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File No. 4703 000 001

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via email

RE: Dundee Precious Metals - 2BE-GEO/TR/11 – George Lake Abandonment and Restoration Plan

On behalf of Environment Canada (EC), I have reviewed the information submitted with the above-mentioned application. The following specialist advice has been provided pursuant to Environment Canada's mandated responsibilities for the enforcement of the *Canadian Environmental Protection Act*, Section 36(3) of the *Fisheries Act*, the *Migratory Birds Convention Act*, and the *Species at Risk Act*.

Dundee Precious Metals Inc. has submitted an Abandonment and Restoration Plan as a requirement of water license 2BE-GEO0210.

Environment Canada recommends that the following terms and conditions be considered by the NWB in their approval of this A&R Plan.

- Any hazardous material left on-site should be stored in such a manner as to prevent the release of any hazardous materials into any water bodies. Secondary containment should be used if hazardous materials supplies will be left unattended.
- Drip pans, or other similar **preventative** measures, should be used when fuel is being drained or transferred from the generator and all other equipment.
- The contact information for EC in the A & R Plan should be up-dated to include Jim Noble of Environment Canada for direction on how to proceed in the event of a spill (867- 975-4644) or the 24 hour Emergencies Pager (867-920-5131). The contact sheet should be kept on-site and readily accessible to employees in the event of a spill.
- Environment Canada has noted that the proponent intends to place drill cuttings and sludge in a designated disposal area. If such an area will be used, it should be a sump capable of containing the acquired drilling waste and be situated at least 30 m from the normal high water mark of nearby water bodies.
- If an artesian flow is encountered, the drill hole shall be immediately plugged and permanently sealed.
- In keeping with the proponent's commitment of progressive reclamation the drill area is to be kept orderly and any garbage is to be removed daily from the area to an approved disposal site.
- The proponent shall not store materials on the surface ice of lakes or streams, except that which is for immediate use
- Any contaminated soils should be removed, stored in barrels and transported back to Yellowknife to an approved storage and/or disposal facility and not left on the Belt. In the event of a large spill

where peat moss has been used as an absorbent, EC recommends that the peat moss be reclaimed and transported off-site to an approved facility.

- Section 5.1.1 refers to incineration of combustible, non-recyclable building structures. EC recommends that all non-recyclable building structures be flown off-site and properly disposed of at an approved waste disposal facility or landfill.

In the A & R Plan section 3.2.1.1 *Recycle of Water Contaminated Fuel* the proponent indicates that contaminated fuels are to be recycled primarily in the garbage incinerator. EC requests information to clarify the following:

- Does section 3.2.1 refer to George Lake camp or Goose Lake Exploration camp. Since there is no incinerator at George Lake Camp how does the proponent plan on storing and transporting contaminated fuel to Goose Lake for incineration. The Proponent should ensure that any hazardous waste is properly handled, stored and transported and that the *Transportation of Dangerous Goods Act* is adhered to.
- The type of incinerator the proponent plans on using to burn contaminated fuel. The proponent is reminded that any hazardous materials, including waste fuel and waste oil should receive proper treatment and disposal at an approved facility.
- The plan makes no reference to the disposal of ash generated from incineration. Ashes produced from the incineration of combustible waste should be raked to remove any material that has not been incinerated (e.g., iron nails and tinfoil). The proponent shall ensure that this material is removed from the project area and disposed of appropriately at an approved facility.

Environment Canada would like to make the following comments and recommendations regarding the proponent's A & R Plan for George Lake.

There is some confusion in the A & R Plan regarding whether the plan is applicable to Goose Lake camp, the George Lake camp, or to all camps involved in the Back River Exploration program. For instance section 4.0 *Winter Restoration Plan* appears to only apply to the short-term abandonment of the Back River / Goose Lake Exploration Camp. However, sub-sections 4.2, 4.3 and 4.4 reference the George Lake Camp only. EC recommends that the plan be revised to clearly indicate that all camps involved proponent's Back River Exploration program is subject to the A & R Plan.

Environment Canada reminds the proponent that the proposed monitoring program would only apply to the closure of the exploration camp, and that monitoring requirements would likely be extended should the project enter full scale mining operations.

The proponent indicates that decanted water from the fuel farm secondary containment area will be pumped into a lined pond, tested for F1 (C6-C10) and F2 (>C10-C16), benzene, toluene, ethyl benzene, and xylene. Once the analytical data confirms that the water is safe, it will be released onto the tundra via the sewer wastewater system. The proponent should clearly indicate the discharge criteria that will be followed for water from the fuel farm containment area. If the decant water does not meet the discharge criteria, EC recommends that the proponent treat the water prior to discharge to the tundra. EC encourages Dundee Precious Metals Inc. to consult the following documents and ensure that water from the tank farm secondary containment area is remediated in accordance.

- **CCME (Canadian Council of Ministers of the Environment). 1999 Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health. Winnipeg, Manitoba, updated in 2004.**
- **Canadian Council of Ministers of the Environment (CCME) *Canada-Wide Standard for Petroleum Hydrocarbons in Soil (CWS-PHC)* (CCME, 2001);**

		CCME (2004)		CWS	
		<i>coarse soil</i>	<i>fine soil</i>	<i>coarse soil</i>	<i>fine soil</i>
		<i>ppm</i>	<i>ppm</i>	<i>ppm</i>	<i>ppm</i>
INDUSTRIAL	Benzene	0.03	0.0068	/	/
	Toulene	0.37	0.08	/	/
	Ethylbenzene	0.082	0.018	/	/
	Xylenes	11	2.4	/	/
	F1	/	/	310	660
	F2	/	/	760	1500
	F3	/	/	1700	2500
	F4	/	/	3300	6600
RESIDENTIAL /	Benzene	0.03	0.0068	/	/
PARKLAND	Toulene	0.37	0.08	/	/
	Ethylbenzene	0.082	0.018	/	/
	Xylenes	11	2.4	/	/
	F1	/	/	30	260
	F2	/	/	15	900
	F3	/	/	400	800
	F4	/	/	2800	5600
COMMERCIAL	Benzene	0.03	0.0068	/	/
	Toulene	0.37	0.08	/	/
	Ethylbenzene	0.082	0.018	/	/
	Xylenes	11	2.4	/	/
	F1	/	/	310	660
	F2	/	/	760	1500
	F3	/	/	1700	2500
	F4	/	/	3300	6600

EC strongly recommends that a *Post Closure Monitoring Plan* based on best-practices for northern conditions be submitted to the NWB. The plan should outline in greater detail how long term monitoring will be conducted to ensure the area has been cleared of any hazards that may cause a significant adverse impact to the receiving environment.

If there are any changes in the proposed project, EC should be notified, as further review may be necessary. Please do not hesitate to contact me with any questions or comments with regards to the foregoing at (867) 975-4639 or by email at cindy.parker@ec.gc.ca.

Yours truly,

Original signed by

Cindy Parker
Environmental Assessment Technician

cc: (Colette Spagnuolo, Environmental Assessment & Contaminated Sites Specialist, Environment Canada, Iqaluit)

