Michael O. Leavitt
Governor
Kathleen Clarke
Executive Director
Lowell P. Braxton
Division Director

State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

1594 West North Temple, Suite 1210
PO Box 145801
Salt Lake City, Utah 84114-5801
801-538-5340
801-359-3940 (Fax)
801-538-7223 (TDD)

September 14, 1999

TO: Minerals File

FROM: Doug Jensen, Reclamation Specialist

RE: Site Inspection, North Lily Mining Company, North Lily Project, M/023/007, Juab County, Utah

Date of Inspection: September 9, 1999
Time of Inspection: 0900
Conditions: Warm and Clear
Participants: Gene Webb, Elwin Ewell, North Lily Mining; Beth Wondimu, Arnie Hultquist, DEQ; Tom Munson, and Doug Jensen DOGM

Purpose of Inspection: To take water samples and discuss possible noncompliance issues with North Lily Mining Company.

We were scheduled to meet at the site at 0900. Tom and I arrived about a half an hour early so we parked above the site in the topsoil storage area. The watchman (Elwin) was at the site when we arrived.

Three old transformers have been placed in the area where we parked. All the copper components have been removed from them and an oil residue is evident in the area around them. One case has been filled with dirt (which is now oil soaked) and one still contains some liquid. These transformers are a concern, as they appear to be an older vintage and possibly contain PCBs.

We accessed the heap from a gate on the back fence to check new sprinklers which had been placed on site since our last inspection. All the sprays that were running during our August 18, 1999 visit were still in operation, in addition another 7 to 8 sprays had been added. Due to the concentration, type & number of sprays, and length of 3/8" supply lines, it is unlikely that evaporation is taking place. With the cooler days and nights, the possibility of evaporating solutions to reduce water inventory has passed.

Several of the new sprays had been placed along the South (back) edge of the pad. There was evidence that the water from these sprays had started to form rills which was carrying small amounts of water off the pad. This is due to the fact that the solution conveyance systems (ditches) had been filled when the pad was recontoured.

As we returned to the truck, I discovered a sheep carcass that had died inside the enclosure fence since the recontouring had taken place.

As we drove to the office trailer we encountered Beth and Arnie (DEQ) arriving at the site. Beth indicated that they were there to take water samples and walk the site to assess the problems that had been noted during DOGM's August 18 inspection. Gene Webb was at the trailer awaiting our arrival. Elwin Ewell (watchman) was attempting to patch one of the numerous holes in the ditch primary liner. The areas that he was attending to was some of the larger holes in the bank of the ditch. There were numerous smaller holes in evidence near the solution flows that should have been of more concern.

One of the sample points DEQ wanted to sample was the monitor wells that were placed between the primary and secondary liners of the ponds. I explained that due to the number and size of the holes in the primary liners, the solutions in the ponds were probably similar to the wells. A sample of the barren pond was taken.

We toured the site indicating to Beth the areas that DOGM had viewed as a concern during the initial visit. We checked the monitor wells that had been placed under the pad ditches to indicate leakage. None of the wells we checked contained water, but all the measuring pipes inside the wells had salt encrustation on them indicating that there had been water in the wells at some time. One of the wells had been destroyed when the heap had been recontoured, the site of this well was surrounded with solution. There was evidence that solutions had been entering this hole.

Beth and I walked along the lower ditch and viewed the areas where breaches had occurred in a berm above the ditch and solution had flowed off the heap. Elwin indicated that these breaches had occurred during a storm some time ago. The ditches had not been cleaned so if there is another event those solutions will flow off the site.

After we looked at the spray arrangement on the pads, we walked down towards the preg pond. There was an area of mud outside the containment area that had been caused by solutions flowing off the heap, with no ditches to contain it.

Both the preg and barren ponds had numerous holes that could be seen during our tour. Some of these were rips two to three feet long. The liners on this site appear to be one of the PCV types that are subject to UV degradation. All the seams are glued by hand with a cement similar to the older Hypolon liners used in the '80s. We were unable to discern if there were holes below the surface due to a dark colored silt that cover the areas below water level. But some of the tears that were above the water level could be seen to extend below the water line. Both these ponds were approximately 3/4 full.

We next looked at the overflow pond. The primary liner in this pond has been completely destroyed and the remains are lying in the bottom of the pond. The seams of the secondary liner have areas where the glue had degraded and left areas of possible infiltration if the water was to

reach the level of the holes. One problem of this particular pond design is that there is not monitor wells in the clay containment below the secondary liner to monitor for leaks. The spillway between the preg and the overflow has several large holes and there is salt encrustation indicating that solution has been allowed to flow through these holes. The water levels of the preg and barren ponds and the present condition of the overflow pond and spillway are of concern. Gene Webb indicated that North Lily could possibly replace the liner in some of the ponds. DEQ sampled the water in the overflow pond.

In the area of the bridge between the preg and barren pond there was a dead mourning dove in the spillway. This is the same area where we had seen a dead blue bird on our last visit. The toxicity of these solutions are a definite concern, as there is evidence that other animals have visited the site.

We next toured the plant, which still contains most of the components used during operation, with the exception of the refinery which has been removed. Gene indicated that with the low metal prices and the age of the equipment, disposal of these components has not taken place.

DEQ had taken the samples that they wanted and we had discussed the areas of concern with Mr. Webb, so we departed.

jb
cc: Gene Webb, North Lily
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