

## Field Monitoring Report -- Pebble Copper/Gold Exploration Project --

Personnel:	Inspection Date: October 5, 2012
Sharmon Stambaugh (DNR)	Site Contact: Jeff Norberg (Manager, Site Compliance & Reclamation. PLP)
Marty Brewer (DEC)	APMA #: A126118
Chris Foley (DEC)	
■ Inspection Type:	■ Wildlife Observed:
○ Complete:	○ Bear:
○ Partial: <b>X</b> (DDH12551, DDH12557, GH12-347S , DDH12558)	○ Caribou:
○ Follow-up: EXF-12D (12556) assessment of long hose to water source	○ Moose:
○ Response to Public Complaint:	○ Waterfowl: Swans
	○ Fish:
■ Weather Conditions:	○ Other: Ptarmigan, fox
○ Temperature: mid 40s	
○ Wind: moderate	
○ Precipitation: misting	
○ Visibility: good	
○ Sky Conditions: overcast	
○ Ground Conditions: wet	
<p>■ Comments: 4 drill sites were inspected (DDH12551, DDH12557, GH12-347S, DDH12558). As a follow-up from last inspection, EXF-12D (12556) was also assessed for potential impacts of the long water intake hose used at the site.</p>	
<p>■ Recommendations:  Numerous cigarette butts on tundra were noted at DDH 12551.  Various other materials (wood debris, buckets, etc.) were stored in secondary containment box at DDH 12551.</p> <p>Water discharge sump and trench system at DDH 12551 appeared in close proximity to a surface water body (see photo).</p>	

■ Recommendations continued:

Rig 2 at DDH 12557 was in the process of being taken down when inspected. Some pipe and debris were found on the tundra.

Sonic site (Rig 5) yellow sign denoting temporary water supply permit did not have the permit number posted, but it was reposted while on site.

Unidentified liquids were found in the secondary containment box at DDH 12558. Upon consulting the rig operator, it was determined that the liquids were antifreeze recovered from a broken water pump. The field manager instructed the operator to cover the containers, label them, and dispose of them as hazardous waste accordingly.

■ Actions Needed:

Improve site housekeeping pertaining to the secondary containment boxes.

Educate field crews on the proper containment, storage, and disposal of any fluids that could be considered hazardous.

