

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

Personnel: Ron Benkert, ADF&G	Inspection Date: 6-22-2011
Stormy Haught, ADF&G	
Krystin Bablinskas, ADEC	APMA #: A116118
Michael Gravier, ADEC	
■ Inspection Type: <input type="radio"/> Complete: X <input type="radio"/> Partial: <input type="radio"/> Follow-up: <input type="radio"/> Response to Public Complaint:	■ Wildlife Observed: <input type="radio"/> Bear: <input type="radio"/> Caribou: <input type="radio"/> Moose: <input type="radio"/> Waterfowl: 2 pairs of swans with cygnets <input type="radio"/> Fish: <input type="radio"/> Other: 1 marmot
■ Weather Conditions: <input type="radio"/> Temperature: 9° C <input type="radio"/> Wind: 5-10 mph <input type="radio"/> Precipitation: light rain <input type="radio"/> Visibility: 6 miles <input type="radio"/> Sky Conditions: low overcast/fog <input type="radio"/> Ground Conditions: wet	
■ Comments: Overall the sites looked good. Pipe ends observed on ground at DH 11532. This drill rig was in the process of being moved, personnel stated that the pipes were a tripping hazard and were temporarily placed with ends on tundra for safety during helicopter transport of drill rig. Staining and a petroleum odor were noted at DH 10514 reclamation site.	
■ Recommendations: Recommended management discusses the PLP Plan of Operation with drill crews to ensure that pipes are not placed on the tundra. Recommended remediation of petroleum staining at DH 10514 reclamation site.	
■ Actions Needed: Re- inspect DH 10514 to ensure site of spill has been remediated.	

Drill Hole/Site No.: 11533	Date: 6-22-11
Rig No.: 2	Time: 12:30
Activity: Exploratory – At 85 ft. going to 4600 ft.	
<ul style="list-style-type: none"> ■ Condition of Drilling Site: 	<ul style="list-style-type: none"> ■ Sump Pit (continued):
<ul style="list-style-type: none"> ○ Distance from waterbody: 200 ft. 	<ul style="list-style-type: none"> ○ Location and extent of discharged material: 480 ft. east of drill, minimal discharge
<ul style="list-style-type: none"> ○ Location of fuel storage: 75 ft. NE of rig 	<ul style="list-style-type: none"> ○ Topsoil, muck, tundra stockpiled: Yes
<ul style="list-style-type: none"> ○ Sorbent pads present: Yes 	<ul style="list-style-type: none"> ○ Hose color: White
<ul style="list-style-type: none"> ○ Tundra mat: Yes 	
<ul style="list-style-type: none"> ○ Pipe off tundra: Yes 	<ul style="list-style-type: none"> ■ Drill Water Supply: Well
<ul style="list-style-type: none"> ○ Litter: No 	<ul style="list-style-type: none"> ○ Stream, lake/pond: N/A
<ul style="list-style-type: none"> ○ Trash containment: Yes 	<ul style="list-style-type: none"> ○ Location: N 59.89835°, W 155.25955°
<ul style="list-style-type: none"> ○ Sanitary facilities: Yes 	<ul style="list-style-type: none"> ○ Adequate water flow and depth for fish passage in streams: N/A
<ul style="list-style-type: none"> ○ Any spills or staining: No 	<ul style="list-style-type: none"> ○ Evidence of significant impacts to riparian vegetation or stream banks: N/A
<ul style="list-style-type: none"> ○ General impression: Good 	<ul style="list-style-type: none"> ○ General impression of water body (i.e. clear, turbid, tannic): N/A
	<ul style="list-style-type: none"> ○ Intake description: N/A
<ul style="list-style-type: none"> ■ Drilling Activity: 	<ul style="list-style-type: none"> ○ Structure clear of debris: N/A
<ul style="list-style-type: none"> ○ Drill additives in use: Extreme #1 in use, Penetrol and Quick-Trol also onsite 	<ul style="list-style-type: none"> ○ Mesh size: N/A
<ul style="list-style-type: none"> ○ Recirculation tank: Present but not yet in use 	<ul style="list-style-type: none"> ○ Submerged: N/A
<ul style="list-style-type: none"> ○ Water discharged: Yes 	<ul style="list-style-type: none"> ○ Fuel/generator location to source: Adjacent
<ul style="list-style-type: none"> ○ Artesian zone encountered: No 	<ul style="list-style-type: none"> ○ Catch basin for fuel supply: Yes
	<ul style="list-style-type: none"> ○ Sorbent pads: Yes
<ul style="list-style-type: none"> ■ Sump Pit: 3 pits in use, 2 more to be built 	<ul style="list-style-type: none"> ○ Hose color: Yellow
<ul style="list-style-type: none"> ○ Location: 55 ft. ENE of drill rig 	<ul style="list-style-type: none"> ■ Other Comments: Drill rig was just set-up and had been in operation for less than 2 days.
<ul style="list-style-type: none"> ○ Discharge trench: Yes 	
<ul style="list-style-type: none"> ○ Dimensions of pits: 25'x6', 15'x5', 15'x3' 	
<ul style="list-style-type: none"> ○ In use: Yes 	



