October 7, 2009

TO: Docket Files WM-54, WM-58, WM-66, WM-67,
WM-86, WM-110, 40-8904, 40-8905, 40-8907

FROM: Douglas T. Mandeville PE, Geotechnical Engineer **/RA/**
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Office of Federal and State Materials
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THRU: Bill Von Till, Chief **/RA/**
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Special Projects Branch
Division of Waste Management
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SUBJECT: VISITS TO TITLE I AND TITLE II URANIUM RECOVERY SITES
FROM AUGUST 24 – AUGUST 28, 2009

Between August 24 and August 27, 2009, U.S. Nuclear Regulatory Commission (NRC) staff conducted site visits to fifteen Title I and Title II uranium mill tailings sites in Colorado, Utah, and New Mexico. Enclosed with this Memorandum is a trip report for these site visits. One non-radiological safety concern regarding site erosion upstream of the tailings impoundment was observed at the L-Bar New Mexico site; the NRC staff sent a follow-up letter on this erosion issue to the Department of Energy on September 3, 2009 (ML092450361).

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Enclosure: NRC Trip Report

cc: K. McConnell

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ML092730377

OFC	DWMEP	DWMEP	DWMEP	DWMEP
NAME	DMandeville	BGarrett	BVontill	LChang
DATE	09/30 /09	09/30 /09	10/07 /09	10/07 /09

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NRC Trip Report

U.S. NUCLEAR REGULATORY COMMISSION

Docket Nos.:	WM-54, WM-58, WM-66, WM-67, WM-86, WM-110, 40-8904, 40-8905, 40-8907
Licensee:	Department of Energy, Legacy Management Department of Energy, Environmental Management Rio Algom Mining Umetco Minerals Corporation United Nuclear Corporation
Facility:	various, see below
Location:	Colorado, Utah, New Mexico
Date:	August 24-27, 2009
NRC HQ staff	Lydia Chang, Branch Chief Richard Chang, Project Manager Ken Kline, Project Manager Phil Brandt, Project Manager Ted Johnson, Consultant Special Projects Branch Decommissioning and Uranium Recovery Licensing Directorate Division of Waste Management and Environmental Protection Office of Federal and State Materials and Environmental Management Programs Douglas T. Mandeville, P.E., Geotechnical Engineer Uranium Recovery Licensing Branch Decommissioning and Uranium Recovery Licensing Directorate Division of Waste Management and Environmental Protection Office of Federal and State Materials and Environmental Management Programs
Approved By:	Bill VonTill, Chief Uranium Recovery Licensing Branch Lydia Chang, Chief Special Projects Branch
Attachment:	None

Enclosure

NRC Trip Report

Background

During the week of August 24, 2009, staff from the Decommissioning and Uranium Recovery Licensing Directorate visited several Title I and Title II disposal sites for conventional uranium mills. The trip served as an opportunity for the staff to gain familiarity with the Title I and Title II programs and to observe the various approaches to erosion protection that have been used at the sites. The staff visited a total of fifteen sites that were in various stages of reclamation. This report has been organized to provide a daily summary of the trip. Where applicable, the staff has included site specific recommendations for future activities.

August 24, 2009

The NRC staff met with representatives from the Department of Energy's (DOE's) Legacy Management office and from the State of Colorado. At the meeting, Jody Waugh presented DOE's research activities on tailings cover systems. Specifically, the presentation discussed DOE's Renovated Evapotranspiration (ET) Cover Assessment Project (RECAP) research and the test cells that have been constructed adjacent to the tailings disposal cell at the Grand Junction site. DOE has constructed two large scale drainage lysimeters, referred to as the RECAP test cells, to compare the water balance of existing and renovated cover designs. After the presentation, the group visited the Grand Junction disposal site to view the existing tailings pile and the RECAP test cells.

Recommendation:

The staff should continue to work with DOE to understand its research on cover system performance and the potential for needed changes to the cover systems at the Title I and Title II disposal sites.

August 25, 2009

Morning: The staff met with representatives of DOE's Legacy Management group to discuss potential solar panel development at Title I and Title II sites and future activities at the Title I Shiprock, New Mexico, disposal site.

DOE is considering solar panel development at the Title I Durango and Title II Bluewater sites. DOE staff outlined its activities to date and its plans for the near future. Both sites are still in the early planning stages; no technical issues were identified or presented.

DOE identified its concerns about the long term surveillance and maintenance fees.

DOE is planning a series of meetings in October 2009, related to the Shiprock disposal site. The NRC is planning to attend the meetings to provide support on regulatory issues.

Recommendations:

1. The NRC staff should participate in a teleconference with DOE on potential solar panel

development to discuss technical issues of concern. The teleconference should occur once DOE has developed its development strategy and has identified potential technical issues.

2. The NRC staff should coordinate with DOE on the upcoming Shiprock meeting.

3. NRC staff and management should discuss long-term surveillance and maintenance fees associated with erosion that does not threaten the integrity of the tailings.