Drill Hole/Site No.: DDH 12551	Date: 10/5/12
Rig No.: 3	Time: 1:00PM
Activity:	
<ul style="list-style-type: none"> <li>■ Condition of Drilling Site:</li> </ul>	<ul style="list-style-type: none"> <li>■ Sump Pit (continued):</li> </ul>
<ul style="list-style-type: none"> <li>○ Distance from waterbody: &gt;100ft</li> </ul>	<ul style="list-style-type: none"> <li>○ Location and extent of discharged material: 3 successive sumps interconnected by trenching with overflow protection</li> </ul>
<ul style="list-style-type: none"> <li>○ Location of fuel storage: Adjacent to pad</li> </ul>	<ul style="list-style-type: none"> <li>○ Topsoil, muck, tundra stockpiled: Yes</li> </ul>
<ul style="list-style-type: none"> <li>○ Sorbent pads present: Yes, 1 barrel</li> </ul>	<ul style="list-style-type: none"> <li>○ Hose color: White</li> </ul>
<ul style="list-style-type: none"> <li>○ Tundra mat: Yes</li> </ul>	
<ul style="list-style-type: none"> <li>○ Pipe off tundra: Yes</li> </ul>	<ul style="list-style-type: none"> <li>■ Drill Water Supply: Lake</li> </ul>
<ul style="list-style-type: none"> <li>○ Litter: Numerous cigarette butts on tundra</li> </ul>	<ul style="list-style-type: none"> <li>○ Stream, lake/pond: see photo</li> </ul>
<ul style="list-style-type: none"> <li>○ Trash containment: extraneous materials stowed in 2<sup>o</sup> containment box</li> </ul>	<ul style="list-style-type: none"> <li>○ Location: ~600ft from pad</li> </ul>
<ul style="list-style-type: none"> <li>○ Sanitary facilities: Yes</li> </ul>	<ul style="list-style-type: none"> <li>○ Adequate water flow and depth for fish passage in streams: Yes</li> </ul>
<ul style="list-style-type: none"> <li>○ Any spills or staining: No</li> </ul>	<ul style="list-style-type: none"> <li>○ Evidence of significant impacts to riparian vegetation or stream banks: No</li> </ul>
<ul style="list-style-type: none"> <li>○ General impression: Generally clean</li> </ul>	<ul style="list-style-type: none"> <li>○ General impression of water body (i.e. clear, turbid, tannic): Clear</li> </ul>
	<ul style="list-style-type: none"> <li>○ Intake description: Screened electric submersible</li> </ul>
<ul style="list-style-type: none"> <li>■ Drilling Activity: ore body drilling &amp; groundwater flow determination</li> </ul>	<ul style="list-style-type: none"> <li>○ Structure clear of debris: Yes</li> </ul>
<ul style="list-style-type: none"> <li>○ Drill additives in use: Extreme Number One &amp; Quik-Trol Gold</li> </ul>	<ul style="list-style-type: none"> <li>○ Mesh size: 1 X 12mm slotted 0.1CFS</li> </ul>
<ul style="list-style-type: none"> <li>○ Recirculation tank: Yes</li> </ul>	<ul style="list-style-type: none"> <li>○ Submerged: Yes</li> </ul>
<ul style="list-style-type: none"> <li>○ Water discharged: Yes</li> </ul>	<ul style="list-style-type: none"> <li>○ Fuel/generator location to source: &gt;100ft</li> </ul>
<ul style="list-style-type: none"> <li>○ Artesian zone encountered: No</li> </ul>	<ul style="list-style-type: none"> <li>○ Catch basin for fuel supply: Yes</li> </ul>
	<ul style="list-style-type: none"> <li>○ Sorbent pads: Yes</li> </ul>
<ul style="list-style-type: none"> <li>■ Sump Pit: Yes</li> </ul>	<ul style="list-style-type: none"> <li>○ Hose color: Yellow</li> </ul>
<ul style="list-style-type: none"> <li>○ Location: 40ft from drill collar</li> </ul>	
<ul style="list-style-type: none"> <li>○ Discharge trench: Yes</li> </ul>	<ul style="list-style-type: none"> <li>■ Other Comments: Generally clean except for miscellaneous materials stored in 2<sup>o</sup> containment box &amp; cigarette butts found around pad.</li> </ul>
<ul style="list-style-type: none"> <li>○ Dimensions of pit: 5' X 15'</li> </ul>	
<ul style="list-style-type: none"> <li>○ In use: Yes</li> </ul>	