Figure 1 – Rig #2 Drill Hole 11533



Figure 2 – Drill Hole 11533 Fuel Containment and Spill Kit



Figure 3 – Drill Hole 11533 Sump Pit, Recirculation Tank, and Discharge Pump



Figure 4 – DH 11533 Discharge Point

Drill Hole/Site No.: 11532	Date: 6-22-11
Rig No.: 3	Time: 13:10
Activity: Exploratory – Drill depth to 600 ft.	
Drilling activity completed.	
■ Condition of Drilling Site: <ul style="list-style-type: none"> ○ Distance from waterbody: 311 ft. ○ Location of fuel storage: Adjacent to Rig ○ Sorbent pads present: Yes ○ Tundra mat: Yes ○ Pipe off tundra: No ○ Litter: No ○ Trash containment: Yes ○ Sanitary facilities: Yes ○ Any spills or staining: No ○ General impression: Fair, moving rig 	■ Sump Pit (continued): <ul style="list-style-type: none"> ○ Location and extent of discharged material: 269 ft. W of rig. Minimal discharge ○ Topsoil, muck, tundra stockpiled: Yes ○ Hose color: Black
■ Drilling Activity: <ul style="list-style-type: none"> ○ Drill additives in use: none, Quick Gel, Extreme One, Quick Trol onsite ○ Recirculation tank: Yes ○ Water discharged: No ○ Artesian zone encountered: No 	■ Drill Water Supply: <ul style="list-style-type: none"> ○ Stream, lake/pond: Stream ○ Location: 59.89655° N, 155.42447° W ○ Adequate water flow and depth for fish passage in streams: Yes ○ Evidence of significant impacts to riparian vegetation or stream banks: No ○ General impression of water body (i.e. clear, turbid, tannic): Clear ○ Intake description: Screened cylinder ○ Structure clear of debris: Yes ○ Mesh size: 1 mm x 10 mm ○ Submerged: Yes ○ Fuel/generator location to source: 155 ft. west of creek ○ Catch basin for fuel supply: Yes ○ Sorbent pads: Yes
■ Sump Pit: two pits present <ul style="list-style-type: none"> ○ Location: 40 ft. from drill rig ○ Discharge trench: Yes ○ Dimensions of pit: 45' x 7' and 30' x 8' ○ In use: No. Drilling complete. 	■ Other Comments: Drill rig in process of being moved. Ends of drill casing on tundra.



