May 16, 2005

MEMORANDUM

TO: Joe Shirley, Jr., President
    Office of the President/Vice President

THRU: Arvin Trujillo, Executive Director
       Division of Natural Resources

FROM: Madeline Roanhorse, Department Manager III
      Navajo AML/UMTRA Department

SUBJECT: Phytoremediation Pilot Study at the Monument Valley UMTRA Site

The Navajo UMTRA Program (Navajo UMTRA) has notified the community members of Cane Valley, Arizona by certified mail that the Department of Energy (DOE) will implement the groundwater remedial activities at the Monument Valley UMTRA site this month. The Navajo Department of Justice (DOJ), Natural Resources Unit informed Navajo UMTRA by memorandum dated May 13, 2005 that this project can start without the land user consents and Right-of-Way (ROW) process. Pursuant to the Uranium Mill Tailings Radiation Control Act of 1978, 42 U.S.C. Section 7901 et seq. (UMTRCA), the Navajo Nation entered into Cooperative Agreement with the DOE to carry out remedial action of the Navajo UMTRA sites. The Cooperative Agreement allows the DOE and their contractor personnel "a permanent right of entry at any time to inspect such processing site in furtherance of the provisions of this subchapter, to carry out such agreement, and to enforce any rules prescribed under this chapter" of 42 U.S.C. Section 7915 (a) (3).

The Monument Valley UMTRA project has been on hold since 2000 due to community concerns with the proposed remediation methods. Selected members of the community did not fully support the phytoremediation initiatives unless the Navajo Nation provided basic infrastructure services, in exchange for compensation, to their community in Cane Valley, AZ. They requested for water lines, electrical power lines, and sewer lines to be constructed for their homes along with a water system for their livestock. Also, Suzy Taylor and her three (3) sisters requested new homes to be built for their families. This family is the only remaining group that will not support the remediation efforts until their compensation issues are met while the majority of the community members support the remediation initiatives. Navajo AML/UMTRA could not fulfill these services; however, we have coordinated with respective entities and secured leverage funding to construct a community water system that presently provides clean, running water to the Cane Valley homes.
Navajo UMTRA initiated the ROW process for this project and obtained support resolutions from Dennehotso, Oljato, and Kayenta Chapters in favor of the remediation efforts; however, DOE could not wait any longer due to the funding issue. The funds approved for this project were about to be jeopardized and were set to be reallocated to another project if DOE was not given permission to proceed with the project this month. In addition, this project would not receive any funding for two years (Fiscal Year 2007 and 2008). For this reason and upon receiving legal opinion from DOJ, we will start the pilot study this month.

Navajo UMTRA assists the DOE with remedial action tasks, and we provide oversight and monitoring of the four Navajo UMTRA sites. These sites are located in Shiprock, NM; Tuba City, AZ; Mexican Hat, UT; and Monument Valley, AZ. DOE has developed plans to remediate groundwater at the Monument Valley UMTRA site. Soils and groundwater were contaminated as a consequence of milling operations between 1955 and 1968. Starting in 1992, tailing piles, leach area soils evaporation sediments and associated surface contamination were removed from the site and placed in an engineered design disposal cell near Mexican Hat, Utah. Recharge of process water through the tailing materials and soils containing mill process chemicals continue to move contaminants into the underlying groundwater. Elevated nitrate levels in the alluvial aquifer down gradient from the former mill and tailing piles exceed groundwater standards developed by the U.S. Environmental Protection Agency for protection of human health. Residual nitrate and ammonium in soils where tailing piles were removed may be a continuing source of nitrate contamination into the ground water. An evaluation of phytoremediation for the subpile soils and groundwater plume began in 1999. Phytoremediation is the use of plants to extract, degrade or contain contaminants in soil and water.

The proposed pilot study will include characterizing the extent of the elevated subpile soils that contain ammonium and nitrate contamination, expanding the existing subpile soils by phytoremediation planting while natural attenuation processes are further evaluated. After a minimum of three years, the results of the pilot study will determine the final method of clean up. The full scale ground water remediation may include remediation of the alluvial aquifer system, construction of an active system to remove the contaminants located in the deeper aquifer and natural flushing of the De Chelly aquifer. The objective of the clean up is to contain and reduce the levels of contaminants within the aquifer system while protecting overall human health and the environment. Full-scale remediation could last up to 20 years.

We are providing you this report in case the Cane Valley community members bring this issue to your attention. Please contact Levon Benally, Terri Lameman, or myself at ext. 6982 with any questions. Thank you.

cc: Frank Dayish, Jr., Vice President, Office of the President/Vice President
    Patrick Sandoval, Chief of Staff, Office of the President/Vice-President
    Veronica Blackhat, Attorney, DOJ
    Art Kleinrath, Project Manager, DOE