APDES INSPECTION REPORT

Alaska Department of Environmental Conservation
Division of Water
410 Willoughby Ave, Juneau, AK 99811

DEC APDES Inspection Form Last updated (4/08)

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Section A: General Data

Inspection Date	Permit #	Borough	Receiving Waters	Weather	Facility Type
December 15, 2010	**AKR05CA54 AK0050571**	**Juneau**	**Slate Creek**	Current Conditions:	**Mine**

Discharges to: Surface Water ☒ Ground Water ☐ **ANNOUNCED** Inspection

Section B: Facility Data

Name and Location of Site/ Facility Inspected

Kensington Gold Mine

Juneau, AK

Loc: Lat: 58°50'30" N
Long: 135°02'45"W
Source: **NOI**

Entry Time
07:30 12/15/2010

Exit Time
08:00 12/16/2010

Authorization Effective Date
MSGP: 05/17/2009
APDES: 09/01/2005

Permit Expiration Date
MSGP: 9/29/2013
APDES: 8/31/2010
ADMINISTRATIVELY EXTENDED

On-Site Representative
Kevin Eppers / Environmental Superintendant/ Coeur Alaska

Responsible Official(s):
Tom Henderson/ Vice President and General Manager
Coeur Alaska
3031 Clinton Drive, Suite 202
Juneau, AK. 99801
Phone: **(907) 523-3300**

Additional Participants:
Chad Hood / USFS

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

Section C: Findings/Comments

BACKGROUND

Coeur d'Alene Mines Corporation is the parent company of Coeur Alaska (Coeur) which operates the Kensington Gold Mine (KGM). Coeur entered into production at KGM in June, 2010. Coeur Alaska estimates an average of approximately 125,000 ounces of gold annually over the mine's12.5 year anticipated initial life according to Coeur's website.
Construction of the mine and mill facilities was completed in 2007, with the exception of the "Tailings Treatment Facility" (TTF/ Lower Slate Lake), which was completed in 2010.

REGULATORY STATUS/ COMPLIANCE HISTORY

Permit authorization AKR05CA54 allows the Kensington Gold Mine (KGM) to discharge storm water associated with industrial activities under the Multi-Sector Permit (MSGP), AKR05000. Alaska Department of Environmental Conservation (DEC) has assumed primacy over discharges of pollutants to waters of the state in a phased approach. On November 1, 2010, DEC assumed primacy for industrial wastewater discharges from the mining sector. Prior to DEC assuming primacy, the Environmental Protection Agency (EPA) issued two enforcement actions against the KGM, resulting in $188,334 in (total) fines. Coeur received Notice Of Violation (NOV) from DEC on August 26, 2008 to resolve issues with seeps and discharges from the acid rock drainage (ARD) material to Lower Slate Lake.

EPA led a joint inspection with DEC at KGM on May 24, 2010. DEC personnel have inspected or visited KGM approximately eleven times during calendar year 2010.

FIELD INSPECTION

This inspector (H. Carpenter Kiser) and Chad Hood/ United States Forest Service (USFS) departed from Coeur's Engineer's Cutoff parking area and traveled by bus, then boat to the KGM property. We announced ourselves to Kevin Eppers, KGM's Environmental Superintendant upon arrival. Both inspectors are current in terms of site specific safety training, and at approximately 08:50 hours, the group departed camp to begin inspection at the upper mill bench. While viewing Snow Slide Gulch, Mr. Eppers explained that KGM commenced daily avalanche work approximately two weeks ago. Mr. Eppers pointed out a portable rock crushing screen/equipment (Photo 1) that is being used while modifications/ repairs are made to the jaw crusher (rattling caused structural damage to the crusher).

After donning safety equipment, we proceeded underground and went to the Comet Beach side of the facility. Pond 1 has visible sediment accumulation (Photo 2) and appears very close to full capacity (Photo 3). Accumulated sediment is visible

around the perimeter of the pond (Photos 4). Pond 2 is covered with snow (Photo 5). Pond 1 was not flowing into Pond 2 during inspection. The truck responsible for evacuating sediment from the ponds was inoperable (Photo 6). We then walked through the new expansion of the mine water treatment plant (MWTP).