Figure 5 – Rig #3 Drill Hole 11532



Figure 6 – Drill Hole 11532 Fuel Containment and Spill Kits



Figure 7 – DH 11532 Water Source Signage and Screened Intake



Figure 8 – DH 11532 Sump Pit and Recirculation Tank



Figure 9 – DH 11532 Pipe Ends on Tundra

Drill Hole/Site No.: GH 11235	Date: 6/22/11
Rig No.: 4	Time: 14:30
Activity: Geotechnical Drilling. Rig was just being set up.	
<ul style="list-style-type: none"> ■ Condition of Drilling Site: New Set-up 	<ul style="list-style-type: none"> ■ Sump Pit (continued):
<ul style="list-style-type: none"> ○ Distance from waterbody: Not measured 	<ul style="list-style-type: none"> ○ Location and extent of discharged material: N/A
<ul style="list-style-type: none"> ○ Location of fuel storage: not observed 	<ul style="list-style-type: none"> ○ Topsoil, muck, tundra stockpiled: N/A
<ul style="list-style-type: none"> ○ Sorbent pads present: not observed 	<ul style="list-style-type: none"> ○ Hose color: White
<ul style="list-style-type: none"> ○ Tundra mat: yes 	
<ul style="list-style-type: none"> ○ Pipe off tundra: no pipe at site 	<ul style="list-style-type: none"> ■ Drill Water Supply:
<ul style="list-style-type: none"> ○ Litter: not observed 	<ul style="list-style-type: none"> ○ Stream, lake/pond: Pond
<ul style="list-style-type: none"> ○ Trash containment: Yes 	<ul style="list-style-type: none"> ○ Location:
<ul style="list-style-type: none"> ○ Sanitary facilities: not observed 	<ul style="list-style-type: none"> ○ Adequate water flow and depth for fish passage in streams: N/A
<ul style="list-style-type: none"> ○ Any spills or staining: not observed 	<ul style="list-style-type: none"> ○ Evidence of significant impacts to riparian vegetation or stream banks: No
<ul style="list-style-type: none"> ○ General impression: Good 	<ul style="list-style-type: none"> ○ General impression of water body (i.e. clear, turbid, tannic): Clear
	<ul style="list-style-type: none"> ○ Intake description: Screened Cylinder
<ul style="list-style-type: none"> ■ Drilling Activity: No activity 	<ul style="list-style-type: none"> ○ Structure clear of debris: Yes
<ul style="list-style-type: none"> ○ Drill additives in use: N/A 	<ul style="list-style-type: none"> ○ Mesh size: 1 mm x 10mm
<ul style="list-style-type: none"> ○ Recirculation tank: N/A 	<ul style="list-style-type: none"> ○ Submerged: Yes
<ul style="list-style-type: none"> ○ Water discharged: No 	<ul style="list-style-type: none"> ○ Fuel/generator location to source: unknown
<ul style="list-style-type: none"> ○ Artesian zone encountered: N/A 	<ul style="list-style-type: none"> ○ Catch basin for fuel supply: Yes
	<ul style="list-style-type: none"> ○ Sorbent pads: Yes
<ul style="list-style-type: none"> ■ Sump Pit: No sumps had been constructed 	<ul style="list-style-type: none"> ○ Hose color: Yellow
<ul style="list-style-type: none"> ○ Location: N/A 	
<ul style="list-style-type: none"> ○ Discharge trench: N/A 	<ul style="list-style-type: none"> ■ Other Comments: Overflight only, site was just being set up. Due to multiple helicopter sling loads to the site,
<ul style="list-style-type: none"> ○ Dimensions of pit: N/A 	<ul style="list-style-type: none"> we did not land.
<ul style="list-style-type: none"> ○ In use: No 	



Figure 10 – GH 11235 Water Source and Pump – Set-up not complete



Figure 11 – Rig 4 GH 11235 Location – New Set-up – No Drilling Activity

Abandoned Drill Hole/Site No.: 10497	Date: 6-22-11
	Time: 13:50
■ Plugged: Yes	
■ Cemented: Grouted	
■ Standing pipe: No	
■ Sump pit filled in: Yes	
■ Water discharge trench filled in: Yes	
■ Site revegetated: Yes	
■ Date revegetated/reclaimed: Fall 2010	
■ Artesian water present: No	
■ Any spills or staining: No	
■ Comments/General impression: The site was recently reclaimed. Vegetation appears to be surviving. Settling of the underlying soil not complete at time of inspection. Overall the site looked good.	



Figure 12 - DH 10497 Reclamation – Discharge Trench and Sump Pit



Figure 13 – DH 10497 Reclamation – Sump Pits - Site is still settling

Abandoned Drill Hole/Site No.: 10514	Date: 6-22-11
	Time: 14:15
■ Plugged: Yes	
■ Cemented: Grouted	
■ Standing pipe: No	
■ Sump pit filled in: Yes	
■ Water discharge trench filled in: yes	
■ Site revegetated: Yes	
■ Date revegetated/reclaimed: Fall 2010	
■ Artesian water present: No	
■ Any spills or staining: Yes	
<p>■ Comments/General impression: Slight petroleum odor on vegetation adjacent to drill hole. Approximately a 4-foot diameter area was stained at this site. Reclamation site is still settling. Vegetation is alive.</p>	



Figure 14 – DH 10514 Reclamation – Sump Pits – Site still settling



Figure 15 – DH 10514 – Staining of tundra at the site