


United States Nuclear Regulatory Commission Official Hearing Exhibit	
In the Matter of:	CROW BUTTE RESOURCES, INC. (License Renewal for the In Situ Leach Facility, Crawford, Nebraska)
	ASLBP #: 08-867-02-OLA-BD01
	Docket #: 04008943
	Exhibit #: INT-083-00-BD01
	Admitted: 10/8/2015
	Rejected:
	Other:
	Identified: 9/28/2015
	Withdrawn:
	Stricken:

INT-083

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)
)
CROW BUTTE RESOURCES, INC.) Docket No. 40-8943
) ASLBP No. 08-867-02-OLA-BD01
(License Renewal for the)
In Situ Leach Facility, Crawford, Nebraska)) September 27, 2015

REBUTTAL STATEMENT OF MICKEL WIREMAN

Issue # 1 – Whether water levels in the Brule Fm. have been lowered by mining activities

Both CBR and NRC Staff, in their supplemental direct testimony (September 18, 2015), conclude that the 1982- 1982 pre-mining Brule Fm water level elevation data (Exhibits BRD -008a-00-BD01; Figure 2.7-3a) is inaccurate and cannot be used to help determine trends in Brule water level elevations. In addition, very little water level elevation data has been provided for the Brule Fm for the 1993-1999 time period. There is no trend data for stream flow in local Creeks that receive recharge from the Brule Fm. and there is no data /information on springs which discharge from the Brule Fm. Therefore it is not possible, with the available data, to determine if mining, which started in 1991, has lowered water level elevations in the Brule Fm. As discussed in my previous testimony, an appropriate monitoring program for Brule Fm water levels has not been implemented at Crow Butte.

The SER (p 22) reports that the gradient on the Basal Chadron / Chamberlain Pass

potentiometric surface steepened from 0.025 in 1982 to 0.043 in 2008. This steeping could result from increased discharge from the Brule aquifer via induced downward leakage caused by pumping the underlying Basal Chadron / Chamberlain Pass Fm.

Issue # 2 – What is available head in the Basal Chadron / Chamberlain Pass formation and the maximum anticipated drawdown during Crow Butte’s operation and restoration of its mining facility

Significant uncertainty still exists regarding the effect of the White River structure on the potentiometric surface of the Basal Chadron / Chamberlain Pass Fm. Conceptual understandings of the flow system in the vicinity of the White River structure not well developed. Whether the feature is a fold or a fault the potentiometric surface of the Basal Chadron / Chamberlain Pass Fm. will have a different configuration near the structure than away from the structure. How this will affect the available head in the northern part of the ore body is not known. Indications of an effect include:

- Apparently there is significantly less available head in the north part of the mining area (147 ft). Is this due to larger withdrawals for mining or a change in the thickness or confinement of the Basal Chadron / Chamberlain Pass aquifer caused by the White River structure?
- Data presented on Exhibit CBR-62 indicate that in the NW part of the Class III permit area the potentiometric surface elevation in the Basal Chadron (3645 ft amsl) in the vicinity of well CM10-15 is lower than the water table elevation in the Brule aquifer (3715 ft amsl) . This indicates a downward vertical gradient that would facilitate flow from the Brule downward.

In NRC Staff’s Supplemental Direct Testimony (A.2.6) it states that “the Basal Chadron Sandstone is not important with respect to maintaining surface water flow or wetlands”. How is this known? No data or information has been provided by NRC or CBR regarding

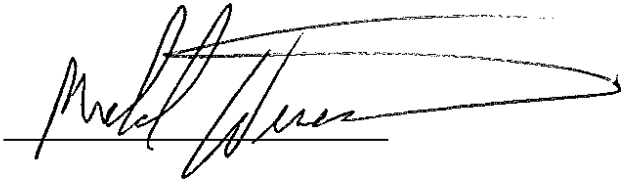
recharge and discharge locations and conditions for the Basal Chadron / Chamberlain Pass aquifer. Lowering the potentiometric surface by mining withdrawals can cause

significant reductions in springs that discharge from the Basal Chadron / Chamberlain Pass aquifer.

Pursuant to 10 C.F.R. § 22.304(d) and 28 U.S.C. § 1746, I declare, under penalty of perjury, that the foregoing is true and correct to the best of my knowledge and belief.

Dated this 27th day of September, 2015.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Michael J. Jones", is written over a horizontal line. The signature is stylized and includes a long, sweeping horizontal stroke that extends to the right.