

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

Personnel: Kate Malloy (ADF&G)	Inspection Date: 9/21/2010
Stephanie Lovell (ADNR)	Site Contact: Jim Male
Phyllis Scannell (consultant to ADF&G)	APMA #: A106118
<input checked="" type="checkbox"/> Inspection Type:	<input checked="" type="checkbox"/> Wildlife Observed:
<input type="checkbox"/> Complete: Yes	<input type="checkbox"/> Bear: 1 sow, 2 cubs
<input type="checkbox"/> Partial:	<input type="checkbox"/> Caribou:
<input type="checkbox"/> Follow-up:	<input type="checkbox"/> Moose:
<input type="checkbox"/> Response to Public Complaint:	<input type="checkbox"/> Waterfowl:
	<input type="checkbox"/> Fish:
<input checked="" type="checkbox"/> Weather Conditions:	<input type="checkbox"/> Other: ground squirrel, flock of ptarmigan, bear scat near 2 of drill rigs.
<input type="checkbox"/> Temperature: Approx. 45 degrees F	
<input type="checkbox"/> Wind: Ranged from 15-50 knots throughout the day	<input checked="" type="checkbox"/> Water level at Frying Pan Lake: N/A
<input type="checkbox"/> Precipitation: None	<input type="checkbox"/> Observed inflow:
<input type="checkbox"/> Visibility: Good, 3-5 miles	<input type="checkbox"/> Observed outflow:
<input type="checkbox"/> Sky Conditions: Clear, light cloud cover at times	
<input type="checkbox"/> Ground Conditions: Dry	
<p>Comments: DNR has verified all drill locations and water sources were properly noticed, per the PLP Water Withdrawal Notification Plan. The inspection included 2 regular drill rigs and 2 of the smaller Foundex geotechnical rigs. All sites were orderly and had proper tundra mats, fuel containment and spill supplies on hand. Screened intake structures were being used for water withdrawal at all sites and each site was designated with the proper signage. All fuel sources were a minimum of 100 feet away from the associated creek.</p>	
<p>Recommendations: None – all exploration activity was in compliance with permits.</p>	
<p>Actions Needed: None</p>	