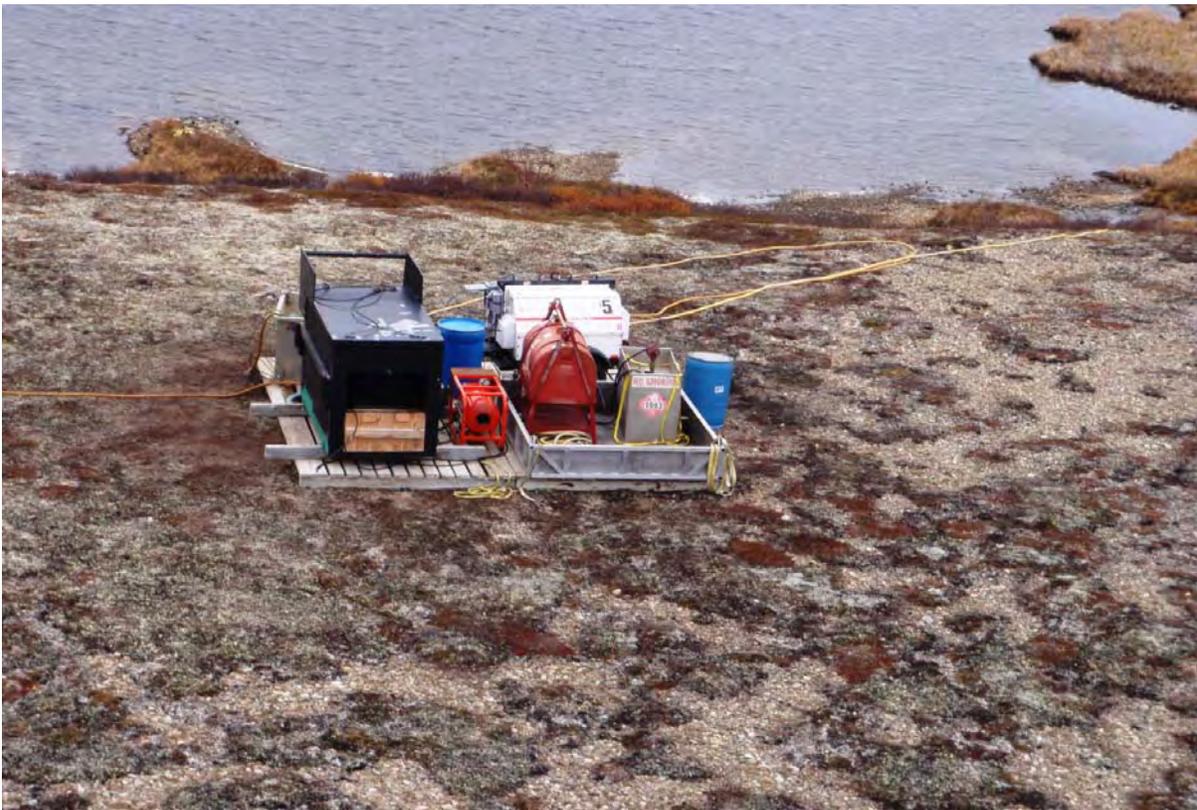
Rig 3 at DDH12551 site.



Secondary containment at DDH12551 with various debris stored within.



Proximity of third sump at DDH12551 to nearest surface water body.



DDH12551 water station (fly over inspection).



DDH12551 cores.

