices which could make the project uneconomical;
- Drop in resource grade to a value lower than anticipated;
- Non-compliance to legislative requirements;
- Natural disasters;
- Force majeure;
- Change of ownership/operator.

In situations as such mentioned above, this plan provides the base strategy for anticipated tasks of restoring Goose camp in an event where exploration activity has ceased, either on a short term or a long term basis. The plan will be reviewed annually and updated with current information.

Section 1 of the Plan gives a brief account of the ownership of the property, the sustainable development policy, legal requirements, and a brief description of the camp. Section 2 outlines responsibilities for execution of the Plan. Section 3 outlines a brief time schedule for restoration activities after completion of each exploration program. A list of infrastructure at the Goose camp is compiled and a brief summary on the progressive restoration program is provided. Sections 4 and 5 of the Plan provide details of how each exploration aspect will be addressed, while the final section (Section 6) outlines when the next review of the Plan would be conducted.

2.0 RESPONSIBILITIES FOR THE PLAN

Senior personnel at the Back River Project (at the main camp at Goose Lake) are responsible for the implementation of this plan. However, every employee, contractor, and visitor arriving on the Back River Project site has a responsibility to ensure that they adhere to the Sabina sustainable development policy. The policy will be communicated to all employees, contractors, and visitors during their stay at Project in a formal site orientation program given by the Site Superintendent.

Contact information for key personnel is as follows, and will be updated on an as-needed basis. Currently, camp-based phone numbers are not available at this time:

- Vice President, Environment & Sustainability – Matthew Pickard

- Exploration Manager – James Maxwell
- Environmental Engineer – Merle Keefe

3.0 SCHEDULE FOR ABANDONMENT AND RESTORATION

For each exploration season, the closure of the Back River Project sites should take approximately 14-21 days to complete, allowing for variable weather conditions. As exploration activities vary from year to year and the end of the field season is difficult to predict months in advance, the restoration program will likely commence in the late summer and extend into the 4th quarter of the year. Since Goose camp is the main camp servicing outlying exploration areas, it would take the longest to shut down.

Outlying drill sites will take minimal time as their shut down requirements are much less. Other sites in the Back River Project area include the George camp and diamond drill sites. These would close down simultaneously with exploration as there is the proper support at this time (personnel, aircraft).

3.1 List of Infrastructure at Goose Camp

Table 2. Goose Camp Infrastructure and Equipment (December 2018; no change since 2013)

Category	Qty	Item
Buildings	11	Sleeping tents
	29	Sleeping tents (wood sides)
	2	Sleeping cabin (emergency shack)
	1	Sleeping complex/medic
	2	TV tents (wood sides)
	2	Emergency response tents
	1	Core processing facility (coreshack, saw room, sample dispatch)
	1	Kitchen/dining hall/cold storage
	1	Dry (men's/women's/water storage & treatment)
	1	Dry (drillers)
	1	Office complex
	2	Generator shacks (main and auxiliary power)
	1	Drillers' office (old)
	1	Shop building (Helicopter contractor)
	1	Tool crib & storage
	1	Shop building (Major/old)
	1	Shop building (Major/new)
	1	Oil storage shed
	2	Quonsets
	1	Warehouse
	1	Exercise building
	1	Sauna
	1	Environment Building
	1	Incinerator Building
	1	Potable Water Pump Shack
Other Infrastructure	1	Bermed storage area for fuel tanks
	6	75,000L double-walled fuel tanks

	7	75,000L seacan-double walled fuel tanks
	2	Lined laydown areas for drummed fuel supplies, furnace waste oil, and salt.
	1	all-weather airstrip and survival tent for shelter
	1	road connecting airstrip to camp
	4	Helipads
	1	camp infrastructure (corridors)
	1	Jetty + floating dock
Equipment	1	Loader - Cat 966H
	1	Dozer - Cat D6N
	1	Powerscreen - Mobile Crusher
	1	Powerscreen - Mobile Screener
	1	Powerscreen - Crusher Jaw
	1	Fuel Truck
	2	289C Caterpillar skidsteers
	1	Loader - Cat IT 28
	1	Telehandler - JCB
	2	Low bed trailers
	1	Challenger - Cat 755B
	1	Tractor / Trailer
	3	Ford Pick-ups
	2	Dozer - Cat D7
	1	Excavator - Cat 320E
	2	Articulated Trucks - Cat 730C
	1	Grader - Cat 140M
	1	Packer - Cat CS563
	1	Water Truck
	2	Camp Genset - 125kw
	2	Primary generator (500kW)
	1	Auxiliary generator (400kW)
	31	Snowmobiles (14 Sabina, 17 Major)
	2	ATVs
	1	Kubota
	8	Aluminum boats + motors
	1	Waste incinerator

The final inventory of fuel and drilling supplies remaining in the camp at closure (as of December, 2018) includes:

- Diesel – 213,451 litres of bulk diesel contained in the Envirotanks;
- Jet A/B – 108 drums in secondary containment;
- Gasoline – 4 drums in secondary containment;
- Av Gas – 4 drums in secondary containment;
- Propane – 9 x 250-lb. cylinders;
- CaCl drilling salt – 669 x 50-lb. bags; and
- Core boxes – 170 NQ boxes, and 102 HQ boxes.

3.2 Progressive Reclamation

Sabina has embarked on a program of progressive reclamation over the entire Back River project area. Progressive restoration will be ongoing throughout the exploration programs thereby reducing the need for a full-scale restoration program at the closure of each exploration phase. Ongoing significant restoration activities are described below.

