



## INSPECTION REPORT

Alaska Department of Environmental Conservation

Division of Water

410 Willoughby Ave, Juneau, AK 99811

ADEC Inspection Form  
Last updated (4/08)

Inspector: Kenwyn  
George, 907-465-5313

### Section A: General Data

Inspection Date	Permit #	Borough	Receiving Waters	Weather	Facility Type
November 9, 2009	AK-005057	N/A	E. Fork Slate Creek	Current Conditions: Fine, temperature ~ 32-35F. Rainfall in prior days: Little.	Tailings Disposal Facility
Discharges to: Surface Water <input checked="" type="checkbox"/> Ground Water <input type="checkbox"/>				<b>ANNOUNCED</b> Inspection	

### Section B: Facility Data

Name and Location of Site/ Facility Inspected		Entry Time	Permit Effective Date												
<b>Kensington Lower Slate Lake (LSL)</b> Dam construction and Acid Rock Drainage area adjacent to LSL.		08:00	September 1, 2005												
		Exit Time 13:00	Permit Expiration Date August 31, 2010												
<b>On-Site Representative</b> Clyde Gillespie (Surface Ops Mgr), Kevin Eppers (Environmental Superintendent)		<b>Additional Participants:</b> Sarah Samuelson, USFS Kate Kanouse, ADF&G													
<b>Responsible Official(s):</b> Clyde Gillespie <div style="text-align: right;">x Contacted</div>		<b>Source:</b> NPDES permit  LSL: Nick Lewallen, Construction Project Manager, Coeur, Jen Stetz, Construction Civil Superintendent, AIC													
Clyde: 523-3309 Kevin: 523-3328		<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">Yes</th> <th style="text-align: center;">No</th> </tr> </thead> <tbody> <tr> <td>Samples Taken?</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> <tr> <td>Photos Taken?</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> <tr> <td>Analytical Results?</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> </tbody> </table>			Yes	No	Samples Taken?	X	X	Photos Taken?	X	X	Analytical Results?	X	X
	Yes	No													
Samples Taken?	X	X													
Photos Taken?	X	X													
Analytical Results?	X	X													

### Section C: Findings/Comments

#### BACKGROUND

Coeur Alaska is constructing a dam to retain tailings to be placed in a Tailings Disposal Facility (TDF), previously Lower Slate Lake (LSL), now classified by ADEC as a Treatment Works. Adjacent to the dam downstream of the left abutment, material with an acid rock discharge (ARD) was encountered and has been covered by Coeur to minimize metals leaching. The lake is being dewatered to enable dam construction. The purpose of regular DEC inspections is primarily to observe activities associated with the dam and ARD.

#### *Regulatory Status/ Compliance History*

Coeur received an NOV on August 26, 2008 to resolve issues with seeps and discharges from the ARD material to LSL.

#### FIELD INSPECTION

#### Lower Slate Lake/Tailings Disposal Facility (TDF) (Photo #1)

The lake has been pumped down to a level where continuous pumping is not required. The lake had become turbid due to what was thought to be a turnover of the lake; it had cleared somewhat until recent rain, when rainfall ran down rills along the newly exposed shoreline and sediments were washed down into the lake and it again became turbid. Coeur tried placing polyethylene sheeting along the shoreline to protect it, but this was not successful. They are considering matting material. No pumping was under way at the time of the site visit. Coeur employs two people to continually watch the water quality in East Fork Slate Creek. When there is too much turbidity from the lake water, pumping ceases.

#### Dam construction (Photos #'s 2-5)

Virtually all material has been removed down to bedrock. More graphitic phyllite material was encountered than was expected, including that in a trench excavated to approximately 30 feet deep to enable drainage from the base of the dam to

a sump where pumps will be installed to return leakage water to the TDF. "Dental" concrete has been applied to a large area of exposed graphitic phyllite. At the time of the site visit a pumper truck was being used to place concrete over graphitic phyllite on the north side of the foundation. Nick Lewallen, Construction Project Manager for Coeur Alaska said the specs for the concrete was 2200 psi, however they were being conservative and placing 4500 psi concrete. Placing concrete over the remaining areas will be completed in the next 7 - 10 days. Work will continue as long as feasible with two crews working 10-hour shifts; significant freezing or snow would stop work.

