



# Department of Environmental Quality

To protect, conserve and enhance the quality of Wyoming's environment for the benefit of current and future generations.



Matthew H. Mead, Governor

John Corra, Director

June 5, 2012

Mr. Thomas McLaughlin, Ph.D  
Project Manager  
Two Flint North  
11545 Rockville Pike  
Mail Stop T-8F5  
Rockville, MD 20855-2738

RE: Bear Creek Site, Title II-008, License No.: SUA-1310

Draft Environmental Assessment Related to the Issuance of a License Amendment to the Anadarko Petroleum Corporation Bear Creek Uranium Company Mill Site

Dear Mr. McLaughlin:

Thank you for the opportunity to comment on the pre-decisional Draft Environmental Assessment for the Bear Creek Uranium Company's Mill Site. The Wyoming Department of Environmental Quality, Water Quality Division and Land Quality Division, have reviewed the above referenced submittal. The comments are largely from Water Quality Division. Land Quality Division concurs with the Water Quality Division findings. The Land Quality Division Permit has been terminated and the restricted area turned over to NRC. Therefore, Land Quality Division has no jurisdiction over this site.

You may contact Kevin Frederick at (307) 777-5985 ([kevin.frederick@wyo.gov](mailto:kevin.frederick@wyo.gov)) or Deb Harris (307) 355-6980 ([deborah.harris@wyo.gov](mailto:deborah.harris@wyo.gov)) with any questions related to these comments. I can be reached at (307) 777-7064 or ([steve.ingle@wyo.gov](mailto:steve.ingle@wyo.gov)).

Sincerely,

Steve Ingle, District I,  
Wyoming DEQ  
Land Quality Division

Cc: Kevin Frederick, Water Quality Division  
Deborah Harris, Water Quality Division, Lander



**Draft Environmental Assessment,  
License Amendment to SUA-1310  
Anadarko Petroleum Corporation  
Bear Creek Uranium Company Mill Site  
WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY COMMENTS**

**Section 1.3 (The Proposed Actions)**

1. Under the proposed action only the concentration values for nickel, radium 226 and 228, and uranium are to be retained at the existing POC wells (MW-12 and MW-74). NRC is reminded that the other analytes currently sampled at POC wells include those (i.e. beryllium, cadmium, chromium, selenium) for which there exists federal Maximum Contaminant Levels (MCLs) or State of Wyoming groundwater protection standards (i.e. chloride, sulfate). Future sampling at both the POC wells and the POE wells should include all of these analytes. There is concern that, unless monitored at the proposed POE wells, concentrations of any of these contaminants in groundwater that may have migrated offsite will not be detected, and could pose a threat to human health and the environment, or a violation of State of Wyoming groundwater quality standards. **(WQD)**
2. The results from the current fate and transport modeling are not valid. Fate and transport modeling should be applied to demonstrate that the predicted concentrations of these contaminants at the proposed POE wells does not exceed their respective federal SDWA MCLs (or state standards), or baseline concentrations (at the POE wells), whichever is greatest. Contaminant limits at the POE wells should adhere to federal SDWA MCLs (or state standards), or baseline concentrations (at the POE wells), whichever is greatest. **(WQD)**
3. Institutional Controls to prohibit installation of water supplies for any use (domestic, livestock, etc.) do not apply beyond the site boundary and do not preclude the ability of the off-site landowner to install and use a water supply well for any desired purpose, including domestic and drinking water use. **(WQD)**
4. What type of Institutional Controls to restrict groundwater use within the Long-Term Surveillance Boundary are proposed? Are they monitored for effectiveness and durability? Are they enforceable; how? **(WQD)**
5. While land ownership may not include existing groundwater use, one should not assume this will remain the same through time and that there will never be any exposure pathways in this vein. **(WQD)**

### **Section 3.3.2 Ground Water**

6. The Wasatch Formation is described as costal or deltaic, the formation is fluvial. Was the opinion provided by S.M. Stoller made by a Wyoming licensed professional geologist? **(WQD)**
7. Please state NRC's definition of an "aquifer". **(WQD)**
8. Lack of a description of the presence of water on well logs (filed with the State of Wyoming) down to a certain depth is not conclusive evidence that shallow groundwater does not exist. The licensee and a Wyoming licensed professional geologist should review other geologic/hydrologic reports available for the area and region, including those developed by the US and State Geological Surveys, to evaluate the potential for the presence of water at shallow depths. As an alternative, the licensee should install monitoring wells to confirm the presence/absence of water at shallower depths. **(WQD)**

### **Section 4.3 Ground Water**

9. Provide the basis for the statement that the shallow, impacted, saturated units are not viable aquifers at the site. Define 'viable aquifer'. NRC should incorporate State of Wyoming, Department of Environmental Quality definitions for 'aquifer', 'groundwater', 'underground water', and 'water in the vadose zone' in its evaluation of which groundwater's are afforded protection under State rules and regulations. **(WQD)**
10. Provide the basis for the statement that relocation of the POE wells should enable the site to stay in compliance with revised ACLs. If sampling is discontinued for some analytes having federal SDWA MCLs or state groundwater standards, how will NRC and/or DOE determine whether compliance for those analytes is achieved, or not? **(WQD)**
11. Provide the modeled, or predicted concentrations for the analytes described above at the proposed revised POE wells to support the statement that relocation of the POE wells should enable the site to stay in compliance. Monitoring should continue long enough to validate the model predictions. **(WQD)**

### **Section 5.0 Monitoring**

12. Until the Technical Evaluation Report (TER) regarding monitoring (subsequent to license transfer to DOE) has been developed and accepted in support of the proposed license amendment, the current monitoring program and frequency should remain in place, with the exception of establishing new POE wells with revised compliance limits for those analytes as described above. WDEQ requests an opportunity to review and comment on the TER before it is accepted. **(WQD)**

## **7.0 Conclusions**

Given the deficiencies identified above, it is premature to determine that a finding of no significant impact (FONSI) is appropriate until those deficiencies have been resolved.