3.2.1 Contaminated Area Reclamation

3.2.1.1 Recycle of Water Contaminated Fuel

Contaminated fuels are recycled primarily as fuel for the garbage incinerator or as fuel for the water heaters used in the drilling program. If present in sufficient quantities, contaminated fuel may be recycled for camp heating purposes. For water with minor amounts of hydrocarbons, an oil-water separator may be used and/or activated charcoal filters. As a last resort, it may be transported off the property for disposal at an appropriate facility.

3.2.1.2 Contaminated Top Soil

Spills are handled as per the Comprehensive Spill Contingency Plan. Enviromat is immediately applied to absorb spills of hydrocarbons, minimizing the amount of soil required to be removed. Remaining contaminated soils are removed and stored in barrels for transportation to permitted disposal sites.

3.2.2 Non-combustible Solid Waste

Solid waste including metal scraps, drill rods, household items, etc. are stored in an appropriate marshalling area for backhaul. The material is arranged in such a way that it can be easily removed from the property, and disposal will be appropriate to the material being removed, either to an approved disposal facility, metal recycler, or an approved designated landfill.

Ash from the incinerator is stored in empty 205-L drums for backhaul and disposal.

4.0 WINTER RESTORATION PLAN

The winter restoration plan is intended to cover short-term (seasonal) closure of the Back River Project. The tasks involved are important to the success of future exploration programs but require significantly less effort than the full restoration plan.

4.1 Buildings and Contents

All tents and building complexes will be secured for the winter. All the office equipment, household furniture, kitchen equipment, recreational equipment, and other mobile heavy equipment will be winterized and left secured on site. Any equipment not capable of withstanding the harsh winter conditions will be removed from site and stored in either Yellowknife or Vancouver.

4.2 Water Supply System

Water pumps, filtering systems, water lines, and any other equipment associated with the water supply system will be drained and winterized. The water pump shed will be secured.

4.3 Sewage System

The sewage system will be drained with no graywater remaining in the discharge pipe. Solid waste will be incinerated.

4.4 Waste Incinerator

The fuel supply for the incinerator is shut off using a series of valves. The fuel remains in an artificial berm in the double-walled tank adjacent to the incinerator throughout the winter. The area will be inspected for petroleum spills or contamination. If such is the case, the issue will be addressed as outlined in Section 3.2.1.2.

4.5 Electrical System

The generator and surrounding area will be inspected for signs of spills and remaining wastes such as oil and grease. If topsoil is contaminated, an attempt will be made to remove as much of the spill as possible with enviromat; remaining contaminated soil will be stored in empty drums for disposal at an approved hazardous waste facility. The generator will be drained of its fuel. Remaining waste fuel, oil, and grease will be stored in approved storage containers which are labelled for that usage and reused during summer operations. The generator will be winterized and the shed will be secured for winter. Electrical wires, plugs, and sockets will remain in their installed locations. All electrical cords temporarily connected to a building or machinery during summer work program will be unplugged, rolled, and stored in the workshop.

4.6 Camp Heating Systems

Any 205-L fuel barrel attached to respective tent or building will be secured within the secondary containment container. The remaining fuel in the line will be allowed to burn out. The lid of the containment container will be secured to prevent snow from filling up the designated containment area. All empty propane cylinders will be transported to Yellowknife for recycling.

4.7 Petroleum Products and Storage Facilities

An on-site fuel cache is of great importance during camp start-up. Diesel fuel will be stored in the 13 double-walled envirotanks, and if necessary, 2 bladders within the lined, bermed tank farm. Minimal quantities of diesel and jet fuel in barrels will be stored within self-supporting artificial berms or in the engineered berm on site; these locations will be clearly marked to facilitate snow clearing activities during the following camp opening. The Site Superintendent will be responsible for determining the

possible access to these fuel resources prior to the start of the next exploration program.

Empty drums at remote drill sites will be transported to the Goose camp, crushed, banded to pallets and either stored for future backhaul or transported to Yellowknife for disposal/recycling. This work is typically done progressively as fuel caches are no longer required or as drill setups are dismantled.

Fuel farm secondary containment area will be cleared of any debris. In the springtime, meltwater within the containment area will be tested for the parameters listed in Table 3. If the analytical data confirms that the water meets regulatory criteria (Table 3), the water will then be released onto the tundra in such a manner as to avoid direct entry to a surface water body. Residual water remaining after pump out as well as collected rainwater are allowed to evaporate over the summer and are unlikely to present a volume issue at camp shutdown in the fall.

Table 3. Regulatory guidelines for hydrocarbons in soils

Parameter	Maximum concentration of any Grab Sample (µg/L)
Benzene	370
Toluene	2
Ethylbenzene	90
Phenols	20
Oil and Grease	5000
pH	6 to 9 (pH units)

The spill response team and camp management will be notified immediately of any spill based on actions outlined in the Comprehensive Spill Contingency Plan. The Environmental Coordinator, Site Superintendent or designate will ensure spills are reported as required and that the relevant form is filled out as completely as possible. Sabina will externally report all spills that meet type and volume criteria to the NWT/Nunavut Spill line. Sabina will internally track all spills which take place onsite regardless of the volume spilled.

