COGEMA

Please docket

August 19, 2004

License SUA-1341
Docket 40-8502
WDEQ Permit To Mine
No. 478

Mr. Gary Janosko Chief,
Fuel Cycle Facilities Branch
Mail Stop T-8A33
Two White Flint North
11545 Rockville Pike
Rockville, MD. 20852

Mr. Mark Taylor
Department of Environmental Quality
Land Quality Division
1866 S. Sheridan Avenue
Sheridan, WY 82801

RE: Christensen Ranch Pond 3 & 4 leaks - conclusion.

Dear Mr. Janosko & Mr. Taylor:

This letter serves as a follow-up report of the incident reported on May 25, 2004 (License Condition 12.2 of SUA-1341) in which Christensen Ranch Ponds 3 & 4 were under investigation for leaks detected in these ponds. Both ponds have now had the apparent leak problems located and repaired and are back in service at the project site.

Description of Incident:
As per Condition 11.4 of SUA-1341, weekly inspections are performed of the Christensen evaporation ponds. During the routine weekly inspection on April 28, 2004, fluid in excess of six vertical inches was detected in one of six leak detection tubes in two of the four Christensen ponds, Pond 3 and Pond 4. Samples from these particular tubes were obtained on April 29 and were analyzed for chloride, conductivity, pH and uranium. The results from the analysis confirmed that the fluid in each of the leak detection tubes had similar chemical characteristics to the pond water, thus confirming that a leak had occurred. The probable leaks in Ponds 3 and 4 were reported to the Wyoming Department of Environmental Quality (WDEQ) and the U.S. Nuclear Regulatory Commission (NRC) on April 29.

Corrective Actions Taken & Results Achieved:
The Christensen evaporation ponds are constructed such that each pond contains six cells that are monitored individually by a leak detection system (LDS). In Pond 3, fluid was detected only in the southwest corner cell (see attached map), thus indicating that the source of the leak is isolated to that portion of the pond. Fluid was detected in only the northwest corner cell of Pond 4, also indicating that the source of the leakage should be in that particular part of the pond.

Initial corrective action was to lower the water levels in each pond by transferring the liquid to another pond within the pond system. Upon water evacuated from the ponds, inspections for holes in the liner were made, and those holes located were repaired. The corrective actions taken for each pond are described below.

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COGEMA Mining, Inc.
935 Pendell Blvd., P.O. Box 730, Mills, WY 82644 - Tel. : (307) 234-5019 - Fax : (307) 473-7306

Pond 3:
Pond 3 was taken out of service on April 29, 2004. Water transfer from Pond 3 was initiated the following day, and was lowered 1.7 feet, to the 4.7 feet freeboard elevation, over a multi-day period. Daily inspections of the pond liner were made during the water transfer. On May 2, the daily inspection identified three small holes along the west side of the southwest cell of the pond at approximately the 4.5 ft. freeboard elevation. Two days later an additional five holes were found in the same general area as the first three holes. All eight holes were then repaired. We continued to monitor the LDS for an additional six weeks (until June 14, 2004) at which time we concluded that no additional leaks existed in this pond and we started refilling the pond with waste water from Pond 2. The LDS remains unaffected by this process and we conclude that all corrective action required is complete. We will of course, continue with our routine weekly inspections of the ponds and their LDS.

Pond 4:
Pond 4 was also taken out of service on April 29. The leakage in the northwest corner of Pond 4 appeared to be significantly less than in Pond 3, as the water in the leak detection tube is only two inches over the reporting level, whereas Pond 3 was eight inches in excess of the reporting level at the time of detection. On June 16, 2004 a puncture was located along the west embankment of this pond and repaired. Because of the location of this puncture, which was relatively high up on the embankment side, we suspected additional leaks might exist. The pond water level continued to be lowered and further inspections made. On July 29, 2004 after removal of sediment build up in the pond and acidizing of the liner; two additional holes were located in the lower portion of the north bank (northwest corner). These punctures were repaired on August 2, 2004 and the pond is currently in the state of being refilled with waste water. As with Pond 3, we will perform our routine weekly inspections to ascertain if all potential leaks have been corrected.

Conclusions:
The cause of the holes found in the Pond 3 liner appears to be the result of a winter situation in which an ice shelf attached to the liner collapsed when a pump was removed from the pond. The water level was actually several inches below the ice as water had been transferred to Pond 4 earlier in the year. As pieces of this ice broke up and fell to the water level they punctured the liner. As the water level in Pond 3 has only recently risen to the elevation where the ice was located this winter, it is assumed that this was the cause for the sudden appearance of the leakage.

