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
April 27, 2010	AK-005057	N/A	E. Fork Slate Creek	Fine, temps in 50's.	Tailings Treatment Facility

Discharges to: Surface Water ☒ Ground Water ☐

ANNOUNCED Inspection

Section B: Facility Data

Name and Location of Site/ Facility Inspected

Tailings Treatment Facility (TTF) dam construction and Acid Rock Drainage area adjacent to LSL.

Loc: Lat: 58d 49' 58"N

Long: 134d 57' 58"W

Source: **NPDES permit**

Entry Time	Permit Effective Date
09:00	September 1, 2005
Exit Time	**Permit Expiration Date**
12:30	August 31, 2010

On-Site Representative

Kevin Eppers, Environmental Superintendent

Responsible Official(s):

Clyde Gillespie, Surface Operations Manager, Kevin Eppers, Environmental Superintendent
x Contacted

Clyde: **523-3309** Kevin: 523-3328

Additional Participants:

Sarah Samuelson, USFS
Kate Kanouse, ADF&G
Chandler Engel, ADNR (Separate inspection)

	Yes	No
Samples Taken?		X
Photos Taken?	X	
Analytical Results?		X

Section C: Findings/Comments

FIELD INSPECTION

USFS plane to Slate Creek Cove, arrived at the LSL site at 09:15 AM, departed Kensington/Comet beach 12:30 PM and returned to Juneau via USFS chartered Ward Air plane.

Tailings Treatment Facility

Rain for Rent portable treatment units were being commissioned. Water was being treated and pumped to a sediment bag within the impoundment. Experimentation ongoing with ferric chloride and polymer feeds to fine-tune the system. The incoming lake water to the units has a turbidity varying between 6 and12 NTU. (Photo 1).

Drill rigs were drilling holes; some of the holes have been grouted. Chandler Engel was on site to inspect the drilling and grouting operation. Cory Aurala, P.E., Knight Piesold: Holes are drilled vertically and at angles up to 60º to cross nearby vertical cracks and fissures. The procedure for grouting is to grout a hole, then move to another location, then after a minimum of 24 hours return to a hole 30 feet away and grout that hole, then let this cure for 24 hours, then drill a hole mid-way between these two holes and grout it. There are then grout holes on 15' centers. A nearby core shows whether the grouting was successful and the holes are pressure tested with water. The pressure is increased 1 psi per foot, up to 15 psi. At the sides of the dam solid rock was encountered at around 30' deep and the holes were taken down to 60' deep. At the base of the dam the solid rock was just below the surface and the holes were taken down to around 30' deep. The grout used is 3:1 cement water mix. This grout will also be placed in a trench above the grout holes. The sides of this trench are graphitic phyllite, but the face will be covered and sealed by the grout. The geomembrane on the face of the dam will be tied into, and incorporated into the grout in the trench. If all goes well the grout work should be complete in about 2 weeks. Cory said additional work may be required at the low part of the foundation to the west if a fault exists at that location and there is increased fracturing. They will determine this when they get to that location. (Photo 2).

Excavation was under way on the west embankment for the spillway. (Photo 3). Drawings for the location and plunge pool

details should be out this Friday. The pool will have a geoliner and shotcrete to prevent water from travelling upstream to the dam seepage sump.

Work had continued on the bypass Parshall Flume and chamber for the pipe connection (Photo 4).

Work continued on the Tailings Treatment Facility Water Treatment Plant. The foundation concrete had been poured and forms were in place for the base of the walls (Photo 8).

ARD site seep water treatment

Water was standing in the sump and the polyethylene liner was below the level of the water, as had been the case on previous visits (Photo 5). It would also seem there could be seepage out of the sump into the surrounding rock, however Clyde said he had not seen any seepage on a rock face on the far side of the road towards the creek. The plant operator said there was water in the sump because 10,000 gallons had been brought over from the ARD seepage collection tank at Pit 4 the previous day for treatment in the facility. This occurs about once per week at the moment. The plant was operating at just under 20 gpm. The operator said there were problems with the equalizer tank when the flow got above 25 gpm. The manufacturer is being brought in to look into this issue. Clyde said he thought the plant would be able to treat 35-40 gpm. The design is for 60 gpm. Filter bags have to be changed every 30-60 minutes. This takes about 5 minutes and the plant throughput is reduced during these changes. Plant throughput is also reduced during shift changes. During the previous 6 hours the average rate of flow through the plant was 8.26 gpm. The pH of the effluent was 6.62 at the time of the visit. A minor leak was noted in the pipe leading from the drainage capture ditch to the sump. The spray ran down the rock sides of the sump and into the sump. Kevin noted this and said he would have it fixed. High metals values had been recorded at sample site #5 in February and March. This site was viewed to see if a cause for the high metals values could be seen. (Photos 6 & 7).

Tailings slurry pipeline.

No work was being done on the line.

Storm water

No issues.

SAMPLING ACTIVITIES – None conducted.

SUMMARY

Any issues requiring action by Coeur or the state agencies?

1. Re-locate the liner in the ARD seepage water collection sump and ensure it makes a watertight seal such that it is able to contain the water.

2. Repair the small leak on the pipeline above the ARD treatment plant sump.

Section D: Compliance/Recommendations

ADMINISTRATIVE VIOLATIONS

None

POTENTIAL WATER QUALITY VIOLATIONS

None.

Section E: Appendices

1: Photographic record.

Signature	Signature only acknowledges receipt of this report. Inspection report given to:
Kenwyn George 05/06/10	
Inspector Division of Water — Date	Company (if applicable): — Date

PHOTO ADDENDUM – KENSINGTON TAILINGS DISPOSAL FACILITY –APRIL 27, 2010

PHOTO 1. RAIN-FOR-RENT TANKS AT FAR SIDE OF DAM

PHOTO 2. GROUT DRILL RIG AND GROUT TRENCH AT BASE OF DAM

PHOTO 3. EXCAVATING FOR THE SPILLWAY

PHOTO 4. PARSHALL FLUME

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PHOTO 5. ARD SUMP BELOW SEEP WTP

PHOTO 6. SAMPLE LOCATION #5 (ADJACENT TO TREE WITH TAPE)

PHOTO 7. USL WATER ENTERING E FORK SLATE CREEK

PHOTO 8. TTF WTP FORMWORK