4.8 Chemicals

Chemicals stored on site will consist of drill additives, oil, grease, drill salt, and household biodegradable cleaners. Chlorine is necessary and is used to treat our drinking water system. All drill additives are stored in poly-lined seacans and the remaining salt will be tarped and stored in designated areas on the property. Drill salt is in impermeable bags and stored on pallets. Empty bags will be disposed with combustible garbage. Sabina will inspect the storage area for possible spills and contamination.

4.9 Spill Response Kits

Sabina will carry out an inventory of the spill kits located on the property. Over the winter months, all spill kits will be relocated into a secured building, except for kits designated for the remaining petroleum storage areas.

4.10 Transportation

All transport areas will be inspected for contamination. Areas will be remediated using enviromat and removal of contaminated soil should any contamination be found.

4.11 Drill Sites

The diamond drills will be dismantled into the main components as per the drilling contractor procedure and secured along with ancillary equipment and drill rods. The drills will be moved by helicopter over the tundra and left at designated storage areas on the property and will undergo a drill close-out inspection. All drill sites will be inspected for contamination. Any remaining waste will be removed and disposed of accordingly. Diamond drill site restoration will commence as soon as practical after completion of the hole. Site clean-up of litter, debris, and drill fluids will commence immediately. Drill core and core boxes will be properly secured and stored at the designated core storage area. Photographs will be taken before and after the drilling has been completed.

4.12 General Camp Area

A general inspection of the camp area will be carried out. Waste items will be picked up, and areas contaminated by petroleum products unnoticed from the previous year will be reclaimed.

4.13 Final Documentation

A year-end inventory of all equipment and buildings remaining on site will be carried out prior to leaving site. Photos will be taken of the camp and drill laydown storage areas. Once the site is secured for winter, it will be documented with photos.

5.0 FINAL ABANDONMENT AND RESTORATION PLAN

5.1 Administration

5.1.1 Building Structures

All the reusable tents, frames, tarpaulins, and wooden structures will be dismantled and where possible be recycled for use at another exploration site.

Other combustible, non-recyclable building structures will be incinerated or burned onsite. Non-combustible structures or materials such as nails, screws, or metal frames will be recovered, packed, and transported off site for proper disposal.

5.1.2 Office and Household Furniture

All reusable office, household, kitchen, and recreational equipment will be packed and transported for use at other exploration camps. Some equipment, depending on what level of liability is accepted by Sabina, may be donated to local communities or schools. The equipment that is not reusable will be recycled or disposed of at an approved disposal facility, appropriate to the type of material.

5.1.3 Water Supply System

Water pumps, filtering systems, water lines, and any other equipment associated with the water supply system will be drained, disassembled, packed, and transported off site for use at other exploration camps.

Water lines that are not reusable will be disposed of at an approved facility.

5.1.4 Sewage System

The Pactos will be dismantled and relocated to another exploration camp or transported to Yellowknife for disposal. All lines from showers, washing machines, and sinks will be drained, disconnected, securely packed, and transported off site to an approved landfill site.

5.1.5 Waste Incinerator

Once the camp is entirely dismantled to the satisfaction of the supervisor in-charge, all remaining clean combustible waste will be burned. The incinerator will be dismantled and shipped to another exploration camp or to Yellowknife for sale or disposal in an approved facility.

5.1.6 Electrical System

All electrical wires will be removed from the buildings and any other installations at site. Extension cords and other fittings will be transported to other exploration camps for reuse. Used electrical wires will be packed and transported to Yellowknife for recycling. Unused bulbs and fluorescent tubes will be packed and relocated to other camps.

The generator shed and surrounding area will be inspected for signs of spills and remaining wastes such as oil and grease. The area will be cleaned as necessary.

The generator will be drained of fuel. Remaining waste fuel, oil, and grease will be stored in approved storage containers, labelled, and transported off site. The generator will be dismantled and transported off site to another exploration camp or to Yellowknife for sale.

5.1.7 Camp Heating Systems

Each 205-L fuel barrel attached to tents or buildings will be disconnected with the remaining fuel in the

line allowed to burn out. The drums will be appropriately labelled and stored with other petroleum products. The secondary containment container will be closed, secured, and stored ready for transportation off site. The fuel burner will be dismantled and remaining fuel will be allowed to drain off into waste oil collecting system. All fuel lines will be drained, disconnected, and packed for use in other camps or transported to an approved disposal facility. The area around each installation will be inspected for contamination and reclaimed as per the Comprehensive Spill Contingency Plan. All empty propane cylinders will be transported to Yellowknife for recycling.

5.1.8 Petroleum Products and Storage Facilities

5.1.8.1 205-Litre drums

The fuel storage area will consist of segregated groups of drums with empties stored separately from the full drums. An inventory of remaining fuel will be completed and all full drums will be inspected. Transportation of Dangerous Goods (TDG) labels will be attached to the drums before transportation off site. Remaining waste fuel will be labelled with TDG labels and transported to other camps for heating purposes or transported to Yellowknife for disposal in an approved facility.

In 2006 a drum crusher was purchased and located at Goose camp; one is also located at George camp. Empty drums will be crushed and palletized for backhaul and disposal. Some drums will be retained for waste containment and subsequent backhaul.

All unused jet fuel will be relocated to other exploration camps for use in further exploration programs, or returned to Yellowknife. The areas around the drums will be inspected for contamination.

5.1.8.2 Tidy Tanks

All Tidy tanks will be disconnected from any tents or buildings. All installations will be disconnected and drained. An inventory of the remaining fuel in each tank will be recorded. The tanks will be secured and transported to other camps or to Yellowknife for sale or disposal. The area around the tanks will be inspected for contamination.