Drill Hole/Site No.: GH10-AI (Foundex geotechnical drill rig)	Rig No.: 1
Activity: Drilling at 80', going to approximately 140' (goal to drill 50' into competent bedrock)	Date: 9/21/2010
<ul style="list-style-type: none"> <li>■ Condition of Drilling Site: Good</li> </ul>	<ul style="list-style-type: none"> <li>■ Sump Pit (continued):</li> </ul>
<ul style="list-style-type: none"> <li>○ Distance from waterbody: 507 ft.</li> </ul>	<ul style="list-style-type: none"> <li>○ Location and extent of discharged material: some overflow out of sump pit had recently occurred</li> </ul>
<ul style="list-style-type: none"> <li>○ Location of fuel storage: Adjacent to rig</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</li> </ul>	<ul style="list-style-type: none"> <li>○ Location of secondary sump pit: N/A</li> </ul>
<ul style="list-style-type: none"> <li>○ Tundra mat: Yes</li> </ul>	<ul style="list-style-type: none"> <li>○ Hose color: Black</li> </ul>
<ul style="list-style-type: none"> <li>○ Pipe off tundra: Yes</li> </ul>	
<ul style="list-style-type: none"> <li>○ Litter: None</li> </ul>	<ul style="list-style-type: none"> <li>■ Drill Water Supply:</li> </ul>
<ul style="list-style-type: none"> <li>○ Trash containment: Yes</li> </ul>	<ul style="list-style-type: none"> <li>○ Stream, lake, kettle pond: Stream</li> </ul>
<ul style="list-style-type: none"> <li>○ Sanitary facilities: Yes</li> </ul>	<ul style="list-style-type: none"> <li>○ Location: 507 ft. from rig</li> </ul>
<ul style="list-style-type: none"> <li>○ Any spills or staining: None</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>○ General impression: Good. Crew could have positioned sump overflow line better so it wasn't upstream from creek. There was adequate distance between sump overflow discharge and creek, but still better placement was possible.</li> </ul>	<ul style="list-style-type: none"> <li>○ Evidence of significant impacts to riparian vegetation or stream banks: None</li> </ul>
<ul style="list-style-type: none"> <li>■ Drilling Activity:</li> </ul>	<ul style="list-style-type: none"> <li>○ Relative water level: Approx. 1 ft. deep, mid-bank, low velocity water</li> </ul>
<ul style="list-style-type: none"> <li>○ Drill additives in use: Extreme # 1Mud Polymer and Bentonite pellets/tablets</li> </ul>	<ul style="list-style-type: none"> <li>○ General impression of water body, i.e. clear, turbid, tannic: Clear, mud bottom, not prime fish habitat</li> </ul>
<ul style="list-style-type: none"> <li>○ Water recirculation: Yes</li> </ul>	<ul style="list-style-type: none"> <li>○ Intake structure: Yes, screened</li> </ul>
<ul style="list-style-type: none"> <li>○ Water discharged: Yes</li> </ul>	<ul style="list-style-type: none"> <li>○ Structure clear of debris: Yes</li> </ul>
<ul style="list-style-type: none"> <li>○ Artesian zone encountered: No</li> </ul>	<ul style="list-style-type: none"> <li>○ Mesh size: 1 x 12 mm</li> </ul>
	<ul style="list-style-type: none"> <li>○ Submerged: Yes</li> </ul>
<ul style="list-style-type: none"> <li>■ Sump Pit:</li> </ul>	<ul style="list-style-type: none"> <li>○ Pump location to source: 140 ft.</li> </ul>
<ul style="list-style-type: none"> <li>○ Location: SW of drill rig</li> </ul>	<ul style="list-style-type: none"> <li>○ Catch basin for fuel supply: Yes</li> </ul>
<ul style="list-style-type: none"> <li>○ Discharge trench: Yes</li> </ul>	<ul style="list-style-type: none"> <li>○ Sorbent pads: Yes</li> </ul>
<ul style="list-style-type: none"> <li>○ Dimensions of pit: Approx. 5 x 3.5 ft.</li> </ul>	<ul style="list-style-type: none"> <li>○ Hose color: Yellow</li> </ul>
<ul style="list-style-type: none"> <li>○ In use: Yes</li> </ul>	

Drill Hole/Site No.: GH10-218 (Foundex geotechnical drill rig)	Rig No.: 2
Activity: Just started drilling, been there ½ day; goal is to drill 50 ft. into competent bedrock	Date: 9/21/2010
<ul style="list-style-type: none"> <li>■ Condition of Drilling Site: Good</li> </ul>	<ul style="list-style-type: none"> <li>■ Sump Pit (continued):</li> </ul>
<ul style="list-style-type: none"> <li>○ Distance from waterbody: 1056 ft. (0.2 miles)</li> </ul>	<ul style="list-style-type: none"> <li>○ Location and extent of discharged material: Settling out in small sump and then overflow trench onto tundra</li> </ul>
<ul style="list-style-type: none"> <li>○ Location of fuel storage: Adjacent to rig</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</li> </ul>	<ul style="list-style-type: none"> <li>○ Location of secondary sump pit: N/A</li> </ul>
<ul style="list-style-type: none"> <li>○ Tundra mat: Yes</li> </ul>	<ul style="list-style-type: none"> <li>○ Hose color: N/A</li> </ul>
<ul style="list-style-type: none"> <li>○ Pipe off tundra: Yes</li> </ul>	
<ul style="list-style-type: none"> <li>○ Litter: No</li> </ul>	<ul style="list-style-type: none"> <li>■ Drill Water Supply:</li> </ul>
<ul style="list-style-type: none"> <li>○ Trash containment: Garbage bags, new dumpsters being constructed</li> </ul>	<ul style="list-style-type: none"> <li>○ Stream, lake, kettle pond: Stream</li> </ul>
<ul style="list-style-type: none"> <li>○ Sanitary facilities: Yes</li> </ul>	<ul style="list-style-type: none"> <li>○ Location: 1056 ft. (0.2. miles)</li> </ul>
<ul style="list-style-type: none"> <li>○ Any spills or staining: None</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>○ General impression: Good</li> </ul>	<ul style="list-style-type: none"> <li>○ Evidence of significant impacts to riparian vegetation or stream banks: None</li> </ul>
	<ul style="list-style-type: none"> <li>○ Relative water level: Mid-bank</li> </ul>
<ul style="list-style-type: none"> <li>■ Drilling Activity:</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>○ Drill additives in use: Packer tests with pressurized water and then grouting cement to fill hole</li> </ul>	<ul style="list-style-type: none"> <li>○ Intake structure: Yes, screened</li> </ul>
<ul style="list-style-type: none"> <li>○ Water recirculation: N/A</li> </ul>	<ul style="list-style-type: none"> <li>○ Structure clear of debris: Yes</li> </ul>
<ul style="list-style-type: none"> <li>○ Water discharged: N/A</li> </ul>	<ul style="list-style-type: none"> <li>○ Mesh size: 1 x 12 mm</li> </ul>
<ul style="list-style-type: none"> <li>○ Artesian zone encountered: No</li> </ul>	<ul style="list-style-type: none"> <li>○ Submerged: Yes</li> </ul>
	<ul style="list-style-type: none"> <li>○ Pump location to source: 150 ft.</li> </ul>
<ul style="list-style-type: none"> <li>■ Sump Pit:</li> </ul>	<ul style="list-style-type: none"> <li>○ Catch basin for fuel supply: Yes</li> </ul>
<ul style="list-style-type: none"> <li>○ Location: Adjacent to rig</li> </ul>	<ul style="list-style-type: none"> <li>○ Sorbent pads: Yes</li> </ul>
<ul style="list-style-type: none"> <li>○ Discharge trench: Yes</li> </ul>	<ul style="list-style-type: none"> <li>○ Hose color: Yellow</li> </ul>
<ul style="list-style-type: none"> <li>○ Dimensions of pit: Approx. 3 x 5 ft</li> </ul>	
<ul style="list-style-type: none"> <li>○ In use: Yes</li> </ul>	