Next, we proceeded to the sampling shack. Mr. Eppers explained that the sample collection location was changed when the MWTP was expanded. One sample is collected then split into 3 sub-samples for analysis. Sampling is conducted after treatment is complete, mixing the old plant effluent and the expansion effluent. We discussed sampling procedures and reviewed calibration logs (Photo 7) for the continuous monitoring pH and turbidity meters. We checked expiration dates for pH buffer solutions (Photo 8) and observed that the 10.01 +/- .02 blue Hach manufactured solution was expired. Other buffer solutions were current.

Returning to the Jualin side of the mine- traveling underground, a tote labeled with a bulk placard (2982) for corrosive contents (Class 8) was observed adjacent to a sump (Photo 15). Mr. Eppers stated that he believed the tote was improperly placarded and in reality contained Z-Floc- a flocculating agent that is mixed prior to addition to the mine water sump.

We proceeded to Lower Slate Lake/ Tailings Treatment Facility (TTF) (Photo 16). Mr. Eppers explained that Coeur plans to install an aerator to preclude freezing in the line. We looked at the seepage collection system. We proceeded to the flume area, the liner of which has been reconstructed to allow increased flow and make the pool deeper (Photo 17). The effluent in the nearby seepage collection system (Photo12) has not been characterized at this time, according to Mr. Eppers. We stopped at the new WTP and observed a tote with a corrosive (2582) placard absent secondary containment (Photo 13) Inside the plant; Mr. Eppers pointed out the new Crown filters (Photo 14) which were installed recently.

We concluded the inspection and returned to Mr. Eppers' office. Departure was precluded on December 15th due to weather.

SUMMARY

Due to frozen ground and snow cover, analysis of effectiveness of stormwater Best Management Practices (BMPs) was not possible.

Pond 1 appears close to capacity and contained significant visible sediment. On November 9, 2010, DEC and USFS personnel visited the mine with the intention of inspecting the Comet Beach side of the facility, but could not enter the mine because new ventilation equipment was being commissioned. While departing, an aerial photograph (Photos 15 and 16) of the Comet Beach side was taken. The photograph shows Pond 1 discharging overflow into Pond 2.

- If the pond's purpose is to provide storage capacity, then it appears the capacity has been limited such that removal of sediment/ maintenance appears necessary. The truck that is used to pump sediment was inoperable at time of inspection.
- If the pond's purpose is to provide treatment (settling), then the treatment capacity appears to be significantly diminished.

In either case, DEC believes a more aggressive maintenance schedule needs to be implemented. Additional treatment such as sediment bags or increased WTP capacity do not preclude KGM's responsibility for operating and maintaining the ponds as intended and outlined in the APDES permit.

Staff was unable to leave and spent the night. KGM's hospitality was greatly appreciated.

AREAS OF CONCERN

AKR05CA54:

The MSGP 2008 regulates stormwater discharges not associated with another (APDES) permit.
Uncovered tote containing hazardous material (ferric chloride) absent secondary containment is located outside WTP. It is unknown whether a stormwater discharge from the WTP area has potential to reach waters of the United States.

> **Part 2.1.2.1** of the MSGP 2008, **Minimize Exposure** states:
> You must minimize the exposure of manufacturing, processing, and material storage areas (including loading and unloading, storage...) to rain, snow, snowmelt, and runoff by either locating these industrial materials and activities inside or protecting them with storm resistant coverings

> **Part 2.1.2.4** of the MSGP 2008, **Spill Prevention and Response Procedures** states:
> You must minimize the potential for leaks, spills or other releases that may be exposed to stormwater and develop plans for effective response to such spills if or when they occur. At a minimum, you must implement:
> Preventative measures such as barriers between material storage and traffic areas, **secondary containment**

provisions, and procedures for material storage and handling..."

