

Location: Kolmakof Cinnabar Mine (Site), Sect. 6, T17N, R53W, SM
Date: 18 Aug 2006
Subject: HazMat Inspection
Inspector: Larry Beck, Environmental Protection Specialist

Purpose: The purpose of the inspection was to visually inspect/become familiar with the Site and verify recent statements made by Napaimute Village concerning adequacy of previous BLM hazmat actions at the site.

Background: The Kolmakof Mine is an abandoned cinnabar mine near Aniak on the Kuskokwim River. The Mine is within the Napaimute Village Townsite selection (F-14900-A2); is scheduled to be conveyed to The Kuskokwim Corp. (TKC). Mining of cinnabar from the mine dates to about 1881, although the buildings there are of a more modern age effort from about the 1960's and newer. The claims were abandoned in 1993. In 1999 BLM was notified that the EPA would be having a contractor conduct a Site Investigation (SI) under the federal CERCLA Superfund Program, based on information gathered during a Preliminary Assessment (PA). The PA identified there was potential for mercury and other toxic metals contamination from the tailings, mill, and retorting operations. It identifies that there was a retort at the "upper camp", and that over 250 flasks of mercury were recorded to have been produced at the mine over its active life. In 2000 EPA notified BLM that the SI was cancelled because BLM had stated BLM would conduct the investigation under BLM's delegated CERCLA authority. During 2000 BLM conducted site inspections and determined that removal of hazmat was warranted. The last surviving partner of the last claim owning mining company was contacted (Mr. Harold Rehard of R&H Mining Co, San Diego, CA). The BLM worked with Mr. Rehard to have him remove several drums of chemicals and burn-down a shed containing "dynamite". The case file does not contain documentation that the main contaminate of concern identified by the EPA (mercury) was addressed by the BLM. During January 2006 BLM was contacted by Mr. Mark Leary, Tribal Administrator of Napaimute Village, concerning their perceived need for further cleanup of the site. Napaimute was concerned about drums at the site, a pond that apparently does not freeze in early winter, mercury contamination, and other unspecified chemical hazards as well as the large volume of solid waste. On 18 August 2006 I conducted a joint inspection of the site with Mr. Leary.

18 August 2006 inspection findings: The mine facilities consist of two groups of structures; a Mill Area inland and a Camp Area on the bank of the Kuskokwim River. The two areas are connected by a road which parallels an un-named creek which flows directly into the Kuskokwim River. The entire area is heavily vegetated; the roads are reduced to rough foot paths. At the Mill Area we observed a collapsing ball mill with water flowing under/through it. There were two sheds nearby. In one shed I observed about a dozen metal bottles which appear to be empty mercury flasks. The EPA PA had mentioned a retort operation at the "upper camp", I assume that the flasks indicate the shed may have possibly housed a retort or it was nearby. Numerous empty drums and fuel cans litter the area, both inside the sheds and outside. Mr.

Leary pointed out the pond in question. The pond appears to be fed by water coming to ground surface above and around the ball mill and from the steep hillside immediately adjacent, i.e. spring fed. A derelict pick-up truck sits on an overgrown road. A pile of ash and some burned metal debris marks where the dynamite shed once stood. No evidence of spills, i.e. stains, odor, or distressed vegetation was observed. It appears that waste rock and/or tails were dumped over a bluff into the river behind/uphill from the ball mill.