Drill Hole/Site No.: EX2010-AN	Rig No.: 3
Activity: At 1008 ft., going to 1200 ft.	Date: 9/21/2010
<b>■ Condition of Drilling Site:</b> <ul style="list-style-type: none"> <li>○ Distance from waterbody: 4752 ft. (0.9 miles) to water pump</li> <li>○ Location of fuel storage: Adjacent to rig</li> <li>○ Sorbent pads present: Yes</li> <li>○ Tundra mat: Yes</li> <li>○ Pipe off tundra: Yes</li> <li>○ Litter: None</li> <li>○ Trash containment: Yes, new prototype dumpster in use</li> <li>○ Sanitary facilities: Yes</li> <li>○ Any spills or staining: None</li> <li>○ General impression: Good</li> </ul>	<b>■ Sump Pit (continued):</b> <ul style="list-style-type: none"> <li>○ Location and extent of discharged material: Overflow line not currently discharging</li> <li>○ Topsoil, muck, tundra stockpiled: Yes</li> <li>○ Location of secondary sump pit: Adjacent to first pit</li> <li>○ Hose color: White</li> </ul>
<b>■ Drilling Activity:</b> <ul style="list-style-type: none"> <li>○ Drill additives in use: Extreme # 1 Mud Polymer, Linseed Soap, Quicktrol Gold</li> <li>○ Water recirculation: Yes</li> <li>○ Water discharged: Not at time of inspection</li> <li>○ Artesian zone encountered: No</li> </ul>	<b>■ Drill Water Supply:</b> <ul style="list-style-type: none"> <li>○ Stream, lake, kettle pond: Stream</li> <li>○ Location: Distance between drill rig and water pump 4752 ft. (0.9 miles)</li> <li>○ Adequate water flow and depth for fish passage in streams: Not verified</li> <li>○ Evidence of significant impacts to riparian vegetation or stream banks: Not verified</li> <li>○ Relative water level: Not verified</li> <li>○ General impression of water body, i.e. clear, turbid, tannic: Not verified</li> <li>○ Intake structure: Not verified, but water take location was properly marked with sign</li> <li>○ Structure clear of debris: Not verified</li> <li>○ Mesh size: Not verified</li> <li>○ Submerged: Not verified</li> <li>○ Pump location to source: Estimated &gt; 100 ft., steep slope and wind prevented close up inspection of water take, pump site was inspected</li> </ul>
<b>■ Sump Pit:</b> <ul style="list-style-type: none"> <li>○ Location: Adjacent to rig</li> <li>○ Discharge trench: Yes</li> <li>○ Dimensions of pit: 3 pits, each 4 x 12 ft.</li> <li>○ In use: Yes</li> </ul>	<ul style="list-style-type: none"> <li>○ Catch basin for fuel supply: Yes</li> <li>○ Sorbent pads: Yes</li> <li>○ Hose color: Yellow</li> </ul>

