COGEMA

December 3, 2004

License SUA -1341
Docket 40-8502

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

RE: Christensen Ranch Pond 4 leak.

Dear Mr. Janosko:

This letter serves as the report requirement of License Condition 12.2 of SUA -1341 in which it is stated that a written report of any leak, spill or excursion will be submitted to the Chief, Fuel Cycle Facilities Branch within thirty (30) days of the confirmation of the incident.

Description of Incident:
As per Condition 11.4 of SUA-1341, weekly inspections are performed of the Christensen Ranch (CR) evaporation ponds. During the routine weekly inspection on November 10, 2004, eight (8) small holes were discovered above the water level, at the west end of CR Waste Water Pond 4. At this time no water was detected in the Leak Detection System (LDS). Mr. Rick Kukura (CR Plant Foreman) was informed, and requested to lower the pond water level to determine if any additional holes existed below water level. On the morning of November 15, 2004 the LDS was re-checked and found to have seven (7) vertical inches of water in one of six leak detection tubes (LDT) in CR Pond 4. Samples from this tube, at the northwest side of pond 4 were obtained and analyzed for chloride, conductivity, pH and uranium (see attachment). The results from the analysis confirmed that the fluid in the northwest LDT had similar chemical characteristics to the pond water, thus confirming that a leak had occurred. The probable leak in Pond 4 was reported to the Wyoming Department of Environmental Quality (WDEQ) and the U.S. Nuclear Regulatory Commission (NRC) on November 15, 2004.

Corrective Actions Taken:
The Christensen evaporation ponds are constructed such that each pond contains six cells that are monitored individually by a leak detection system. As stated above, fluid was detected in only the northwest cell of Pond 4, (see attached map) indicating that the source of the leakage should be in that particular part of the pond.

Initial corrective action was to lower the water level in the pond by transferring the liquid to another pond within the system. Once the water is evacuated from a pond, inspections for additional holes in the liner can be made, and any holes can be repaired. The corrective actions taken to date is described following:

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

NMSS01

Pond 4 was taken out of service on November 11, 2004. Water transfer from Pond 4 was initiated the following day, and was lowered .60 feet, to the 4.0 ft. freeboard elevation, over a multi-day period. Daily inspections of the pond liner were made during the water transfer. On November 17, the daily inspection identified five (5) additional small holes along the west side of the pond at approximately the 3.8 ft. freeboard elevation. All thirteen (13) holes located were repaired on November 18, 2004. We have continued to lower the pond level to the current date. During this period no additional holes have been identified in the liner and the water in the N.W. LDT has dried out; indicating all potential leaks have been isolated and repaired.

Incident Cause & Conclusions:
The cause of the holes in the Pond 4 liner appears to be a result of the emplacement of pond solids from our Irigaray (IR) site. Cogema is currently transferring solidified waste pond material from the IR evaporation ponds undergoing decommissioning, to the CR pond system. The intention is to re-dissolve this material and inject it into the CR deep disposal well field. The holes in CR Pond 4 were apparently the result of these sharp-edged blocks of material cutting the liner as they were set in the pond. We are currently reviewing the method of emplacement of these materials to arrive at a procedure that will not result in further damage to the pond liner.

If no additional holes are found within the next few days, we intent to re-activate the pond and will of course, continue to check the LDS to be sure that no additional water is escaping the system.

Please contact me if you should require any additional information.

Sincerely,

Tom Nicholson
Environmental Specialist/RSO

Attachments: Lab Analysis, Area Map.

CC: M. Taylor WDEQ-Project Manager
E. Brummett NRC - Project Manger
D. Wichers COGEMA - General Manager