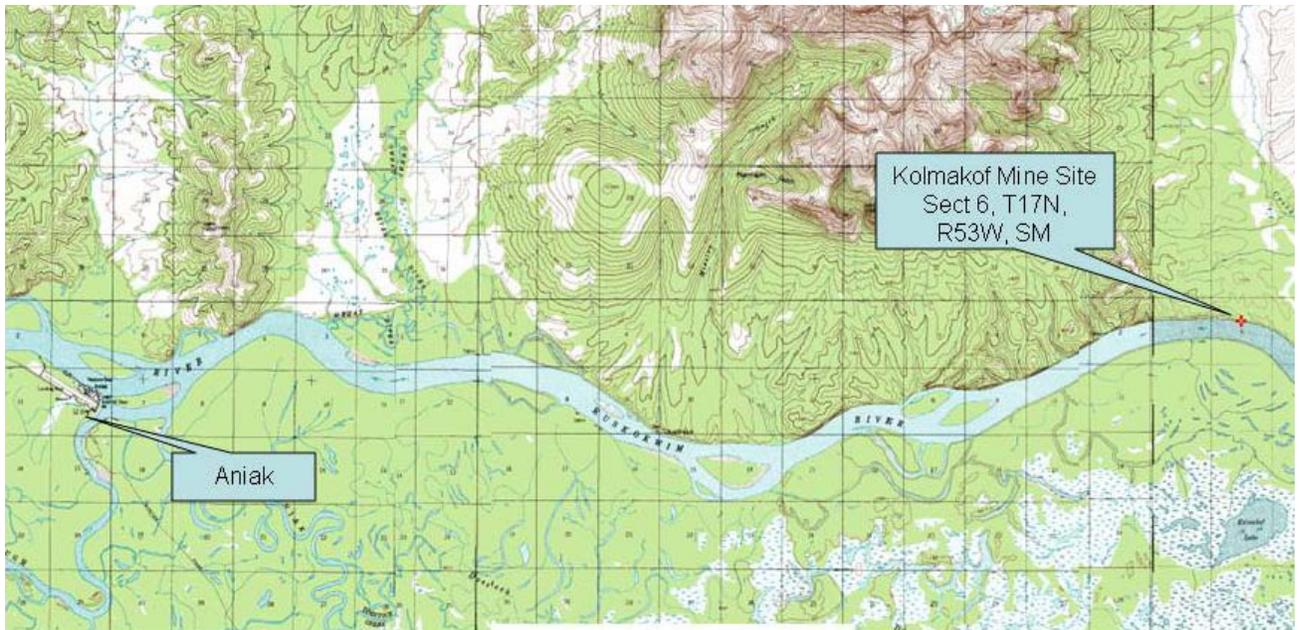
The camp buildings are in disarray and deteriorating. There is a fair volume of household type debris throughout the cabins/sheds. A shed that appears to have housed a generator is empty except for some debris. There are 100+ empty fuel drums in piles around the area. No evidence of spills, i.e. stains, odor, or distressed vegetation was observed. What appears to be the remains of a mercury retort was located at the camp area. The facility has a beer keg with a heavy cast iron pipe attached laying on a pile of rotting lumber that appears to have been a building of some type. Within a few feet is a firebrick lined pit, and there is also a low concrete and brick wall with the remains of a hearth door in it.

Mr. Leary stated that it is his understanding that TKC will not accept title to the land in it's present condition.