5.1.8.3 Aboveground Storage Tanks and Bladders

All installations on respective tanks and bladders will be disconnected and various hatches inspected and locked. An inventory of the remaining fuel in each tank will be recorded and all fuel tanks will be drained prior to transportation. The AST tanks will only be moved during winter months to either another camp or using winter road to a designated area on the coast and loaded onto a barge for transportation to Hay River or to Yellowknife during summer months.

5.1.8.4 Lined Fuel Farm

Once AST tanks have been removed, the lined storage areas where the tanks were located will be inspected for contamination. If contamination is evident, then procedures outlined in the Comprehensive Spill Contingency Plan will be applied to reclaim the area.

Subsequently, the high-density polyethylene (HDPE) liner will be removed, rolled, and packed for transportation off site to either another exploration camp or an approved landfill. The berms will be graded with a front loader and levelled to a natural gradient and to cover any exposed areas.

5.1.9 Household Chemicals

Household cleaners will mainly be stored in the kitchen and mine dry/change room area. Upon camp closure, any unused products will either be transported to other camps or disposed of at an appropriate facility. Half-empty containers will be taken off site to be properly disposed in an approved discharge facility. Empty containers will either be recycled or disposed of with regular garbage, if appropriate.

5.1.10 Transportation

5.1.10.1 Airstrip

A very short emergency airstrip exists on naturally denuded material to the north of Goose Camp. The area will be cleared of any debris and inspected for potential top soil contamination due to aircraft refueling. If contamination is evident, then procedures outlined in the Comprehensive Spill Contingency Plan will be applied to reclaim the impacted area.

A 915 m all-weather airstrip that was installed in the 2013 exploration season will be cleared of any debris and inspected for potential contamination due to aircraft refueling. If contamination is evident, procedures outlined in the Comprehensive Spill Contingency Plan will be applied to reclaim the impacted area. The airstrip alignment would be scarified to support natural revegetation. The associated connecting all-weather road (approximately 600 m in length) be scarified and have culverts removed to support natural revegetation and surface water flow.

5.1.10.2 Jetty/Dock

The jetty, consisting of black plastic poly cells, will be removed and dismantled. The cells will be removed from site. Any timber, nails, screws, and metals frames will be packed and disposed with scrap metals in approved landfills.

5.1.10.3 Helipad

The four wooden helipads with refueling containment at Goose Camp will be dismantled and materials salvaged and recycled, or disposed of in an appropriate manner. The area will be cleared of any debris and inspected for contamination. If contamination is evident, then procedures outlined in the Spill Contingency Plan will be applied to reclaim the impacted area. The crushed rock foundation under the helipads will be scarified and allowed to revegetate naturally.

5.1.10.4 Rock Quarries

The rock quarries, accessed to provide construction and maintenance material for the all-weather airstrip and connecting road, will be cleared of any debris and inspected for hydrocarbon contamination. If contamination is evident, then procedures outlined in the Comprehensive Spill Contingency Plan will be applied to reclaim the impacted area. Loose material will be graded to ensure long term stability, and the final upper quarry edge will be delineated with visual markers. Note that the current quarry edge is delineated with visual markers.

5.2 Exploration

5.2.1 Drill Sites Management

The diamond drills will be dismantled into their main components as per the drilling contractor procedure, packaged, and secured along with its ancillary equipment and rods. The drills will be moved by helicopter over the tundra, inspected, and left at designated storage areas on the property before transporting off site.

All drill sites will be inspected for contamination. All wastes will be taken back to the camp by the drillers and disposed of as appropriate. As part of Sabina's progressive reclamation activities, diamond drill sites will be restored as soon as practical after the drill has been moved to the next site. Photos are taken prior to and after the drill work is completed and an inspection sheet is in place for the geologist to verify the site was left in good condition.

5.2.2 Drill Holes Management

5.2.2.1 Drill sump

All drill sumps (if constructed) will be recontoured and allowed to naturally revegetate. Natural sumps (if used) will simply be allowed to revegetate.

5.2.2.2 Iron Casing Management

Casing protruding above ground will be cut off to a level that will not pose a hazard and capped. The cut portion will be disposed of in an approved landfill in Yellowknife or recycled as scrap metal. Drill holes which encounter artesian water flow will be plugged with cement and capped. The collar locations of all holes will be surveyed in and will be recorded in the exploration reports.

5.2.3 Chemicals associated with Drilling Operations

5.2.3.1 Drill Additives, Cement, and Salt Management

All remaining drill additives and salt will be inventoried, packed, and transported to other projects or transported to Yellowknife or Hay River for re-sale or disposal at an appropriate facility. Empty

containers and pallets will be incinerated (pallets), recycled if possible or disposed of with regular garbage.

5.2.4 Drill Core

Drill core will be properly secured and stored at a designated core storage area on the property for long-term storage. A site reference plan will be maintained to catalogue the core.

5.2.5 Excavated Trenches

Any excavated trenches will be backfilled with local material. The area will be recontoured to match the surrounding landscape, and allowed to revegetate naturally.

5.3 Environmental

5.3.1 Long-term Monitoring

Ongoing monitoring will be conducted during the summer months to ensure the area has been cleared of any hazards that may cause a significant adverse impact to the receiving environment. The monitoring will continue on a set schedule after the final abandonment until the land is relinquished and accepted by the owner. Weather collection data (Goose/George weather stations) and environmental baseline data (e.g. water sampling data) will be turned over to whoever takes over the property.

