Finding of No Significant Impact
Ground Water Compliance at the Slick Rock, Colorado, UMTRA Project Sites

AGENCY: U.S. DEPARTMENT OF ENERGY

ACTION: FINDING OF NO SIGNIFICANT IMPACT (FONSI)

SUMMARY: The U.S. Department of Energy (DOE) plans to implement ground water compliance strategies for two Uranium Mill Tailings Remedial Action (UMTRA) Project sites near Slick Rock. Colorado. The purpose of the strategies is to comply with U.S. Environmental Protection Agency (EPA) ground water standards defined in Title 40 *Code of Federal Regulations* (CFR) Part 192. and in so doing. protect human health and the environment.

Ground water at the Slick Rock sites is contaminated with residual radioactive materials from historical activities associated with the processing of uranium ore, The planned action (formerly, the proposed action) and a no-action alternative are described in detail in the *Environmental Assessment of Ground Water Compliance at the Slick Rock, Colorado, UMTRA Project Sites* (see attached DOE/EA-1458). The planned action consists of the following remediation strategies for the two sites :

North Continent (NC) Sire--Natural flushing will reduce ground water contaminant concentrations until they are in compliance with standards in Subpart B of 40 CFR 192 In conjunction with natural flushing, DOE will implement institutional controls and ground water and surface water monitoring programs. Ground water contaminants of potential concern at the NC site are uranium and selenium. Uranium is more prevalent, and concentrations in the majority of alluvial wells at the NC site exceed the maximum concentration limit (MCL) of 0.044 milligram per liter (mg/L). Selenium contamination is less prevalent; samples from only one well had concentrations exceeding the EPA maximum concentration limit of 0.01 mg/L. To achieve compliance with MCLs at the NC site, DOE will implement the strategy of natural flushing in conjunction with institutional controls and continued monitoring. Ground water flow and transport modeling predicts that concentrations of uranium and selenium in the alluvial aquifer will decrease to levels below their respective MCLs within 60 years.

During the natural flushing period, institutional controls will be maintained to ensure that contaminated ground water beneath the site is not used. DOE also will implement ground water and surface water monitoring programs. Ground water and surface water will be monitored during the period of natural flushing to verify that concentrations of uranium and selenium are decreasing as predicted. If monitoring results indicate that natural flushing is not proceeding as predicted, DOE will reevaluate conditions in the alluvial aquifer to determine if changes to the compliance strategy are needed.

Monitoring will take place on an annual basis for the first 10 years; after 10 years, sampling frequency will be reduced to once every 5 years. Natural flushing will be considered complete when, for three consecutive sampling events, uranium concentrations are below the MCL in all

point-of-compliance wells in the monitoring network, and selenium concentrations are below the MCL in wells 0305 and 0307.

Union Carbide (UC) Site—Natural flushing will reduce ground water contaminant concentrations until they are compliance with standards in Subpart B of 40 CFR 192. In conjunction with natural flushing, DOE will implement institutional controls and ground water and surface water monitoring programs.

Ground water contaminants of potential concern at the UC site are manganese, molybdenum, nitrate, selenium, radium-226, radium228, uranium, benzene, and toluene. Molvbdenum, nitrate, and selenium are the major contaminants. Minor contaminants are manganese, radium-226, radium-228, uranium. benzene, and toluene, which are present in concentrations only slightly above their respective standards (background for manganese) or have been detected in only a small portion of the alluvial aquifer.

During the natural flushing period, institutionai controls will be maintained to ensure that contaminated ground water beneath the site is not used. DOE also will implement ground water and surface water monitoring programs. Ground water and surface water will be monitored during the period of natural flushing to verify that concentrations of contaminants of potential concern (identified above) are decreasing as predicted. If monitoring results indicate that natural flushing is not proceeding as predicted, DOE will reevaluate conditions in the alluvial aquifer to determine if changes to the compliance strategy are needed.

