



November 28, 2011

Mr Keith McConnell, Deputy Director
Decommissioning and Uranium Recovery Licensing Directorate
US Nuclear Regulatory Commission
C/o Document Control Desk
Two White Flint North
11545 Rockville Pike
Mail Stop T-8F5
Rockville, Maryland 20855-2738

Dear Mr McConnell:

Under cover of this letter we submit the following documents for your consideration:

- "An Alternate Concentration Limit Proposal for the Ground Water Resources at the Bear Creek Uranium Mill"
- "A Comprehensive Risk Assessment for the Predicted Concentrations of Nickel, Radium and Uranium at the Bear Creek Uranium Company Site"
- "Re-evaluation of Metals Transport at Bear Creek Uranium, Converse County, Wyoming"

This work was performed at the request of the Nuclear Regulatory Commission (NRC) in a letter dated November 30, 2010. A new model was developed which incorporated a new modeling procedure and 13 additional years of sampling data. The new model and consequent documents lead us to the following conclusions:

- The predictive modeling of the ground water and associated risk assessment shows that there is no unacceptable risk to the public from the Bear Creek site.
- There is no history of this upper zone of the Wasatch formation being used for a domestic or livestock water supply in this region of the Powder River Basin in Wyoming. All of the regional livestock wells are completed to depths of 300 to 500 feet in an aquifer separated from the N-sand by an aquitard hundreds of feet thick. The two nearest wells, Manning B.C. 18 (drilled 1983) and Hardy No. 4 (drilled 1947), located north of the POEs are completed at depths of 432 ft. and 443 ft. respectively and showed no water present in the N-sand in the well logs. There is no known past or current use of this shallow aquifer and no surface expression or communication with lower aquifers or surface water in the area.
- The boreholes drilled by S.M. Stoller in 1997 along Lang Draw north of MW-14 did not encounter significant water. Only boreholes near MW-108 in Lang Draw were found to contain wet sands. Stoller's report stated that *"it is very unlikely that the alluvium will produce enough water to satisfy the NRC definition of an aquifer"*. Water sampling in both monitor wells MW-108 and MW-109 over the past 13 years show yields are <0.01 gallons per minute which supports this conclusion.

- DOE's Title I Spook site is located on the Dry Fork of the Cheyenne River about 2 miles south of the Bear Creek Uranium site. The Spook work plan concluded that groundwater monitoring was not required because there is no apparent risk to human health and the environment because there are no known exposure pathways for contaminated ground water from the uppermost aquifer to lower aquifers or the surface. No one is using the ground water from this aquifer for any purpose and there is no discharge of ground water from the uppermost aquifer to the surface or to surface water. This conclusion is also true for the Bear Creek site. The groundwater in this shallow formation should qualify for supplemental standards according to criterion cited in EPA 40 CFR 192.21.

By this letter we formally request that NRC amend Bear Creek's Source Material License No. SUA-1310 to delete License Condition 47 and proceed with termination of the license and transfer of the General License to DOE.

Should you have any questions or comments, please contact me.

Sincerely



Harry Nagel
Manager Minerals
832.636.2732
harry.nagel@anadarko.com