5.3.2 Documentation and Final Inspection

A detailed project site reclamation and remediation report will be created by Sabina which will specifically document and catalogue project reclamation activities. This report will be generated for distribution to specific governing agencies. This report will identify all reclamation efforts undertaken at the project site and will be supported with information pertaining to contractors used, methodology, costs, and findings. Digital photographs will be taken which will support the reclamation activities. These will be appended to the report.

5.3.3 Land Relinquishment

Once the reclamation plan is accepted and approved by Sabina, the permit holder will invite and organize a final site inspection visit with community representatives, Land Inspectors, Nunavut Water Board and the KIA. Other government organizations such as Environment Canada and Department of Fisheries and Oceans will be invited to visit the area. A written submission will be sent to the regulatory authorities asking to relinquish the land.

5.4 Abandonment & Restoration Cost Estimates

The total cost estimation for the Abandonment and Restoration Plan for the Project is presented in

Appendix B. The approximate costing will be reviewed annually relative to the long-term exploration strategy for the Project and may include the following items:

- Infrastructure Demolition Cost;
- Transportation – (Labour, equipment, recycle, relocation of waste, etc.);
- Labour Cost;
    - Offsite Administrative Cost;
    - Contractor;
- Rehabilitation Cost;
    - Site Supervision – (Sabina);
    - Remedial supplies;
    - Native species supplies;
    - Contractor;
- Environmental Monitoring Cost;
    - Labour - (Sabina or Contractor);
    - Transportation – (Field sampling);
    - Analytical Cost – (External Lab);
    - Reporting – (Sabina or Contractor);
    - Consultant Costs;
- Final Documentation – (Labour Cost – Sabina or Contractor); and
- Land Relinquishment – (Travel, Reports, Site Visits, Meetings, etc.).

6.0 REVIEW OF THE ABANDONMENT AND RESTORATION PLAN

The Back River Abandonment & Restoration Plan will be reviewed on an annual basis. The next planned internal review is scheduled to take place in 2019.

APPENDIX A – MAPS, FIGURES, AND PHOTOS GOOSE CAMP AND EXPLORATION PROJECT

Figure 1. Sabina's Exploration Properties and Mineral Tenures Map, western Nunavut (as of Dec 2018).

