

Peer Review Summary Document

(12/20/2011)

Peer Review Plan

<https://www.usgs.gov/atom/112997> [97 KB PDF].

Title and Authorship of Information Product Disseminated

Assessment of Potential Migration of Radionuclides and Trace Elements from the White Mesa Uranium Mill to the Ute Mountain Ute Reservation and Surrounding Areas, Southeastern Utah, By David L. Naftz, Anthony J. Ranalli, Ryan C. Rowland, and Thomas M. Marston.

Peer Reviewers Expertise and Credentials

Peer Reviewer #1: Supervisory hydrologist in the USGS Wyoming Water Science Center with expertise in hydrostratigraphy and hydraulic processes in groundwater and groundwater/surface-water interactions. MS degree from Iowa State University in Geophysics and Water Resources Policy. Three years of experience with Amoco Oil Company's experimental seismic division, and 26 years professional experience with the USGS.

Peer Reviewer #2 Supervisory hydrologist with the USGS Utah Water Science Center. MS degree in Geology from the University of Utah followed by 22 years of professional experience with the USGS. Reviewer's expertise is in groundwater hydrology and watershed studies and includes experience in using distributed physical process models to investigate groundwater and surface water connections in watersheds.

Peer Reviewer #3: Hydrologist with expertise in aqueous geochemistry, radionuclide chemistry and water quality assessment. BS degree in Geology from Haverford College, a MS from the Univ. Rochester and a PhD from the Univ. Texas - Austin. An adjunct professor in the Hydrological Sciences Program at the Univ. Nevada - Reno. Named as a Fellow of the Geological Society of America in 2010. Previously employed at the Institute of Geological and Nuclear Sciences, New Zealand, the Div. of Water Res., CSIRO and Curtin Univ. Tech. in Western Australia.

Charge Submitted to Peer Reviewers

The reviewers were asked to make an objective scientific evaluation of the research. Specifically reviewers were asked to evaluate the clarity of hypotheses, the validity of the research design, the quality of data collection procedures, the robustness of the methods employed, the appropriateness of the methods for the hypotheses being tested, the extent to which the conclusions follow from the analysis, and the strengths and limitations of the overall product.

Summary of Peer Reviewers Comments

Peer Reviewer #1

Found the manuscript to be well written and appropriate for the intended audience. The methods used appropriate for the analyses necessary to complete the intended

investigation, and the findings clearly conveyed in a manner that is understandable to those who are not experts in geochemistry and radiochemistry. Peer Reviewer #1 found a few minor technical issues with the report, and none that were significant.

Peer Reviewer #2

Concluded, overall the report is well written and the table and figures in good shape. Recommended authors consider shortening the manuscript for clarity. Suggested clarifying the discussion of eolian transport of particulates to the Entrance Spring drainage and subsequent dissolution of Uranium.

Peer Reviewer #3

Concluded, the report is very relevant to its purpose and objectives and the described investigation approaches are thorough and well thought out. In general, the report is well organized. However, the reviewer requested some additional reorganization of the manuscript to provide clarity. The reviewer also suggested additional detail related to wind as a possible transport mechanism.

Summary of USGS Response to Peer Reviewer Comments

All technical issues raised by Peer Reviewer #1 were addressed. In response to Peer Reviewer # comments, the manuscript was shortened and revised for clarity in response to Peer Reviewer #2 comments. In response to Peer Reviewer #3 comments, the manuscript was reorganized for clarity and additional detail related to wind as a possible transport mechanism was included.

The Dissemination

The published information product will be released as a USGS Scientific Investigation Report and will be available at <http://pubs.er.usgs.gov/>.