

CROW BUTTE RESOURCES, INC.

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September 26, 2001

Mr. Melvyn Leach, Chief
Fuel Cycle Licensing Branch, FCSS
c/o Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Source Materials License SUA-1534
Docket No. 40-8943
Evaporation Pond 1 Liner Leak – Final Report

Dear Mr. Leach:

On April 26, 2001 during routine evaporation pond monitoring of Crow Butte Resources, Inc. (CBR) Evaporation Pond 1, CBR determined that conductivity readings from the southwest underdrain had reached the CBR action level and potentially indicated a pond liner leak. As required by License Condition 12.3, a report was submitted on June 25, 2001 that discussed analytical data, mitigative actions, and the results of those actions.

As discussed in the 30-day report, CBR based the determination of a potential liner leak on exceedance of the action level (underdrain conductivity exceeding 50 percent of the pond contents conductivity). At the time, CBR noted that the exceedance of the action level in the underdrain might be due to abnormally low pond contents conductivity rather than a liner leak. CBR noted that the lack of an upward trend in the southwest underdrain water level and conductivity indicated that, if there was a liner leak, it was at a very low flowrate. However, this assumption could not be confirmed without lowering the underdrain conductivity and monitoring for small increases over time.

In order to determine whether a liner leak was present in Pond 1, CBR established a flushing program for the southwest underdrain. The following summary describes the steps taken by CBR to clean the water in the underdrain and monitor changes.

- On May 1, the southwest underdrain was pumped until loss of suction. No recovery of water level in the underdrain was noted. A small decrease in the underdrain conductivity was noted.
- On May 11, the underdrain was filled with fresh water and again pumped until loss of suction. Following this flushing and pumping operation, there was no detectable increase in the underdrain water level. Underdrain conductivity decreased significantly, from 19,180 to 11,700

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- $\mu\text{mhos/cm}$.
- On July 10 and 17, the southwest underdrain was pumped until loss of suction. No recovery of water level in the underdrain was noted after each pumping operation.
 - On July 31, the underdrain was filled with 600 gallons of fresh water.
 - During the period from August 1 to 7, the underdrain was pumped until loss of suction on several occasions. The total volume recovered during these events was estimated at 530 gallons. There was no recovery in the underdrain water level. Underdrain conductivity decreased significantly, from 12,650 to 6,240 $\mu\text{mhos/cm}$.

The affect of each flushing operation is apparent in the southwest underdrain analytical results shown in Figure 1. In accordance with the approved CBR Evaporation Pond Onsite Inspection Program, daily underdrain level measurements and weekly analysis of the underdrain contents were performed. The weekly sample was analyzed for sodium, chloride, sulfate, alkalinity, and conductivity. Following the flushing operations on May 11 and July 31, significant decreases were noted in each parameter. Following each flushing and pumping operation, there was little increase in the concentrations of each parameter. In addition, the underdrain water level remained stable with no increase.