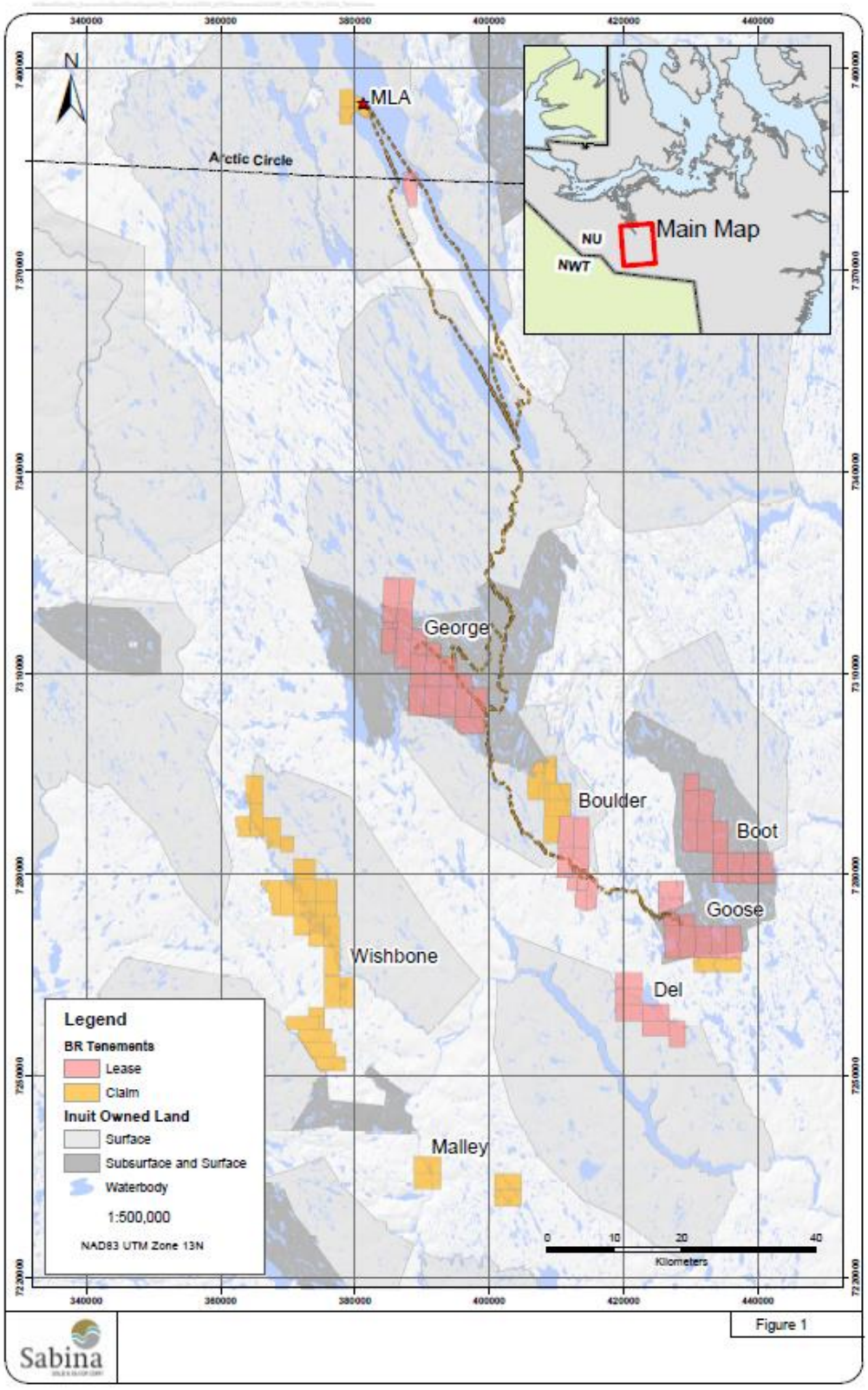


Figure 2. Aerial view of Goose Camp.
(Photo taken August 2013; no infrastructure changes through Dec 2018)

APPENDIX B – ABANDONMENT & RECLAMATION COST ESTIMATE

BACK RIVER RECLAMATION ESTIMATE - GOOSE December 2018

ACTIVITY/MATERIAL	UNITS	QUANTITY	UNIT COST	COST	
Exploration Activities					
DRILLHOLE RECLAMATION					
Cement (30kg)	Bags	-	$16	$0	
Helicopter support	Hours	5	$1,762	$8,810	
Personnel - cut casing and cement	Staff Days	14	$446	$6,248	
TRENCH					
Personnel - Backfill trenches/recontour	Staff Days	1	$446	$ 446	
Subtotal Exploration Activities				**$15,505**	**$15,505**
Building and Equipment					
EQUIPMENT					
Personnel - Disassemble and packup	Staff Days	70	$446	$31,242	
Personnel - Other (unused drilling steel/material)	Staff Days	50	$446	$22,316	
BUILDINGS					
Personnel - Disassemble Buildings & Burn Wood	Staff Days	270	$446	$120,505	
SPECIALIZED ITEMS					
Helicopter support	Hours	10	$1,762	$17,620	
Subtotal Buildings and Equipment				**$191,683**	**$191,683**
Chemicals and Contaminated Soils					
FUEL					
Disposal once off-site: diesel, Jet A/B, aviation gas	Litres	237,231	$0.43	$102,009	
WASTE OIL					
Oils/lubricants - disposal once off-site	Litres	-	$0.43	$0	
OTHER					
Helicopter support	Hours	-	$1,762	$0	
Subtotal Chemicals and Contaminated Soils				**$102,009**	**$102,009**
Mobilization and Camp Operation					
MOBILIZE HEAVY EQUIPMENT FROM SITE TO REGIONAL CENTRE					
Personnel - Overland Transport	Staff Days	520	$446	$232,083	
Barge	lump sum	1	$280,000	$280,000	
Helicopter support	Hours	8	$1,762	$14,096	
Herc Flight	Flights	1	$40,000	$40,000	
CAMP OPERATION					
Personnel - Site Support (cook, first aid, super)	Staff Days	300	$0	$0	
Camp Man-days	Staff Days	1,245	$407	$507,119	
Subtotal Mobilization				**$1,073,298**	**$1,073,298**
Clean up and Reclamation					
RECLAIM CAMP, ROADS & AIRSTRIP					
Personnel - Scarify and install water breaks	Staff Days	20	$446	$8,926	
Revegetation (fertilizer & peat)	Bulk	2	$12,000	$24,000	
Subtotal Reclamation				**$32,926**	**$32,926**
Post Closure Monitoring					
MONITORING DURING RECLAMATION					
Water Sampling	Each	16	$500	$8,000	
Helicopter Support	hours	3	$1,762	$5,286	
POST CLOSURE INSPECTIONS					
Annual Inspection	each	1	$20,000	$20,000	
PERMITTING & CLOSE OUT REPORT	lump sum			$15,000	
Subtotal Post Closure Monitoring and Maintenance				**$48,286**	**$48,286**

Subtotal Capital Costs to Close			$1,463,707
PROJECT MANAGEMENT (Assumes Third Party Costs)	5	% of subtotal	$73,185
CONTINGENCY	10	% of subtotal	$146,371
GRAND TOTAL - CAPITAL COSTS			**$1,683,263**

NOTES: 2018 Assumptions

- Assumes Goose is closed and reclaimed as part of progressive reclamation during exploration.
- That leaving the site will be "controlled" exit with more than one season available to complete.
- That all improvements and assets will be removed and site returned to stable conditions.
- Every effort will be taken to minimize time to complete.
- Unit cost sources are outlined in spreadsheet and where available recent and appropriate site-specific data is used.
- Mobilization off-site will be principally via Cat-Haul to Bathurst inlet and then barge.
- Demobilization of drill rigs and drill equipment/supplies/material to be completed under contractual agreement.
- Post closure monitoring and inspection will occur at end of final reclamation work, and for 1 year post closure.
- Barge costs are shared between both sites on a load portion basis (80% Goose, 20% George).
- Work is based on current inventory of diesel fuel at site; assumes that excess fuel will be disposed of off-site.