Drill Hole/Site No.: DDH 12557	Date: 10/5/12
Rig No.: 2	Time: 1:45PM
Activity: preparing for demobilization	
<ul style="list-style-type: none"> <li>■ Condition of Drilling Site:</li> </ul>	<ul style="list-style-type: none"> <li>■ Sump Pit (continued):</li> </ul>
<ul style="list-style-type: none"> <li>○ Distance from waterbody:</li> </ul>	<ul style="list-style-type: none"> <li>○ Location and extent of discharged material: 3 successive sumps interconnected by trenching</li> </ul>
<ul style="list-style-type: none"> <li>○ Location of fuel storage: Adjacent to pad</li> </ul>	<ul style="list-style-type: none"> <li>○ Topsoil, muck, tundra stockpiled: Yes</li> </ul>
<ul style="list-style-type: none"> <li>○ Sorbent pads present: Yes, 1 barrel</li> </ul>	<ul style="list-style-type: none"> <li>○ Hose color: White</li> </ul>
<ul style="list-style-type: none"> <li>○ Tundra mat: Yes</li> </ul>	
<ul style="list-style-type: none"> <li>○ Pipe off tundra: No. Some pipe &amp; debris found on tundra.</li> </ul>	<ul style="list-style-type: none"> <li>■ Drill Water Supply: Lake</li> </ul>
<ul style="list-style-type: none"> <li>○ Litter: No</li> </ul>	<ul style="list-style-type: none"> <li>○ Stream, lake/pond: see photo</li> </ul>
<ul style="list-style-type: none"> <li>○ Trash containment: Yes</li> </ul>	<ul style="list-style-type: none"> <li>○ Location:</li> </ul>
<ul style="list-style-type: none"> <li>○ Sanitary facilities: Yes</li> </ul>	<ul style="list-style-type: none"> <li>○ Adequate water flow and depth for fish passage in streams: Yes</li> </ul>
<ul style="list-style-type: none"> <li>○ Any spills or staining: No</li> </ul>	<ul style="list-style-type: none"> <li>○ Evidence of significant impacts to riparian vegetation or stream banks: No</li> </ul>
<ul style="list-style-type: none"> <li>○ General impression: Generally clean, but some items on tundra. Excessive drilling fluids discharged to surface as noted in photo.</li> </ul>	<ul style="list-style-type: none"> <li>○ General impression of water body (i.e. clear, turbid, tannic): Clear</li> </ul>
	<ul style="list-style-type: none"> <li>○ Intake description: Screened electric submersible</li> </ul>
<ul style="list-style-type: none"> <li>■ Drilling Activity: ready to demobilize from site</li> </ul>	<ul style="list-style-type: none"> <li>○ Structure clear of debris: No</li> </ul>
<ul style="list-style-type: none"> <li>○ Drill additives in use: Extreme Number One &amp; Quik-Trol Gold</li> </ul>	<ul style="list-style-type: none"> <li>○ Mesh size: 1 X 12mm slotted 0.1CFS</li> </ul>
<ul style="list-style-type: none"> <li>○ Recirculation tank: Yes</li> </ul>	<ul style="list-style-type: none"> <li>○ Submerged: Yes</li> </ul>
<ul style="list-style-type: none"> <li>○ Water discharged: Yes, but disconnected</li> </ul>	<ul style="list-style-type: none"> <li>○ Fuel/generator location to source: &gt;100ft</li> </ul>
<ul style="list-style-type: none"> <li>○ Artesian zone encountered: No</li> </ul>	<ul style="list-style-type: none"> <li>○ Catch basin for fuel supply: Yes</li> </ul>
	<ul style="list-style-type: none"> <li>○ Sorbent pads: Yes</li> </ul>
<ul style="list-style-type: none"> <li>■ Sump Pit: Yes</li> </ul>	<ul style="list-style-type: none"> <li>○ Hose color: Yellow</li> </ul>
<ul style="list-style-type: none"> <li>○ Location: 40ft from drill collar</li> </ul>	
<ul style="list-style-type: none"> <li>○ Discharge trench: Yes</li> </ul>	<ul style="list-style-type: none"> <li>■ Other Comments: Ready for demobilization. Drill rig tower already down. Drill hole grouted up.</li> <li>■ -70 dip, 1,188ft total depth</li> </ul>
<ul style="list-style-type: none"> <li>○ Dimensions of pit: 5' X 15'</li> </ul>	
<ul style="list-style-type: none"> <li>○ In use: Being dewatered</li> </ul>	



Rig 2 at DDH12557 being taken down.



Debris and pipe off the pad at site DDH12557 during Rig 2 breakdown process.



Grout bags and other debris off the pad at DDH12557 during Rig 2 breakdown process.



Secondary containment for fuel at DDH12557.