Drill Hole/Site No.: EX2010-DE	Rig No.: 4
Activity: Started drilling today, at 40 ft., going to 1200 ft.	Date: 9/21/2010
<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: 4752 ft. (0.9 miles)</li> </ul>	<ul style="list-style-type: none"> <li>○ Location and extent of discharged material: Water in sump</li> </ul>
<ul style="list-style-type: none"> <li>○ Location of fuel storage: Adjacent to rig</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</li> </ul>	<ul style="list-style-type: none"> <li>○ Location of secondary sump pit: Adjacent to first pit</li> </ul>
<ul style="list-style-type: none"> <li>○ Tundra mat: Yes</li> </ul>	<ul style="list-style-type: none"> <li>○ Hose color: White</li> </ul>
<ul style="list-style-type: none"> <li>○ Pipe off tundra: Yes</li> </ul>	
<ul style="list-style-type: none"> <li>○ Litter: None</li> </ul>	<ul style="list-style-type: none"> <li>■ Drill Water Supply:</li> </ul>
<ul style="list-style-type: none"> <li>○ Trash containment: Getting new dumpster, using core baskets</li> </ul>	<ul style="list-style-type: none"> <li>○ Stream, lake, kettle pond: Stream</li> </ul>
<ul style="list-style-type: none"> <li>○ Sanitary facilities: Yes</li> </ul>	<ul style="list-style-type: none"> <li>○ Location: 4752 ft. (0.9 miles) from rig</li> </ul>
<ul style="list-style-type: none"> <li>○ Any spills or staining: None</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>○ General impression: Good, recently set up</li> </ul>	<ul style="list-style-type: none"> <li>○ Evidence of significant impacts to riparian vegetation or stream banks: None</li> </ul>
	<ul style="list-style-type: none"> <li>○ Relative water level: low to mid-bank level</li> </ul>
<ul style="list-style-type: none"> <li>■ Drilling Activity:</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>○ Drill additives in use: Quicktrol</li> </ul>	<ul style="list-style-type: none"> <li>○ Intake structure: Yes, screened intake</li> </ul>
<ul style="list-style-type: none"> <li>○ Water recirculation: Yes, 500 gallon tank</li> </ul>	<ul style="list-style-type: none"> <li>○ Structure clear of debris: Yes</li> </ul>
<ul style="list-style-type: none"> <li>○ Water discharged: None, just started drilling</li> </ul>	<ul style="list-style-type: none"> <li>○ Mesh size: 1 x 12 mm</li> </ul>
<ul style="list-style-type: none"> <li>○ Artesian zone encountered: No</li> </ul>	<ul style="list-style-type: none"> <li>○ Submerged: Yes</li> </ul>
	<ul style="list-style-type: none"> <li>○ Pump location to source: 162 ft.</li> </ul>
<ul style="list-style-type: none"> <li>■ Sump Pit:</li> </ul>	<ul style="list-style-type: none"> <li>○ Catch basin for fuel supply: Yes</li> </ul>
<ul style="list-style-type: none"> <li>○ Location: NE of rig</li> </ul>	<ul style="list-style-type: none"> <li>○ Sorbent pads: Yes</li> </ul>
<ul style="list-style-type: none"> <li>○ Discharge trench: Yes</li> </ul>	<ul style="list-style-type: none"> <li>○ Hose color: Yellow</li> </ul>
<ul style="list-style-type: none"> <li>○ Dimensions of pit: 3 pits, each 4 x 12 ft.</li> </ul>	
<ul style="list-style-type: none"> <li>○ In use: Yes</li> </ul>	



Photo 1. Foundex geotechnical drill rig (GH10-A1). Drill rig is in center of photo, to the right are the blue spill containment barrels. Also visible are sump pump and sump pit (lower right).