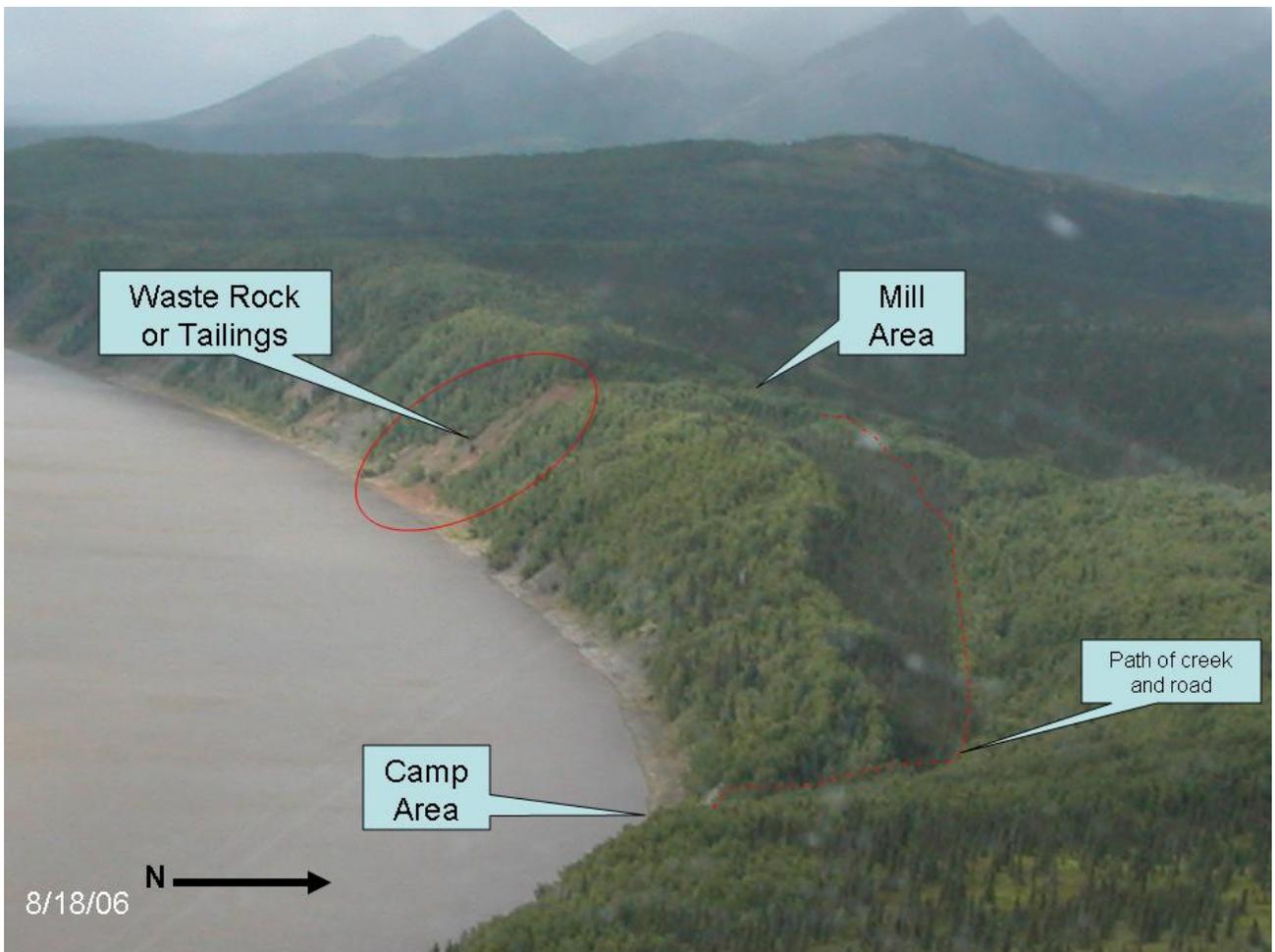
Summary:

- The water filling the pond is coming from or flowing through probable tails. Being spring fed it is probably relatively warm so does not freeze immediately when winter arrives. Given where the water is coming from, there is a possibility that it may be contaminated with toxic metals.
- Waste rock/tails have been dumped into the Kuskokwim River. It is highly likely that the rock/tails contains mercury compounds and other toxic metals.
- On-site evidence supports the EPA PA statement that retorting was conducted at the site, possibly at multiple locations around the site at different times.
- There is no documentation in the case file to describe what type of explosive the "dynamite" was, except some photos which show labeling that it was manufactured by the Atlas Chemical Company, and that it was in an advanced stage of deterioration from exposure to the elements. "Dynamite" is a often used generic term for many varieties of stick type explosives – the original dynamite was nitro-glycerin in compressed sawdust in a wax-paper wrapped stick. The case file photos appear to show the explosives were probably TNT or similar chemical. Many chemicals used in explosives are CERCLA Hazardous Substances and some are Listed or Characteristic Hazardous Wastes. Since no pre-fire analysis of the "dynamite" was conducted, there may be leached chemicals in the soil, from either pre-burn or as a result of the fire.
- It appears all containerized hazmats have been removed.
- There is no evidence of oil spills at the site, except probably a small release under the derelict truck.
- There is a large volume of non-hazardous solid waste scattered around the site in the form of the buildings, empty drums, shop and household type materials, etc.

Recommendation: BLM should conduct a formal Removal Site Evaluation (RSE) per the BLM CERCLA Response Actions Handbook. Areas investigated should include the retort area(s), tails/waste rock dump, and the spring fed creek to determine if they are spreading mercury or other toxic metal contamination and if removal action is warranted. The burned “dynamite” shed soils should also be investigated to determine if the deteriorating explosives leached chemicals into the soil before the shed was burned, or if residues left by the fire are present. Should no evidence of contamination be detected, having a properly conducted RSE will facilitate conveyance of the land to TKC (F-14900-A2). I estimate that the RSE will cost \$100K-\$150K. The Central Hazmat Fund will be the most viable source for cleanup funds after the RSE is completed, if further work is warranted.