Water station at DDH12551



Flock of ptarmigan sited near DDH12557



DDH 12557 discharge onto tundra

Drill Hole/Site No.: GH12-347S	Date: 10/5/12
Rig No.: 5	Time: 2:15PM
Activity: Flew over drill rig & landed at pump house	
<ul style="list-style-type: none"> <li>■ Condition of Drilling Site:</li> </ul>	<ul style="list-style-type: none"> <li>■ Sump Pit (continued):</li> </ul>
<ul style="list-style-type: none"> <li>○ Distance from waterbody: ~150ft</li> </ul>	<ul style="list-style-type: none"> <li>○ Location and extent of discharged material: trenching to one sump</li> </ul>
<ul style="list-style-type: none"> <li>○ Location of fuel storage: Adjacent to pad</li> </ul>	<ul style="list-style-type: none"> <li>○ Topsoil, muck, tundra stockpiled: Yes</li> </ul>
<ul style="list-style-type: none"> <li>○ Sorbent pads present: Yes, 1 barrel</li> </ul>	<ul style="list-style-type: none"> <li>○ Hose color: White</li> </ul>
<ul style="list-style-type: none"> <li>○ Tundra mat: Yes</li> </ul>	
<ul style="list-style-type: none"> <li>○ Pipe off tundra: Yes</li> </ul>	<ul style="list-style-type: none"> <li>■ Drill Water Supply: Lake</li> </ul>
<ul style="list-style-type: none"> <li>○ Litter: No</li> </ul>	<ul style="list-style-type: none"> <li>○ Stream, lake/pond: see photo</li> </ul>
<ul style="list-style-type: none"> <li>○ Trash containment: Yes</li> </ul>	<ul style="list-style-type: none"> <li>○ Location:</li> </ul>
<ul style="list-style-type: none"> <li>○ Sanitary facilities: Yes</li> </ul>	<ul style="list-style-type: none"> <li>○ Adequate water flow and depth for fish passage in streams: Yes</li> </ul>
<ul style="list-style-type: none"> <li>○ Any spills or staining: No</li> </ul>	<ul style="list-style-type: none"> <li>○ Evidence of significant impacts to riparian vegetation or stream banks: No</li> </ul>
<ul style="list-style-type: none"> <li>○ General impression: Generally clean</li> </ul>	<ul style="list-style-type: none"> <li>○ General impression of water body (i.e. clear, turbid, tannic): Clear</li> </ul>
	<ul style="list-style-type: none"> <li>○ Intake description: Screened electric submersible</li> </ul>
<ul style="list-style-type: none"> <li>■ Drilling Activity:</li> </ul>	<ul style="list-style-type: none"> <li>○ Structure clear of debris: Yes</li> </ul>
<ul style="list-style-type: none"> <li>○ Drill additives in use: Extreme Number One &amp; Quik-Trol Gold</li> </ul>	<ul style="list-style-type: none"> <li>○ Mesh size: 1 X 12mm slotted 0.1CFS</li> </ul>
<ul style="list-style-type: none"> <li>○ Recirculation tank: Yes</li> </ul>	<ul style="list-style-type: none"> <li>○ Submerged: Yes</li> </ul>
<ul style="list-style-type: none"> <li>○ Water discharged: Yes</li> </ul>	<ul style="list-style-type: none"> <li>○ Fuel/generator location to source: &gt;100ft</li> </ul>
<ul style="list-style-type: none"> <li>○ Artesian zone encountered: No</li> </ul>	<ul style="list-style-type: none"> <li>○ Catch basin for fuel supply: Yes</li> </ul>
	<ul style="list-style-type: none"> <li>○ Sorbent pads: Yes</li> </ul>
<ul style="list-style-type: none"> <li>■ Sump Pit: Yes</li> </ul>	<ul style="list-style-type: none"> <li>○ Hose color: Yellow</li> </ul>
<ul style="list-style-type: none"> <li>○ Location: 40ft from drill collar</li> </ul>	
<ul style="list-style-type: none"> <li>○ Discharge trench: Yes</li> </ul>	<ul style="list-style-type: none"> <li>■ Other Comments: Did not land at rig, but pump house instead. Walked to water intake source. Only one sump necessary at this site because the sonic rig uses much less water.</li> </ul>
<ul style="list-style-type: none"> <li>○ Dimensions of pit: 3' X 4'</li> </ul>	
<ul style="list-style-type: none"> <li>○ In use: Yes</li> </ul>	



Rig 5 (Sonic rig site) fly over inspection of rig.



Temporary water take permit notification.



Grundfos pump with screen used for water intake. Screens used on all intake pumps regardless of presence of fish.



Water level measurement stick to measure drawdown.