AK0050571:

Expired pH buffer standards were observed onsite. The use of expired standards for calibration purposes is in conflict with Part B6.2 of the QAP (Appendix 1), which states that expired standards are never used for calibration or calibration check procedures.

> **Part I.F, Quality Assurance Plan**:
> "The permittee must develop a quality assurance plan (QAP) for all monitoring required by this permit....The QAP, or the QAP portion of an overall monitoring plan, must be submitted ...and implemented within 120 days of the effective date of this permit.

Pond 1 appears close to storage capacity and contains significant visible sediment.

> **Part II.A** of APDES permit AK0050571, **Best Management Practices Plan, Purpose** states:
> The permittee must **amend** the BMP Plan whenever it is found to be ineffective in achieving the general objective of preventing and minimizing the generation and potential for the release of pollutants from the facility to waters of the United States... Maintenance of Pond 1 appears ineffective, indicating need for BMP Plan updates.
>
> **Part II.F.2** of APDES permit AK0050571, **BMP Plan Modification** states:
> Through **implementation** of the best management practices plan (BMP) the permittee must prevent or minimize the generation and the potential for the release of pollutants from the facility to the waters of the United States through normal ancillary activities.
>
> It is unknown whether BMP Plan is amended and not implemented, or not amended but implemented as written.
>
> **Part IV.E** of APDES permit AK0050571, **Proper Operation and Maintenance** states:
> "The permittee must at all times **properly operate and maintain all facilities and systems of treatment and control** (and related appurtenances) which are installed or used by permittee to achieve compliance with the conditions of the permit..."

GENERAL:
The incorrectly placarded tote underground has potential to prove confusing if danger to human health or safety required emergency responders to determine human health and safety risks based on (incorrect) placarding. Mr. Eppers confirmed later during inspection that the tote did not contain ferric chloride (corrosive) contents requiring bulk placarding, and had been re-used to contain a non-hazardous polymer without removing the corrosive placards. It is unknown whether this practice is in violation of Mine Safety and Health Administration or other regulations.

Section D: Compliance/Recommendations

POTENTIAL ADMINISTRATIVE VIOLATIONS

1. **MSGP Part 2.1.2.1**, Minimize Exposure
2. **MSGP Part 2.1.2.4**, Spill prevention and Response Procedures
3. **APDES permit AK0050571, Part 1.F**,Quality Assurance Plan
4. **QAP Part B6.2** Calibration Standards Documentation Procedure

POTENTIAL WATER QUALITY VIOLATIONS

1. **MSGP Part 2.1.2.1**, Minimize Exposure
2. **MSGP Part 2.1.2.4**, Spill prevention and Response Procedures

CORRECTIVE ACTIONS

1. Ensure stormwater discharges are not impacted by uncovered or uncontained chemicals storage containers
2. Provide a detailed explanation of maintenance plans or procedures specific to Pond 1
3. Update QAP to ensure expired standards are unavailable for use

Honor Carpenter **HONOR CARPENTER KISER** **01/31/2011** Inspector Date Division of Water/Water Quality Compliance	Company (if applicable): Date Signature only acknowledges receipt of this report.