Photo 2. Close up of screened water intake structure in place in creek.



Photo 3. Sign and stake identifying the water source associated with drill hole GH10-AI.

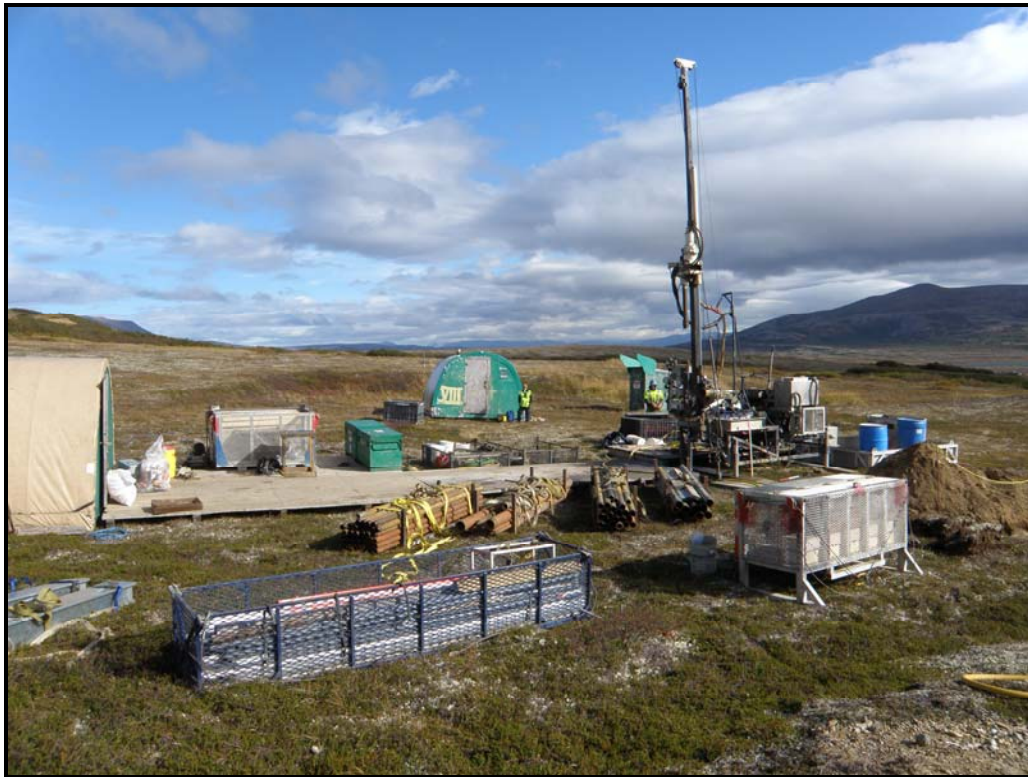


Photo 4. Overview of drill site GH10-I, which was the second Foundex geotechnical drill rig in use at the time of inspection.



Photo 5. Sump pit for drill hole GH10-I. Because this is a smaller, geotechnical drill hole, only one sump pit was needed.





Photo 6. Stockpile of tundra mat for reuse during reclamation of sump pit.



Photo 7. Sign showing pre-water take id number (GH10-I-W) and final water take id number (GH10-218-W). Screened water intake structure is visible in creek behind sign.



Photo 8. Overview of drill site for drill hole EX2010-AN.



Photo 9. Additives in use at this drill site include, linseed soap, Extreme #1 Mud Polymer, and Quickrol Gold.



Photo 10. A series of three sump pits were in use for drill hole EX2010-AN.



Photo 11. Drill rig at drill hole EX2010-DE. The site was just set up the morning of inspection and the rig was at 40 ft.



Photo 12. The end of the sump overflow hose was approximately 162 feet from the drill rig and was not in use at the time of the inspection.



Photo 13. Sign showing pre-water take id number (EX2010-DE-W) and final water take id number (DDH-10515W). The screened water intake structure is partially visible in creek behind sign.