ATTACHMENT 9 - PLAIN LANGUAGE SUMMARIES

Non-technical Summary

Renewal of Type B Water Licence 2BE-GOO1520

Sabina Gold & Silver Corp. (Sabina) is a Canadian-owned exploration company that is actively operating the Back River Project (the Project) in the Kitikmeot, Nunavut Territory. The Project is located approximately 525 km northeast of Yellowknife and 400 km south of Cambridge Bay. The Project includes the Goose and George properties as well as the Marine Laydown Area at Bathurst Inlet. Sabina is the operator for the project and is responsible for maintaining all of the project permits.

As the current Goose property exploration water licence (2BE-GOO1520) with the Nunavut Water Board is expiring on February 18, 2020, Sabina is applying to extend the term of the licence for another 15 years to allow exploration to continue in this area.

The scope of camp activities authorized under the current licence will remain unchanged. This includes:

- Operation of a 120 person camp at Goose Lake and additional temporary camps and associated water use and waste management facilities
- Exploration and geotechnical drilling
- Operation of helicopters and use of the airstrip
- Fuel storage
- Operation of a winter trails from Bathurst Inlet and between the Back River camps for re-supplying materials
- Environmental monitoring

There are no changes proposed to the licence as it currently exists. However, the Goose land-based airstrip, Airstrip Quarry and the airstrip-camp ice road will now become a part of Sabina's mining Water Licence (2AM-BRP1819), as committed to during the permitting of that Licence.

Ayurnaittunut Naunaitkutat

Nutaannguqtiqtait taamna Type B Imarmut Laisiutaat 2BE-GOO1520

Sabina Gold taamnalu Silver Kuapuriissat (Sabina) Kanatamiutanit-nanminiriyauyuq nalvaaqhiuqtit tajja aulapkaiyut Hanningayumi Havaaghanik (Havaaghaq) talvani Qitiqmiuni, Nunavunmi Aviktuqhimayumi. Havaaghaq nayugaanga ungahiktigiyuq 525 km-nik tununngaanik kivalliqhianit Yalunamit taimaalu 400 km hivuraanit Iqaluktuuttiaq. Havaaghanut ilauyut taapkua Goose taamnalu George nanminiit taamnalu Taryumi Tullakvik Qingaungmi. Sabina-kut aulapkaiyiuyut havaaghanik munaqtiuplutiklu aulapkainiqmik tamangnik havaaghanut piinnarialiutinik.

Tajja Goose nanminianit nalvaaqhiuqtit imarmut laisiutaat (2BE-GOO1520) talvuuna Nunavut Imaligiyit Katimayit huuhuiqtitauniaqtuq Ijjirurvia, 18-mi, 2020-mi, Sabina-kut tughiraqtut atuffaarumaplugu laisiutait 15-nik ukiunik taimaa nalvaaqhiuqpagiamik tahamani nunami.

Havaaghaita nayugaanit angiqtauhimayut tajja laisiutaagut aallanngulaittut. Taapkuanguyut:

- Aulapkaiyut 120-nik inungnik inighalingmik talvani Goose Tahianit taapkualu nayugakaffuit taapkualu ilauyut imarmik atuqtut kuvvikkuniklu iqqakuqviit
- Nalvaaqhiuqtut nunamiklu ikuutaqtut
- Aulapkaiyut halikaaptanik atuqpauhiillu milvingnik
- Uqhuqyuaq tutqumania
- Aulapkaiyut ukiuqmi ingilravingnik Qingaungmit akunnganillu Hanningayum Kuugaanit nayugaanit hunataqviini
- Avatinik munaqhiyut

Aallannguqtiqtaghaittuq tughirautainit laisiutaanut tajja ittutut. Kihimi, Goose-mi nunami-milvik, Milvik Uyaraghiuqvik milviklu-nayugaanit hikuuyuq apqutik ilauniaqtut Sabina-kut uyaraghiuqtit Imarmut Laisiutaanut (2AM-BRP1819), iniqniaqhimayaitut piinnarianiktitauplutik Laisiutaanik.

