

Office of Environmental Management – Grand Junction



Moab UMTRA Project Revegetation Plan

Revision 1

September 2010

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U.S. Department
of Energy

Office of Environmental Management

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Review and Approval

Joseph D. Ritchey

Joseph D. Ritchey
TAC Senior Program Manager

9/21/10
Date

Donald R. Metzler

Donald R. Metzler
Moab Federal Project Director

9-23-2010
Date

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Revision History

Revision No.	Date	Reason/Basis for Revision
0 April	2009	Initial issue.
1 September	2010	Update includes 2010 areas and future planning.

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1.0 Introduction

1.1 General

The U.S. Department of Energy (DOE) Uranium Mill Tailings Remedial Action (UMTRA) Project includes the Moab site and the Crescent Junction disposal site, both in Utah. The Moab site includes 439 acres of property owned by DOE, of which 130 acres is covered by a uranium mill tailings pile. In 2003, DOE began cleaning up radiologically contaminated soil in non-pile (off-pile) areas of the Moab site. The material was staged on top of the tailings pile until cleanup of the pile began in April 2009. This non-pile soils remediation has resulted in a reduction of the contaminated footprint by 111 acres. As non-pile areas are cleaned up, they are revegetated with a variety of native plant species. In addition, unwanted plants, such as tamarisk trees, have been removed in some uncontaminated areas of the site and replaced with desirable vegetation.

The tailings from the Moab site are being transported to Crescent Junction for permanent disposal. Five hundred acres of land at the Crescent Junction site has been permanently transferred to DOE for the disposal cell and support area. In addition, a 28-mile pipeline was installed from the Green River to supply construction water to the site, and an access road to the site was constructed from the former U.S. Highway 6. This pipeline, access road rights-of-way, and land in the Support Area that has been disturbed by construction activities have been revegetated. Some materials excavated for the disposal cell are being placed between the cell and the Book Cliffs to form a wedge that will facilitate storm water drainage around the cell. To control erosion, the wedge has been vegetated.

1.2 Scope and Purpose

This Revegetation Plan provides describes activities to develop and maintain a healthy native plant species on disturbed areas of the Moab and Crescent Junction sites. Revegetation activities include planting, watering, weeding, erosion control, and monitoring. The Remedial Action Contractor (RAC) and Technical Assistance Contractor (TAC) each have scope associated with revegetation at the Moab UMTRA Project sites. The RAC is responsible for revegetation as part of construction activities and any revegetation projects at the Crescent Junction site. The TAC is responsible for establishing and maintaining existing Moab site revegetation and the operation and maintenance of irrigation systems. In addition, the TAC coordinates and executes Moab site revegetation expansion projects.

An additional area associated with access to the rail load-out area was disturbed by the project. This area, which was revegetated, is under the jurisdiction of the Bureau of Land Management.

This plan augments the *Moab UMTRA Project Weed Control Plan* (DOE-EM/GJ1406), which identifies noxious and undesirable plants and presents control methodology. The purpose of revegetating is discussed in various project documents, such as the *Crescent Junction Project Site Storm Water Pollution Prevention Plan* (DOE-EM/GJ1238-2006), the *Moab UMTRA Project Moab Site Storm Water Pollution Prevention Plan* (DOE-EM/GJRAC1475), the *Moab Project Site Fugitive Dust Control Plan* (GJO-2002-301-TAR), the *Moab UMTRA Project Crescent Junction Site Fugitive Dust Control Plan* (DOE-EM/GJ1235-2006), and associated permits.

1.3 Revegetation Areas

Revegetation areas at the Moab site are identified as plots A, B, C, D, and E, the administration area, and the site entrance (Figure 1). These areas are actively irrigated. Other areas including the banks of Moab Wash, U.S. Highway 191 rights-of-way, and the hillside east of State Route 279 have been revegetated with upland vegetation species that do not require irrigation. Additional areas, including the well field, are not irrigated but are actively weeded.



Figure 1. Moab Site TAC Active Irrigation Areas

Revegetation areas at the Crescent Junction site include the access road rights-of-way, site entrance, and wedge. These areas are not irrigated. In addition, the pipeline from the Green River is a revegetation area that is not irrigated either.

2.0 Planning

The TAC will coordinate with the RAC on revegetation activities of reclaimed areas. Coordination will be directly between TAC property management, TAC revegetation, and RAC environmental compliance personnel. Coordination will allow sharing of knowledge regarding revegetation techniques, best management practices, and planting and weeding priorities.

As areas of the Moab site having surface contamination are identified for remediation, planning for the appropriate revegetation will be performed. Review of area location related to a master

plan for site cleanup will be considered along with the most recent discussions with possible future land users.

Additionally reoccurring activities will be coordinated through project integration meetings, plan-of-the-day meetings, and special meetings. Planned activities include annual evaluation of the revegetated areas and adjusting the watering and weeding schedules.

3.0 Revegetation Activities

3.1 Planting

Planting includes establishing vegetation in areas that have been newly disturbed and augmenting vegetation in areas previously planted, but where success has been limited. Depending on the location and purpose, planting may consist of spreading seeds or hydromulch, or planting grass plugs, poles, or saplings.

3.2 Watering

A watering schedule is prepared annually that delineates the schedule for use of different watering methods (such as flooding, hose reels, and sprinklers).

3.3 Weed Control

Weed control includes using herbicides, physically removing weeds by cutting or pulling, applying soil neutralizer, and laying weed barrier fabric. The *Weed Control Plan* makes area-specific recommendations for controlling weeds.

3.4 Annual Assessments

Annual assessments of vegetation coverage and soil nutrients will be documented in letter reports. The content of the report will include the current year data as compared to the previous year's data, a description of the methodology used, and a map showing the areas surveyed. A recommended course of action for these areas will be made based on this data.

3.5 Future Restoration Projects Associated with Revegetation

A plant nursery/greenhouse was added to the Moab site in 2010. The purpose of the greenhouse is to raise native seedlings that will be transplanted into various under-performing revegetation plots.

Tamarisk, primarily along the Colorado River bank, will be carefully removed from outside of the contamination area. This reduction will be in accordance with Army Corp of Engineers guidelines, will maintain bank stability, ensure erosion control, and successfully establish native riparian vegetation in place of the invasive monoculture.

A fauna study was initiated during 2010. The purpose of this study is to determine what species visit the well field and the surrounding area and to encourage biodiversity on the Moab site that supports the existing animal life. The results of the study will be summarized in a report.

A walking path will be constructed through the revegetated area between the interim action well field and the tailings pile. The purpose of the walking path is to encourage public awareness of the Revegetation Program.

4.0 References

DOE (U.S. Department of Energy), *Crescent Junction Project Site Storm Water Pollution Prevention Plan* (DOE-EM/GJ1238-2006), July 2006.

DOE (U.S. Department of Energy), *Moab Project Site Fugitive Dust Control Plan* (GJO-2002-301-TAR), March 2002.

DOE (U.S. Department of Energy), *Moab UMTRA Project Crescent Junction Site Fugitive Dust Control Plan* (DOE-EM/GJ1235-2006), July 2006.

DOE (U.S. Department of Energy), *Moab UMTRA Project Moab Site Storm Water Pollution Prevention Plan* (DOE-EM/GJRAC1475), May 2010.

DOE (U.S. Department of Energy), *Moab UMTRA Project Weed Control Plan* (DOE-EM/GJ1406-2007), January 2007.