Ground water flow and transport modeling predicts that concentrations of molybdenum, nitrate, and uranium will decrease to levels below their respective MCLs and that concentrations of manganese will decrease to levels below background in the alluvial aquifer within 100 years. For benzene and toluene, it is anticipated that natural biological degradation will reduce these contaminants to levels below the State of Colorado drinking water standards (Regulation 4 1) within 100 years. Radium concentrations slightly exceed the MCL at only one location at the UC site. Concentrations at that location are expected to decrease to levels below the MCL within 100 years, DOE is implementing an alternate concentration iimit for selenium at the risk-based human health drinking water benchmark of 0.18 mg/L. Flow and transport modeling predicts that selenium concentrations in the alluvial aquifer will be below this benchmark value within 60 years, with a small probability that the maximum average selenium concentration will be above the benchmark after 100 years of natural flushing.

Monitoring will take place on an annual basis for the first 10 years; after 10 years, sampling frequency will be reduced to once every 5 years. Natural flushing will be considered complete when contaminant concentrations in all wells in the sampling network are less than the MCLs, alternate concentration limit (selenium only), or background (manganese only) for three consecutive sampling events. Entrada Sandstone wells 03 17 and 0324 will be monitored until contaminant concentrations are below applicable standards for three consecutive sampling events. Well 0320, the farthest downgradient of the on-site wells, will be monitored to track plume movement. Well 0684, off site and farther downgradient than well 0320, was added as a monitoring location based on public comment and will be monitored for the same constituents and with the same frequency as well 0320.

The proposed monitoring program will begin upon regulatory concurrence with the Ground Water Compliance Action Plan that must be approved by the U.S. Nuclear Regulatory Commission. In about 2005, DOE will compare the actual monitoring results to the modeling predictions. If actual ground water conditions are reasonably comparable to predicted conditions, in 2006 the sites may be turned over to the Long-Term Suneillance and Maintenance Program for long-term management. If monitoring results indicate that natural flushing is not proceeding as predicted, DOE will reevaluate conditions in the alluvial aquifer to determine if changes to the compliance strategy are needed. DOE will maintain authority and responsibility for long -term monitoring.

The Environmental Assessment analyzes the relevant environmental effects of DOE's planned action and a no-action alternative on ground water, surface water, land and water use. human health, ecological risk, floodplains. wetlands, threatened or endangered species. and socioeconomics. It also describes environmental justice considerations and analvzes the cumulative effects of the two alternatives. The planned action will not:

- Compromise public health or safety:
- Affect unique cultural. biological. or ecologically critical areas:
- Result in controversial impacts to the human environment:
- Result in impacts that would be uncertain or involve unique or unknown risks:
- By its implementation, establish a precedent for future actions having possible significant effects;
- Be associated with other actions that may have individually insignificant but cumulatively significant effects;
- Affect districts, sites, highways. structures, or objects listed in or eligible for listing in the National Register of Historic Places.
- Cause loss or destruction of significant scientific, cultural. or historical resources;
- Affect threatened or endangered species or their habitat;
- Result in a violation of federal, state, or local laws or requirements imposed for the protection of the environment.

PUBLIC AVAILABILITY OF ENVIRONMENTAL ASSESSRIENT AND FONSI: Copies of the Environmental Assessment and FONSI are available for review at local libraries and on DOE's website:

www.gjo.doe.gov\ugw\sites\co\slickrock\slickrock.htm

Copies of the documents may be obtained from:

Donald Metzler, Program Manager
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2597 B ¾ Road
Grand Junction, CO 8 1502-2567
Telephone (970) 248-7612 or (800) 399-5618

FURTHER INFORMATION ON THE NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) PROCESS: For further information about the NEPA process, contact:

Roger Twitchell, NEPA Compliance Officer
U.S. Department of Energy Idaho Operations Office
Mail Stop 1216 .
850 Energy Drive
Idaho Falls, ID 83401
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DETERMINATION: On the basis of the Environmental Assessment, which analyzed relevant environmental issues and addressed the concerns of stakeholders, DOE finds that no significant impact will result from implementing the planned action at the Slick Rock sites. This FONSI is documented pursuant to NEPA, the Council on Environmental Quality's "Regulations for Implementing the Procedural Provisions of NEPA" codified at 40 CFR 1500, and DOE's "NEPA Implementing Procedures" codified at 10 CFR 1021. The planned action does not constitute a major federal action that would significantly affect the quality of the environment within the mandate of NEPA. Therefore, implementation of the planned action does not require the preparation of an environmental impact statement.

Signed in Grand Junction, Colorado, this 2nd day of October, 2003.

D. Bergman-Tabbert, Manager
Grand Junction Office