

Date: July 23, 1997

To: Don Metzler, GJO  
Mike Layton, NRC

From: Sharon Arp, UMTRA

Subject: Revisions to Section 4.3 of Mexican Hat LTSP

In response to our discussion on July 16, 1997, following is the proposed revision to the Cell Performance Monitoring. Please review and provide comments/currence asap.  
Thanks. Sharon

#### 4.3 CELL PERFORMANCE MONITORING

The DOE will monitor the following seeps in the disposal cell vicinity to evaluate disposal cell performance:

1. Seep 251 and in the vicinity of seep 249 in the North Arroyo. These seeps are directly north and downgradient from the disposal cell. They potentially will flow in response to precipitation runoff from the disposal cell cover, or in response to transient drainage or other anticipated discharge from the disposal cell.
2. Seeps 248, 254, and 922. These seeps potentially could flow in response to any influx of water from the disposal cell through fractures in the Halgaito Shale to Gypsum Wash.
3. Seep 261. This seep is considered to have background-quality water. It will be monitored only if water quality sampling is required due to increased flows in the above five seeps.

The volume of flow from the seeps will be visually monitored using photographs of a baseline area to establish trends over time. The baseline area will be established using rebar to mark the current areal extent of the seeps. These measurements will be made at approximately the same time each year during the spring or summer when any potential leakage from the disposal cell would be noticeable. If measurable flow is observed at any of the seeps, an attempt will be made to quantify the magnitude of flow. The procedure for measurement and reporting will be determined by the technical inspector at the time. Water in the seeps is expected to decrease in time and return to natural conditions.

*Sharon Arp*

*John P. Mike*

12/17

*Handwritten notes at top of page, including "note" and "T1's".*

If significant increased flow from the seeps is observed, water from the seeps will be sampled. If a sufficient volume of water can be collected from the seeps, it will be sampled and analyzed for a limited number of indicator parameters including uranium, sulfate, and nitrate. If analysis of the indicator parameters indicates a degradation of seepage water quality, then additional sampling and analysis will be performed. The constituents of potential concern to be analyzed include ammonium, calcium, chloride, molybdenum, nitrate, potassium, radium-226 and -228, sodium, sulfate, total dissolved solids, uranium, and vanadium. The results of the sampling would be evaluated to determine whether degradation was indicative of disposal cell failure. Rainfall records will also be reviewed for potential increases in fracture recharge caused by runoff into and infiltration from the north apron and drains. As appropriate, other follow-up assessment activities may be conducted, such as comparing past cell and apron inspections to current inspections. If water sampling is required, the following constituents of concern that could indicate leakage from the disposal cell will be analyzed: ammonium, calcium, chloride, molybdenum, nitrate, potassium, radium 226 and 228, sodium, sulfate, TDS, uranium, and vanadium.

Indications of cell failure, if any, will be responded to. Seeps could be monitored more frequently. In addition, sampling the San Juan River at its confluence with Gypsum Wash could be added to the monitoring program.

*Handwritten note at bottom: "Get rid of the moisture parameter if possible" and "M.M. & Bob B.M."*