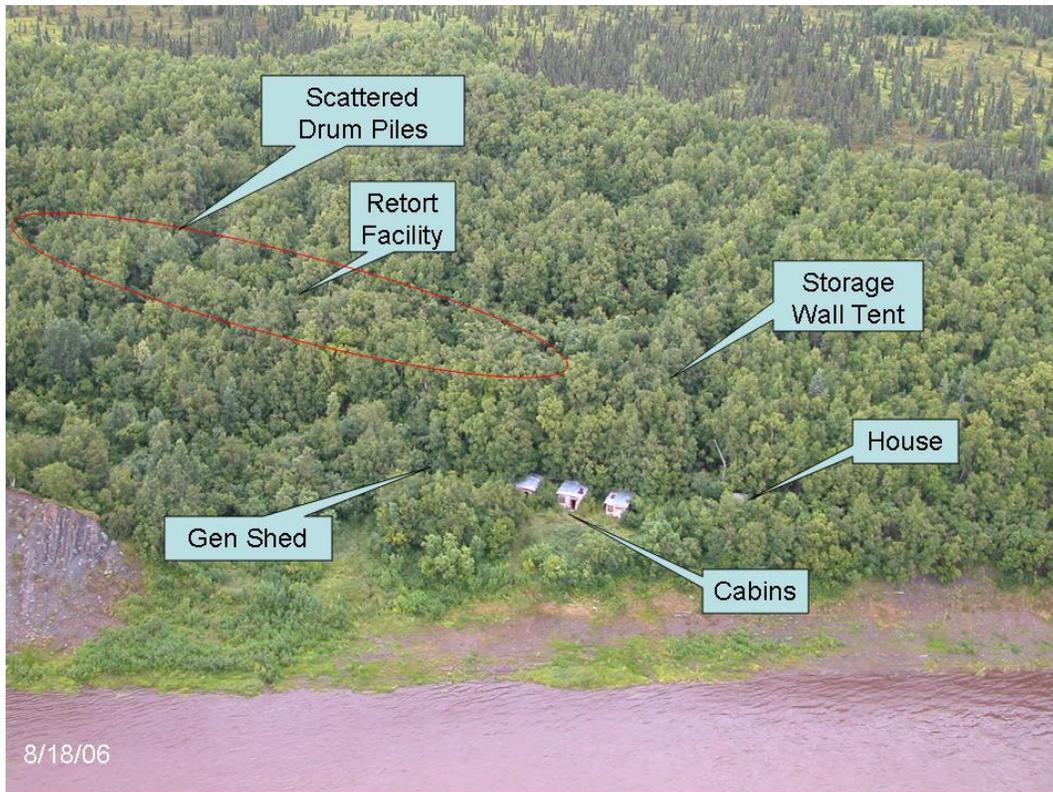
Kolmakof Mine Site location



Kolmakof Mine Site photo



Mill Area looking South toward the river



Camp Area looking North. Location of key features are noted though not all are visible in the photo.



Collapsing Ball Mill. Surface water is passing under the debris.



Mercury flasks in shed next to Ball Mill



Remains of the burned-down “dynamite” shed. Residual toxic chemicals may be present in the soil.



Scanned photo of the “dynamite”, from the case file circa June 2000. Deteriorated explosives are on the ground, with a wood case seen in the background resting on an empty Blazo can. The pasty, white appearance suggests the explosive is TNT, which does contain hazardous chemicals.



Pond near the Ball Mill. Cloudy water is probably due to heavy rains on the day of and prior to the inspection. This pond is located about 10-15 feet from the Ball Mill. The hillside in the background is likely man-made – tails or waste rock.



Derelict truck near the Ball Mill.



Beer Keg device at the suspected retort facility near the Camp Area



Firebrick lined pit at the suspected retort facility.



Low concrete and brick wall with a hearth-door? at suspected retort facility.



Piles of drums. Numerous piles like this are scattered in the general vicinity of the suspected retort facility. All drums inspected were empty with no sign of spills.



Interior condition of two of the three cabins





Wall tent in the Camp Area. Bottom photo is the interior.





Mr. Leary labeled this cabin as the “Mine Manager’s House”. Interior view below.

