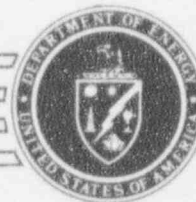


United States Department of Energy



**COMMENT AND RESPONSE
DOCUMENT FOR THE LONG-TERM
SURVEILLANCE PLAN FOR THE
LOWMAN DISPOSAL SITE,
LOWMAN, IDAHO**

April 1994



Uranium Mill Tailings Remedial Action Project

**COMMENT AND RESPONSE DOCUMENT
FOR THE LONG-TERM SURVEILLANCE
PLAN FOR THE LOWMAN DISPOSAL
SITE, LOWMAN, IDAHO**

April 1994

Prepared for
U.S. Department of Energy
UMTRA Project Office
Albuquerque, New Mexico

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UMTRA DOCUMENT REVIEW FORM

SECTION 1

Site: Lowman, Idaho Date: 1/11/94
Document: Long-Term Surveillance Plan
Reviewer: U.S. Nuclear Regulatory Commission
Comment: 1

Title Transfer: The information provided by the U.S. Department of Energy (DOE) as to land title transfer is not complete. DOE described the property in general terms as acquired from the NWI Land Management Corporation by quit claim deed in fee simple title (37 acres) and by purchase from the U.S. Forest Service (4.32 acres). Mineral rights were acquired by transfer from the Bureau of Land Management (BLM). Apparently, the state of Idaho acquired the surface rights and DOE received the BLM transfer of mineral rights. This information is on page 1-2 of the Long-Term Surveillance Plan (LTSP).

The Land Ownership Documentation (in Attachment 1 of the LTSP) has a legal description of the disposal site, but no information on land transfer to DOE is included. DOE needs to include in Attachment 1 the basis for the underlying title transfer with references to courthouse record filings. In addition, if the BLM land was transferred "subject to existing mining claims," there should be a Federal Register notice citation and information from BLM as to the lack of existence of any valid mining claim.

SECTION 2

Response: Page: Att. 1 By: P. Martinez Date: 3/11/94

Attachment 1, Land Ownership Documentation, of the Lowman LTSP has been rewritten to address the NRC's comments. Specifically, the General Section addresses state acquisition of the site and describes the title transfer process to date and the remaining steps.

As a followup to the U.S. Nuclear Regulatory Commission's (NRC) comment, the Technical Assistance Contractor contacted the BLM Boise, Idaho, office to confirm the nonexistence of unpatented mining claims on the property being transferred to the federal government. The BLM will send the Uranium Mill Tailings Remedial Action (UMTRA) Project Office a letter documenting the nonexistence of unpatented mining claims on the site.

UMTRA DOCUMENT REVIEW FORM

SECTION 1

Site: Lowman, Idaho Date: 1/11/94
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Reviewer: U.S. Nuclear Regulatory Commission
Comment: 2

Ground-Water Monitoring: Table 5.1, page 5-3 of the Groundwater Monitoring chapter identifies the hazardous constituent and the indicator parameters that will be monitored during the post-closure period. The table also provides the compliance concentration limits, based on background ground-water sampling. The concentration limits are described as the 'statistical maximum' background concentrations. U.S. Nuclear Regulatory Commission staff compared these concentration limits with the available ground-water data for the site, and concluded that the values provided in Table 5.1 were likely the observed maximum concentrations, not the statistical maximum.

DOE's guidance for developing the LTSPs references the U.S. Environmental Protection Agency (EPA) guidance for statistical analyses of ground-water monitoring data, as a basis for evaluating the background constituent concentrations (baseline) in the uppermost aquifer. The DOE Technical Approach Document for the surface reclamation program also provides a methodology for evaluating the background constituent concentrations. Other DOE Remedial Action Plan-related documents have used the 98 percent confidence interval as a measure of the maximum statistical background. Each of these approaches is designed to provide a representative analysis of the background conditions, given some degree of expected temporal variation in the data. The observed maximum of the data set does not provide the same degree of representativeness.