Drill Hole/Site No.: DDH 12558	Date: 10/5/12
Rig No.: 6	Time: 2:30PM
Activity:	
<ul style="list-style-type: none"> <li>■ Condition of Drilling Site:</li> </ul>	<ul style="list-style-type: none"> <li>■ Sump Pit (continued):</li> </ul>
<ul style="list-style-type: none"> <li>○ Distance from waterbody:</li> </ul>	<ul style="list-style-type: none"> <li>○ Location and extent of discharged material: 2 successive sumps interconnected by trenching</li> </ul>
<ul style="list-style-type: none"> <li>○ Location of fuel storage: Adjacent to pad</li> </ul>	<ul style="list-style-type: none"> <li>○ Topsoil, muck, tundra stockpiled: Yes</li> </ul>
<ul style="list-style-type: none"> <li>○ Sorbent pads present: Yes, 1 barrel</li> </ul>	<ul style="list-style-type: none"> <li>○ Hose color: White</li> </ul>
<ul style="list-style-type: none"> <li>○ Tundra mat: Yes</li> </ul>	
<ul style="list-style-type: none"> <li>○ Pipe off tundra: Yes</li> </ul>	<ul style="list-style-type: none"> <li>■ Drill Water Supply: Lake</li> </ul>
<ul style="list-style-type: none"> <li>○ Litter: No</li> </ul>	<ul style="list-style-type: none"> <li>○ Stream, lake/pond: see photo</li> </ul>
<ul style="list-style-type: none"> <li>○ Trash containment: Yes</li> </ul>	<ul style="list-style-type: none"> <li>○ Location:</li> </ul>
<ul style="list-style-type: none"> <li>○ Sanitary facilities: Yes</li> </ul>	<ul style="list-style-type: none"> <li>○ Adequate water flow and depth for fish passage in streams: Yes</li> </ul>
<ul style="list-style-type: none"> <li>○ Any spills or staining: No</li> </ul>	<ul style="list-style-type: none"> <li>○ Evidence of significant impacts to riparian vegetation or stream banks: No</li> </ul>
<ul style="list-style-type: none"> <li>○ General impression: Generally clean, but unidentified liquids stored in secondary containment box</li> </ul>	<ul style="list-style-type: none"> <li>○ General impression of water body (i.e. clear, turbid, tannic): Clear</li> </ul>
	<ul style="list-style-type: none"> <li>○ Intake description: Screened electric submersible</li> </ul>
<ul style="list-style-type: none"> <li>■ Drilling Activity:</li> </ul>	<ul style="list-style-type: none"> <li>○ Structure clear of debris: Yes</li> </ul>
<ul style="list-style-type: none"> <li>○ Drill additives in use: Extreme Number One &amp; Quik-Trol Gold</li> </ul>	<ul style="list-style-type: none"> <li>○ Mesh size: 1 X 12mm slotted 0.1CFS</li> </ul>
<ul style="list-style-type: none"> <li>○ Recirculation tank: Yes</li> </ul>	<ul style="list-style-type: none"> <li>○ Submerged: Yes</li> </ul>
<ul style="list-style-type: none"> <li>○ Water discharged: Yes</li> </ul>	<ul style="list-style-type: none"> <li>○ Fuel/generator location to source: &gt;100ft</li> </ul>
<ul style="list-style-type: none"> <li>○ Artesian zone encountered: No</li> </ul>	<ul style="list-style-type: none"> <li>○ Catch basin for fuel supply: Yes</li> </ul>
	<ul style="list-style-type: none"> <li>○ Sorbent pads: Yes</li> </ul>
<ul style="list-style-type: none"> <li>■ Sump Pit: Yes</li> </ul>	<ul style="list-style-type: none"> <li>○ Hose color: Yellow</li> </ul>
<ul style="list-style-type: none"> <li>○ Location: 40ft from drill collar</li> </ul>	<ul style="list-style-type: none"> <li>Long water hose noted</li> </ul>
<ul style="list-style-type: none"> <li>○ Discharge trench: Yes</li> </ul>	<ul style="list-style-type: none"> <li>■ Other Comments: Goal of 750ft depth. Purpose of hole for proposed site or possibly facility site.</li> </ul>
<ul style="list-style-type: none"> <li>○ Dimensions of pit: 5' X 15'</li> </ul>	
<ul style="list-style-type: none"> <li>○ In use: Yes</li> </ul>	



Rig 6 at DDH 12558 site



Unlabeled waste liquids stored in secondary fuel containment box at DDH12558. Identified by rig operator as antifreeze leaked from water pump.



DDH12558 trench and sump system. Water notably murkier than other drill sites due to different geology.



Tundra mat removed from DDH12558 site that will be replaced upon completion of drilling operations.



Filtration barrel containing Absorbent W®. Absorbent W particulate as sorbent material. Filtered water is discharged to ground surface as long as there is no sheen noted.



DDH12551 Med station. Med stations are now at each drill site.



Extreme Number One and Quik-Trol Gold used at drilling at most sites.