PHOTO ADDENDUM – KENSINGTON MINE

PHOTO 1: PORTABLE ROCK CRUSHING EQUIPMENT

PHOTO 2: POND 1, ACCUMULATED SEDIMENT IS VISIBLE ON SURFACE

PHOTO 3: POND 1 APPEARS FULL

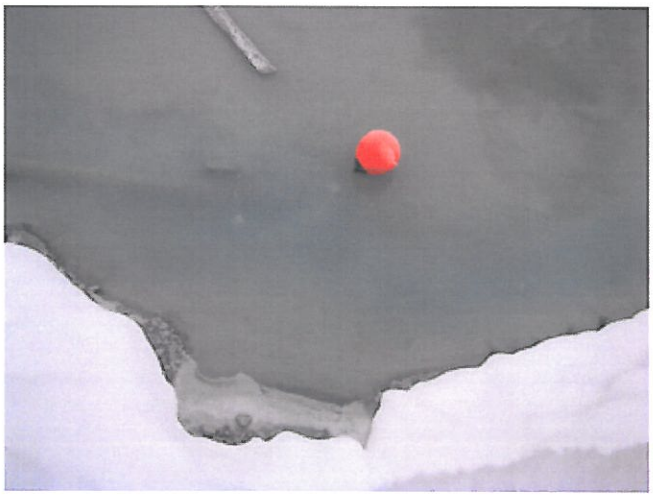

PHOTO 4: SEDIMENT VISIBLE AROUND PERIMETER OF POND 1

PHOTO 5: POND 2

PHOTO 6: PUMPER TRUCK INOPERABLE DURING INSPECTION

PHOTO ADDENDUM – KENSINGTON MINE

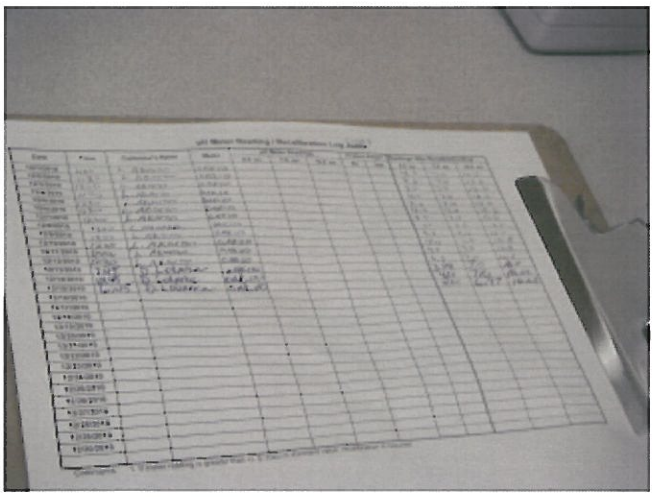

PHOTO 7: PH METER LOG

PHOTO 8: HACH PH BUFFER SOLUTIONS

PHOTO 9: IMPROPERLY PLACARDED BULK CONTAINER UNDERGROUND (NOT APDES ISSUE)

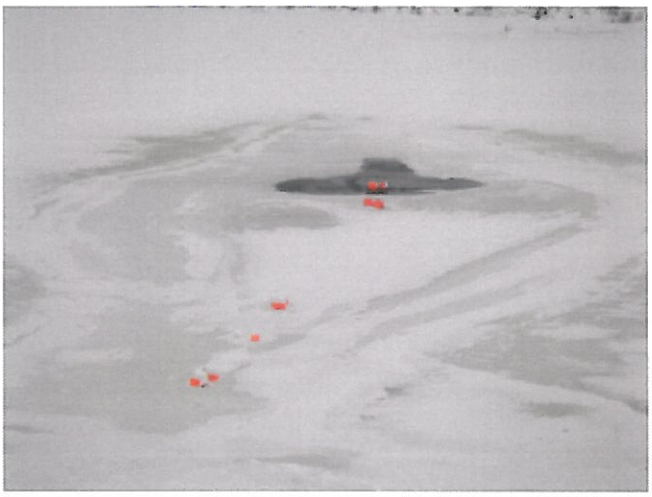

PHOTO 10: TAILINGS TREATMENT FACILITY/ LOWER SLAT LAKE

PHOTO 11: RE-CONSTRUCTED FLUME

PHOTO 12: SEEPAGE COLLECTION SYSTEM

PHOTO ADDENDUM – KENSINGTON MINE

PHOTO 13: TOTE ABSENT SECONDARY CONTAINMENT OUTSIDE WTP

PHOTO 14: NEW CROWN SOLUTIONS FILTERS AT WTP

PHOTO 15: **NOVEMBER 9, 2010** PHOTOGRAPH EFFLUENT FLOWS FROM POND1 TO POND 2

PHOTO 16: NOTE VISIBLE SEDIMENT IN BOTH PONDS. (ENLARGEMENT OF PHOTO 15, FROM **NOVEMBER 9, 2010**)