ARD treatment plant:

This was operating well; the flow was 11.5 gpm and the pH 7.12. A pipe to divert effluent to an infiltration gallery had been placed adjacent to the Upper Slate Lake bypass pipe. We were shown the approximate area where the infiltration gallery was to be installed, between the upper and lower roads adjacent to the TDF. Work on this infiltration gallery is scheduled to commence next week.

Upper Slate Lake bypass pipe (Photo #6)

Kate Kanouse was on site to discuss the bypass pipe outlet. The discharge is onto a rock energy dissipater and there is concern that fish may be caught in the rocks at low flow. It was decided that a screen would be placed at the inlet to prevent fish and fry from being carried down the pipe. Coeur intends to construct a plunge pool in the early part of 2010 and the screen will be removed at that time.

Tailings pipeline road (Photos #'s 7 & 8)

We traversed the road on either side of Snowslide Gulch. Two 3' diameter polyethylene pipes were being welded to convey water in the deep gulch under the tailings road. These two pipes will be laid side-by-side. A minor slide had occurred at the deep gulch and a silt fence installed to capture solids and prevent them from getting to Johnson Creek. There was a more significant slide on the section of road from the lake to Snowslide Gulch, possibly caused by road construction disturbance in conjunction with blasting for the road. The road itself was not affected by the slide and Clyde Gillespie said no material was seen to be washing away below the slide toward Johnson Creek when they walked the area below the slide.

Graphitic Phyllite storage cell (Photos #'s 9 & 10)

This cell is in Pit 3 (as it is called in the POO, otherwise called Pit 4 by surface operators). Coeur has a submittal in to ADEC for approval for the pad expansion. The pad for temporary storage of graphitic phyllite had been expanded to enable additionally excavated material to be placed on the pad. This expansion area had a polyethylene liner with a geofabric underneath to protect it. Approximately 9000 cy of material have been placed on the pad. Nick Lewallen estimates there may be another 1500 cy to be placed on the pile. A lightweight polyethylene cover covers the majority of the pile. Once all graphitic material on the pad a heavier duty cover will be installed to keep out precipitation. The berm to the pile is adjacent to the sump. It was suggested a barrier such as a braced wall be erected to prevent snow from sliding off the pile and covering the sump.

SAMPLING ACTIVITIES – None conducted.

RECORDS REVIEW– None conducted.

SUMMARY

**Any issues requiring action by Coeur or the state agencies?**

1. ADEC to provide Coeur with approval for the temporary ARD site expansion.
2. Coeur to install land disposal system for treated seep water disposal.
3. Coeur to install a screen at the USL bypass intake.
4. Coeur to protect the ARD pad sump from burial by snow sliding off the pile.

Section D: Compliance/Recommendations

ADMINISTRATIVE VIOLATIONS

POTENTIAL WATER QUALITY VIOLATIONS

--

Section E: Appendices

1: Photographic record.

<p>Signature</p> <p><i>Kenwyn George</i></p> <p style="text-align: right;"><b>11/13/09</b></p>	<p>Signature only acknowledges receipt of this report. Inspection report given to:</p>
<p>Inspector Division of Water</p> <p style="text-align: right;">Date</p>	<p>Company (if applicable):</p> <p style="text-align: right;">Date</p>

**PHOTO ADDENDUM – KENSINGTON LOWER SLATE LAKE – NOVEMBER 9, 2009**



**PHOTO 1. LSL / ERODING BANK / COFFERDAM**



**PHOTO 2. DAM EXCAVATION**



**PHOTO 3. PLACING "DENTAL CONCRETE" ON ACID ROCK**



**PHOTO 4. DAM SITE FROM SEEP WTP TANK LOCATION**



**PHOTO 5. EXCAVATION FOR DAM SEEP WATER SUMP**



**PHOTO 6. USL BYPASS ENERGY DISSIPATION ROCK**



**PHOTO 7. EMBANKMENT FAILURE AT SNOWSLIDE GULCH**



**PHOTO 8. SLIDE BELOW ROAD; LSL SIDE OF ACCESS ROAD**



**PHOTO 9. TEMPORARY PAD FOR ARD STORAGE**



**PHOTO 10. SUMP AT BASE OF ARD PILE**