Afternoon: The staff visited the new Title I Crescent Junction disposal site and the current Moab tailings site. DOE staff provided an overview and tour of both operations. During the visit; NRC staff observed the following:

- DOE has excavated the first portion of disposal cell at Crescent Junction. The current excavation covers approximately 40 acres. The bottom of the excavation appears to be located in the Mancos Shale.
- DOE has started moving tailings from the current Moab site to the new disposal cell at Crescent Junction. The tailings were being placed and compacted at Crescent Junction.
- DOE has started quarrying rock for the final cover system at Crescent Junction from the Freemont Quarry. NRC staff was able to view a small stockpile of rock that had been transported to Crescent Junction.
- DOE estimates that approximately 3 percent of the tailings have been moved from Moab to Crescent Junction. The tailings are transported between Moab and Crescent Junction by rail.
- NRC staff did not review any construction records during the visit.

Recommendations:

1. NRC staff should perform a construction site visit and records review during FY 2010. The staff should also determine an appropriate frequency of construction site visits and records reviews given that the anticipated project duration is more than 10 years.

2. As this is an ongoing project and DOE may request changes to the Remedial Action Plan, NRC management should identify a project manager for the Moab/Crescent Junction project within DURLD.

August 26, 2009

Title II – Lisbon Valley, Utah: The staff was able to observe the status of reclamation at the Lisbon Valley site. There are no current construction activities at the site. The cover system has been installed on the tailings pile and the erosion control features appear to be in place. This site remains under the licensee's (Rio Algom) control and is regulated by the State of Utah. Representatives from DOE and the licensee participated in this site visit.

Title I – Naturita Processing Site, Colorado: The staff briefly toured the location of a seep near the former mill site. Representatives from DOE participated in this site visit.

Title I – Naturita Disposal Site, Colorado: The staff was able to observe the condition of the tailings pile from the adjacent Title II Uravan site. The site appeared to be in good condition. Representatives from DOE, the State of Colorado, and the Environmental Protection Agency (EPA) participated in this site visit.

Title II – Uravan Disposal Site, Colorado: This site remains under the licensee's (Umetco) control and is regulated by the State of Colorado. The cover system has been installed at the site and the staff was able to observe the rock layer that has been placed to serve as erosion protection. The staff noted that the quality of the rock used may not meet the guidelines contained in NUREG-1623. The state has requested alternate soil standards for this site. Representatives from DOE, the State of Colorado, and the EPA participated in this site visit.

Recommendation: The staff should follow up with the State of Colorado on the quality of rock used at the site.

Title II – HECLA Durita, Colorado: The staff briefly observed the site from outside the security fence. Representatives from DOE and the State of Colorado participated in this visit.

Title I – Slickrock, Colorado: The staff briefly observed the site from outside the security fence. The site appeared to be in good condition. Representatives from DOE participated in this visit.

August 27, 2009

Title I – Shiprock, New Mexico: The staff toured the site with representatives from DOE and the Navajo Nation. The staff was able to observe a recently installed flow control structure in Many Devils Wash; the tailings pile; and an artesian well located on the west side of the tailings pile. DOE was also able to provide an update on groundwater issues at the site.

Title II – Churchrock, New Mexico: This site remains under the licensee's (United Nuclear Corporation) control and is regulated by the NRC. The staff toured the site with representatives from DOE and UNC. The staff observed the drainage swales that are part of the cover system design; the perimeter drainage channels; and other features of the site. Groundwater corrective action activities are ongoing at this site.

Title II – Bluewater, New Mexico: The staff briefly observed the site from outside the security fence. Representatives from DOE participated in this visit and were able to point out the areas where solar development is being considered.

Title II – Homestake, New Mexico: The staff briefly observed the site from outside the security fence. Representatives from DOE participated in this visit.

Title I – Ambrosia Lake, New Mexico: The staff was able to observe the tailings pile and, specifically, placement of the erosion protection layer. The site appeared to be in good condition. Representatives from DOE participated in this visit.

Title II – Rio Algom Ambrosia Lake, New Mexico: This site remains under the licensee's (Rio Algom) control and is regulated by the NRC. The staff briefly observed the diversion channel that the licensee constructed around the tailings pile. The diversion channel appeared to be well constructed and was in good condition. Representatives from DOE participated in this visit.

Recommendation: NRC staff should perform a construction inspection to document recent reclamation activities. This inspection should be coordinated with Region IV.

Title II – L-Bar, New Mexico: The staff visited the L-Bar site and observed the erosion that is occurring upstream of the tailings impoundment. Representatives from DOE described the construction planned activities that are intended to remedy the erosion. NRC staff sent a follow-up letter on the erosion to DOE on September 3, 2009 (ML092450361).

Recommendation: NRC staff should visit the site once the construction activities have been completed to observe the repairs.

End of report