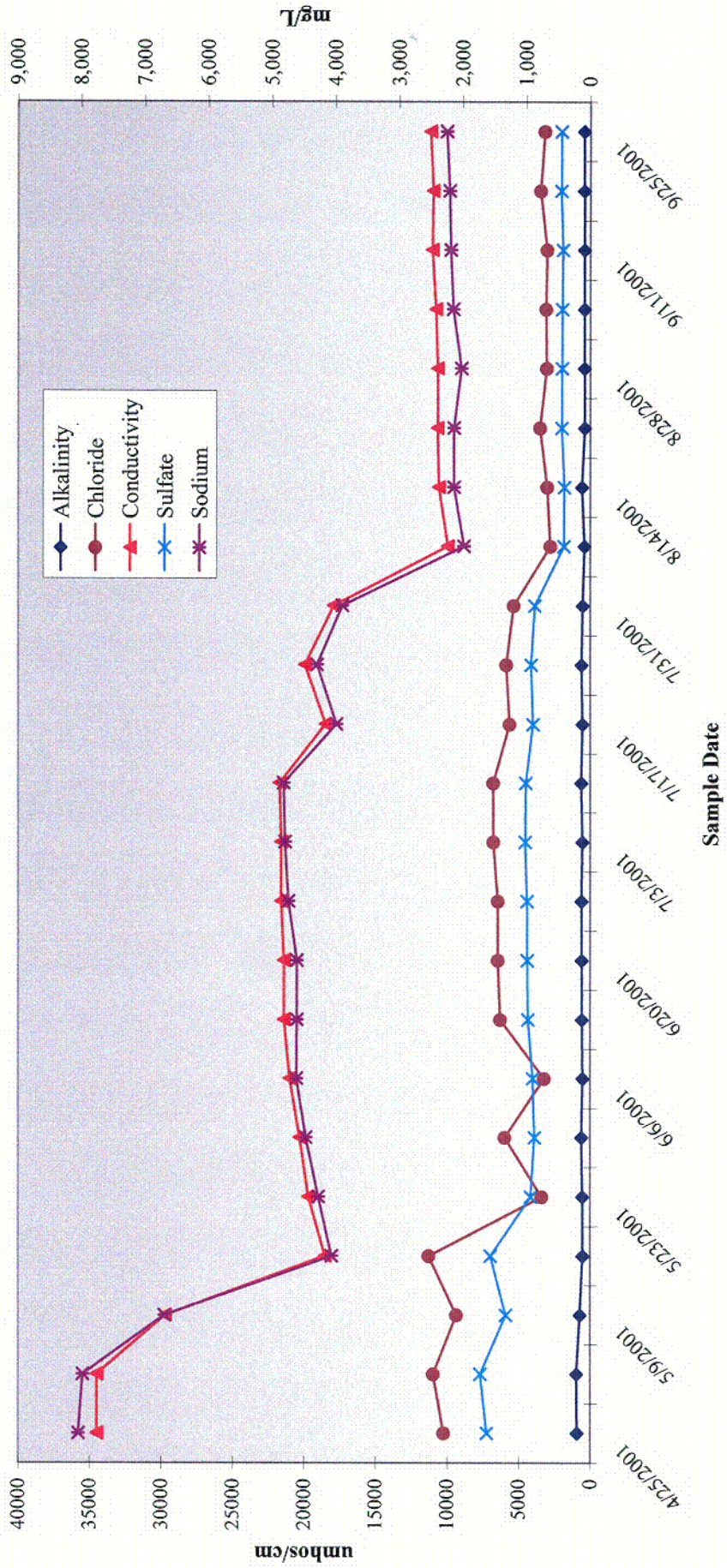
The southwest underdrain has been monitored for approximately two months since the last flushing operation. If a significant liner leak were present, it would be evident in an increase in the underdrain water level or in the concentrations of the monitored parameters (or both) and would be detected during an extended period.

Based on the monitoring results, CBR has confirmed that the exceedance of the action level was not due to a liner leak but was likely due to an abnormally low conductivity in the contents of the pond. During the summer months, the pond contents conductivity has returned to a normal level (approximately 85,400 $\mu\text{mhos/cm}$) with the southwest underdrain conductivity reduced to approximately 15 percent of this level through the flushing program. Therefore, the action level is no longer exceeded and there is no indication of a liner leak. CBR will discontinue daily underdrain level measurement and weekly analysis of the underdrain and will return the southwest underdrain in Pond 1 to normal monitoring status.



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Figure 1
 Pond 1 Southwest Underdrain Monitoring Results



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If you have any questions or require any further information, please do not hesitate to call me at (308) 665-2215.

Sincerely,
CROW BUTTE RESOURCES, INC.

A handwritten signature in black ink, appearing to read 'M. Griffin', written over a circular stamp or mark.

Michael Griffin
Manager of Health, Safety, and Environmental Affairs

cc: U.S. Nuclear Regulatory Commission
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