J: jmv\wp\2004rpt\nrc\novleakp_4.wpd

COGEMA
Christensen Mine Laboratory

SUBMITTAL FORM

SAMPLE ID(s): Pond 4 and Pond 4 Tube DATE: 11/15/04

SPECIAL INFORMATION: _____

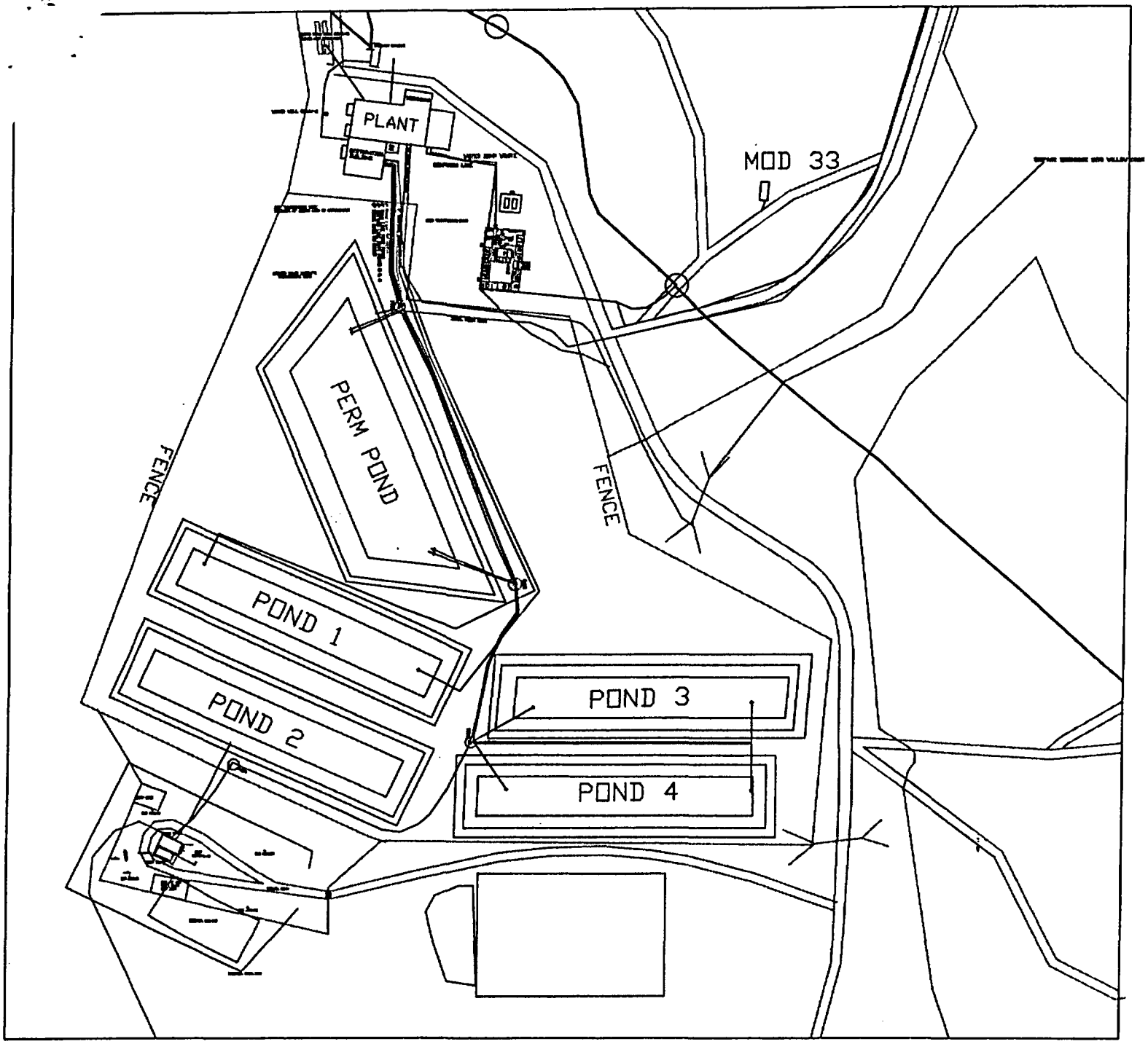
SUBMITTED BY: _____ RECEIVED BY: _____

ANALYSIS REQUIRED:

☒ U308	☒ Conductivity	☐ Alkalinity	☒ pH
☐ Bicarbonate (HCO3)	☒ Chloride (Cl)	☐ Sulfate (SO4)	☐ Calcium (Ca)
☐ Magnesium (Mg)	☐ Sodium (Na)	☐ Potassium (K)	☐ Selenium (Se)
☐ Vanadium (V)	☐ % Moisture	☐ Dissolved Ra-226	☐ Total Ra-226
☐ Tot. Dissolved Solids	☐ Total Suspended Solids	☐ OTHER:	

	tube		Pond				
PH -	8.0		8.1				
U308 -	4.9 ppm		18.5 ppm				
Cond	36900		46600				
CL	5340		5460				

Date Completed: _____ Analyst: _____


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