COGEMA

NRC License SUA-1341, Docket No. 40-8502
WDEQ Permit to Mine No. 478

July 8, 2005

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

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

RE: Christensen Ranch Pond 4 Leak – CONCLUSION

Dear Mr. Janosko and Mr. Taylor:

This letter serves as a follow-up report of the incident reported on March 17, 2005 in which Christensen Ranch Pond 4 was under investigation for leakage. The location of the liner separation causing the leakage has now been located and repaired and the pond is back in service. The following is a description of the incident and corrective actions taken.

Description of Initial Incident:
As per U.S. Nuclear Regulatory Commission (NRC) and Wyoming Department of Environmental Quality (WDEQ) requirements, weekly inspections are conducted of the Christensen evaporation ponds. During the routine weekly inspection on March 16, 2005, fluid in excess of six vertical inches was detected in one of six leak detection tubes in Christensen Pond 4. Samples from this particular tube were obtained on March 16 and were analyzed on site for the constituents chloride, conductivity, pH and uranium. The results of the analysis confirmed that the fluid in the leak detection tube had similar chemical characteristics to the pond water, thus confirming that leakage had occurred. The leakage was reported to the NRC and WDEQ on March 17, 2005.

Corrective Actions Taken and Results Achieved:
The Christensen evaporation ponds are constructed such that each pond contains six cells that are monitored individually by a leak detection system. Fluid was detected in only the northwest corner cell of Pond 4, indicating that the source of the leakage should be in that particular portion of the pond.

Once the leakage was confirmed, Pond 4 was taken out of service on March 16, 2005. Corrective action of evacuating the water from the pond was then initiated. During the lowering of the water levels, inspections for holes in the liner were made, and some small holes were located and repaired. However, water was still present in the leak detection tube and water evacuation continued.

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After the majority of the water was evacuated from the pond, the sediment buildup on the liner was washed off in order to thoroughly inspect the liner. Lab analysis of the water present within the leak detection system indicated that the water was clean water and not water from the pond. After more washing and acidizing of the liner, a separation of the liner was located along the west embankment of the pond and was repaired. The leak detection system has not shown any additional water in the tube since the repair of the liner separation.

Conclusions:
The cause of the leak found in Pond 4 appears to be the result of the liner separation. We believe the separation was caused by sediment buildup on the northwest embankment that added sufficient weight at that location to pull the liner apart at the seam. Sediment buildup will be carefully watched in the future to avoid having recurrence of this type of problem. No additional leakage has been detected in Pond 4 since the liner separation repair and the continued use of the pond.

Please contact me if you should require any addition information

Sincerely,

Larry Arbogast
Radiation Safety Officer

Attachment: Christensen Pond Location Map

cc: D. Wichers - COGEMA