DOE should reevaluate the statistical determinations used to establish the background constituent concentrations in the Lowman LTSP. DOE should follow the methods outlined in its LTSP guidance document. Table 5.1 of the LTSP should also be revised to reflect the changes in the concentration limits which result from the statistical reevaluation.

SECTION 2

Response: Page: 5-7, 5-11 By: K. Smith, E. Storms Date: 3/11/94

Table 5.1 has been deleted because antimony is the only designated hazardous constituent. The major ions listed in Table 5.1 now are discussed in the text. The ions will be monitored annually and serve as indicator parameters to observe potential changes in ground water quality.

The 47 background antimony measurements available to establish concentration limits are as follows:

CONCENTRATION (mg/L)	NUMBER OF OCCURRENCES
<0.003	39
0.004	1
0.005	3
0.006	1
0.007	1
<0.010	<u>2</u>
	47

The proposed concentration limit for antimony is 0.007 milligrams per liter, which is the maximum observable concentration of antimony in the background to date.

The EPA guidance documents, *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities—Interim Final Guidance* (EPA, 1989) and *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities—Draft Addendum to Interim Final Guidance* (EPA, 1992), provide several alternative statistical strategies to establish compliance limits based on background water quality data. Use of the maximum concentration is explicitly endorsed in the draft addendum (page 54). However, use of an upper confidence limit (UCL) for average background concentration is not appropriate for the type of compliance monitoring that occurs at UMTRA disposal sites because evaluation of exceedances is based on individual future measurements in point of compliance wells, not on averages. Use of an upper 98 percent UCL as a concentration limit for individual future measurements would result in false alarms just slightly less than 50 percent of the time.

References:

- EPA (U.S. Environmental Protection Agency), 1992. *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities—Draft Addendum to Interim Final Guidance*, July 1992, Office of Solid Waste, Permits and State Programs Division, U.S. Environmental Protection Agency, Washington, D.C.
- EPA (U.S. Environmental Protection Agency), 1989, *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities—Interim Final Guidance*, February 1989, EPA/530-SW-89-026, Office of Solid Waste, Waste Management Division, U.S. Environmental Protection Agency, Washington D.C.

UMTRA DOCUMENT REVIEW FORM

SECTION 1

Site: Lowman, Idaho Date: 1/11/94
Document: Long-Term Surveillance Plan
Reviewer: U.S. Nuclear Regulatory Commission
Comment: 3

Ground-Water Monitoring: In a related area, DOE stated that ground-water monitoring will be performed on an annual schedule in 1994 and 1995 (first paragraph, page 5-3). It is not clear whether the 1995 date signifies the termination of ground-water monitoring at the site or only a change in the sampling schedule. NRC staff's understanding of EPA's post-closure ground-water monitoring requirements is that the monitoring will be conducted to demonstrate compliance at a specific site, based on the engineering design, and not to fulfill a time limit. Termination of a monitoring program is dependent on evaluating an adequate duration of monitoring data to determine that the disposal cell is performing as anticipated. The duration of a monitoring program is heavily dependent on the site-specific conditions at a particular disposal cell. DOE should clarify the discussion pertaining to sampling duration presented on page 5-3.

SECTION 2

Response: Page: 5-9 By: E. Storms Date: 3/11/94

The text has been rewritten to indicate annual sampling of compliance wells.

UMTRA DOCUMENT REVIEW FORM

SECTION 1

Site: Lowman, Idaho Date: 1/11/94
Document: Long-Term Surveillance Plan
Reviewer: U.S. Nuclear Regulatory Commission
Comment: 4

Provide response to the comments transmitted with NRC letter of December 29, 1992.

SECTION 2

Response: Page: NA By: C. Silva Date: 3/11/94

The original Lowman Comment and Response Document (CARD) dated September 1993 has been revised (Rev. 1, January 1994) and was submitted to the DOE in January 1994. The January 1994 CARD provides the DOE's responses to the comments in the NRC's letter dated December 29, 1992.