ATTACHMENT 10 – TABLE OF LEASES AND AUTHORIZATIONS

Table 1. Claims and Leases Related to Water Licence 2BE-GOO1520

Property	Type	Orig. Claim #	Orig. Claim Name	Lease #	Status	Lease Rent Date	Lease Expiry Date
Boot	Mineral Lease	F13579	BRAU 48	3678	Current	2019-10-16	2039-10-16
Boot	Mineral Lease	F03806	BRAU 49	3679	Current	2019-10-16	2039-10-16
Boot	Mineral Lease	F02779	BRAU 44	3724	Current	2019-10-16	2039-10-16
Boot	Mineral Lease	F13568	BRAU 35	3552	Current	2019-12-30	2038-12-30
Boot	Mineral Lease	F13567	BRAU 36	3553	Current	2019-12-30	2038-12-30
Boot	Mineral Lease	F13566	BRAU 37	3554	Current	2019-12-30	2038-12-30
Boot	Mineral Lease	F13565	BRAU 38	3555	Current	2019-12-30	2038-12-30
Boot	Mineral Lease	F13560	BRAU 27	3609	Current	2019-12-30	2038-12-30
Boot	Mineral Lease	F13561	BRAU 30	3612	Current	2019-12-30	2038-12-30
Boot	Mineral Lease	F13562	BRAU 31	3613	Current	2019-12-30	2038-12-30
Boulder	Mineral Lease	F15613	BRAU 41	3691	Current	2019-10-16	2039-10-16
Boulder	Mineral Lease	F15614	BRAU 42	3692	Current	2019-10-16	2039-10-16
Boulder	Mineral Lease	F15615	BRAU 43	3693	Current	2019-10-16	2039-10-16
Boulder	Mineral Lease	F10408	SO 1	3466	Current	2019-11-18	2036-11-18
Boulder	Mineral Lease	F13572	BRAU 17	3557	Current	2019-12-30	2038-12-30
Boulder	Mineral Lease	F13573	BRAU 18	3558	Current	2019-12-30	2038-12-30
Boulder	Mineral Lease	F13577	BRAU 21	3559	Current	2019-12-30	2038-12-30
Boulder	Mineral Lease	F13576	BRAU 22	3560	Current	2019-12-30	2038-12-30
Del	Mineral Lease	K10862	Del 1	5800	Current	2019-09-12	2039-10-12
Del	Mineral Lease	K10863	Del 2	5801	Current	2019-09-12	2039-10-12
Del	Mineral Lease	K10866	Del 5	5802	Current	2019-09-12	2039-10-12
Del	Mineral Lease	K10867	Del 6	5803	Current	2019-09-12	2039-10-12
Del	Mineral Lease	K10869	Del 8	5804	Current	2019-09-12	2039-10-12
Del	Mineral Lease	K10870	Del 9	5805	Current	2019-09-12	2039-10-02
Goose	Mineral Lease	K12025	Sic1	5750	Current	2019-05-19	2039-05-19
Goose	Mineral Lease	K12026	Sic2	5751	Current	2019-05-19	2039-05-19
Goose	Mineral Lease	F02778	BRAU 50	3694	Current	2019-10-16	2039-10-16
Goose	Mineral Lease	F15648	BRAU 51	3695	Current	2019-10-16	2039-10-16
Goose	Mineral Lease	F15647	BRAU 52	3696	Current	2019-10-16	2039-10-16
Goose	Mineral Lease	F15652	BRAU 53	3697	Current	2019-10-16	2039-10-16
Goose	Mineral Lease	F15649	BRAU 54	3698	Current	2019-10-16	2039-10-16
Goose	Mineral Lease	F15651	BRAU 55	3699	Current	2019-10-16	2039-10-16
Goose	Mineral Lease	F15650	BRAU 56	3700	Current	2019-10-16	2039-10-16
Goose	Commercial Lease	N/A	N/A	KTCL-18D001	Current	2020-03-31	2039-05-19
Goose	Land Use Lease	N/A	N/A	076G/9-1-2	Current	2020-04-30	2048-04-30

Table 2. Authorizations Related to Water Licence 2BE-GOO1520

Authorization No.	Expiry (year-mo-day)	Agency	Description
PC No. 007	N/A	NIRB	Back River Project NIRB Project Certificate
2AM-BRP1831	31/12/2031	NWB	Back River Type A Water License
N/A	2038-06-31	KIA	Inuit Impact and Benefit Agreement
KTCL-18D001	20/04/2038	KIA	Commercial Lease - Goose
KTCL-18D003	20/04/2038	KIA	Commercial Lease – Winter Road
LUL-XX	5 years from Effective Date	KIA	Land Use Licence as per KIA Framework Agreement
N2018F0021	29/10/2023	CIRNAC	CAT Train Beechy Lake Area
N2017F0016	20/07/2022	CIRNAC	CAT Train connecting Bathurst Inlet - Back River Project
N2016C0011	26/10/2021	CIRNAC	Back River Exploration Activities
N2018F0017	11/10/2023	CIRNAC	Winter Ice Road Back River Project
Lease No. 76J/9-1-2	26/04/2048	CIRNAC	Goose Lake Tailings Storage Facility
2BE-GOO1520	18/02/2020	NWB	Goose Water Licence (Type B)
2BE-MLL1722	29/06/2022	NWB	Wishbone-Malley Water Licence (Type B)
18-HCAA-00185	N/A	DFO	Letter of Authorization – Gander Culvert
18-HCAA-01626	N/A	DFO	Letter of Authorization – Winter Ice Road
04 009 19R-M	31/12/2019	NRI	Back River Project Scientific Research License
2012-600767-004	N/A	TC	Navigation Protection Act – Umwelt Lake
2012-600767-005	N/A	TC	Navigation Protection Act – Llama Lake

ATTACHMENT 11 – CERTIFICATE OF AMENDMENT OF REGISTRATION

No.: **ET8219**

ᓄᓇᕗᑦ

Nunavut

Canada

BUSINESS CORPORATIONS ACT

CERTIFICATE OF AMENDMENT OF REGISTRATION OF AN EXTRA-TERRITORIAL CORPORATION

LOI SUR LES SOCIÉTÉS ACTIONS

CERTIFICAT DE MODIFICATION DE L'ENREGISTREMENT D'UNE SOCIÉTÉ PAR ACTIONS EXTRATERRITORIALE

I HEREBY CERTIFY THAT
the name of

JE CERTIFIE PAR LA PRÉSENTE QUE
La dénomination sociale de

SABINA SILVER CORPORATION

Registered under Part XXI of the
Business Corporations Act of Nunavut,
has been changed to

Enregistrée en vertu de la Partie XXI de la
Loi sur les sociétés par actions au Nunavut,
a été changée pour

SABINA GOLD & SILVER CORP.

Effective as of

à compter du

10/27/2009

Dated
Fait le

04-Nov-2009

DEPUTY / REGISTRAR OF CORPORATIONS
REGISTRAIRE OU REGISTRAIRE ADJOINT DES SOCIÉTÉS PAR ACTIONS