The source of the leakage in Pond 4 appears to be from the same type of incident as that in Pond 3. That is, ice build-up and collapse during spring thaw.

Please contact me if you should require any additional information.

Sincerely,

Tom Nicholson
Environmental Specialist/RSO

Attachments: Area Map.

CC: D. Wichers COGEMA - General Manager

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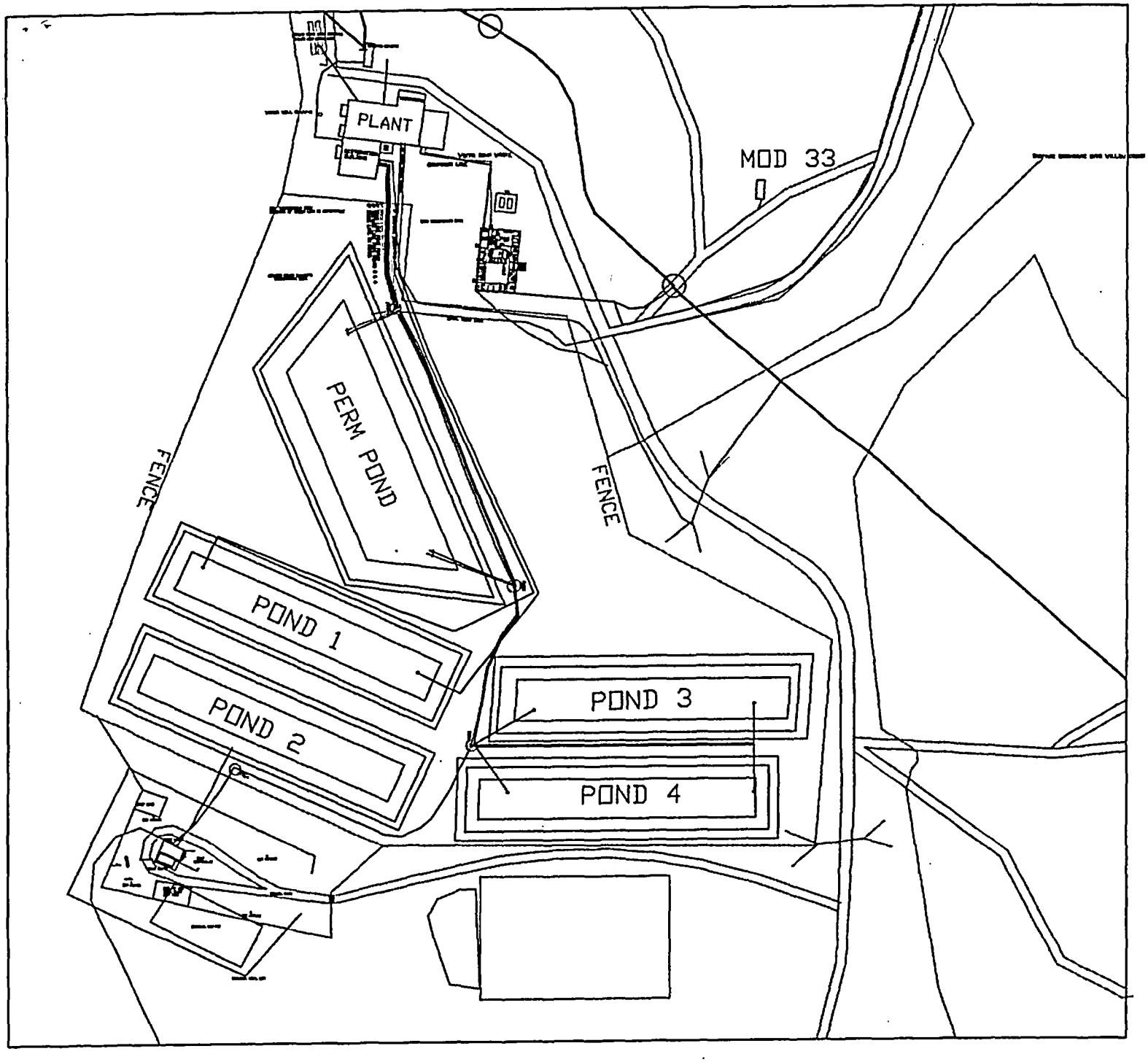
PLANT
MOD 33
PERM POND
FENCE
FENCE
POND 1
POND 2
POND 3
POND 4