

*Office of Environmental Management – Grand Junction*



Moab UMTRA Project  
Crescent Junction Site  
Fugitive Dust Control Plan

Revision 2

June 2016



U.S. Department  
of Energy

**Office of Environmental Management**

**Moab UMTRA Project**  
**Crescent Junction Site Fugitive Dust Control Plan**  
*Utah Fugitive Dust Permit No. DAQC-1110-2006*

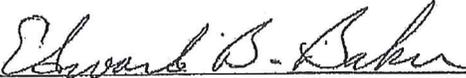
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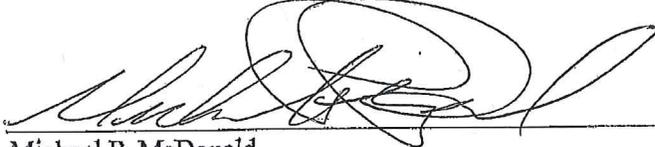
Moab UMTRA Project  
Crescent Junction Site Fugitive Dust Control Plan

Revision 2

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## Revision History

Revision Number	Date	Reason for Revision
0	July 2006	Initial issue.
1	July 2014	Revision includes updates reflecting Project progress.
2	June 2016	Periodic update reflecting Project progress.

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## 1.0 Introduction

The Utah Department of Environmental Quality, Division of Air Quality (DAQ) rules for the control of fugitive dust and emissions require that all sources whose activities or equipment have the potential to produce fugitive or airborne dust must prepare and implement a Fugitive Dust Control Plan. Accordingly, this Plan is prepared to address the control of fugitive and airborne dust emissions from the Crescent Junction site of the Moab Uranium Mill Tailings Remedial Action (UMTRA) Project, located approximately one mile northeast of Crescent Junction, Utah. Specifically, this Plan complies with Utah state rules for controlling fugitive dust emissions as specified in the Utah Administrative Code (UAC) Rule (R)307-309, “Nonattainment and Maintenance Areas for PM<sub>10</sub> and PM<sub>2.5</sub>: Fugitive Emission and Fugitive Dust Rule.”

This Plan has been prepared to address activities and operations conducted by the U.S. Department of Energy (DOE) at the Crescent Junction disposal site. The primary objective of this Plan is to formulate a strategy for controlling, to the greatest extent practicable, fugitive or airborne dust emissions at the Crescent Junction site. This is accomplished by identifying specific sources and activities that have the highest potential to produce or generate fugitive or airborne dust emissions. The Plan describes the engineering controls necessary to minimize and control dust emissions from those sources and activities and is prepared to address the control of fugitive dust emissions at the Crescent Junction site that are a result of planned DOE activities. As necessary, the scope of this Plan is revised to reflect changes in DOE’s dust-control strategy as site conditions or activities may change in the future.

### 1.1 Site Location

The Crescent Junction disposal site is located approximately one mile northeast of the intersection of United States Highway 191 (US-191) and Interstate Highway 70 (I-70) and north of the Union Pacific Railroad. It is about 30 miles north of Moab, 20 miles east of Green River, and is approximately six miles west of Thompson Springs (see Figure 1). The disposal site is located within portions of Sections 22, 23, 26, and 27, T21S, R19E, Salt Lake Principal Meridian (see Figure 2). The majority of the area used for the repository and site activities is in the NE1/4 of Section 27 and NW1/4 of Section 26.

DOE completed a temporary withdrawal and a land transfer with the U.S. Bureau of Land Management (BLM) for disposal activities involving mill tailings for a contaminated material repository and ancillary facilities (e.g., administrative trailers, support facilities, parking, rail load-out, construction water pond). An estimated 1,436 acres are involved with the Project, and approximately 500 acres are impacted by disposal activities. Once the disposal cell is completed, DOE will retain permanent ownership of the repository, a buffer area, and access to the repository; the remaining acreage (936 acres) is returned to the BLM.

The area that is permanently withdrawn from other uses is approximately 500 acres. The Crescent Junction disposal site is surrounded on three sides by land administered by the BLM. The talus slopes of the Book Cliffs delineate the northern boundary. To the east and west, the surrounding areas are basically flat, and drainage is generally to the south and west toward the Green River. To the south, the Union Pacific Railroad bounds the property. Further south are County Road 175 (old US Highway 6 & 50) and I-70. There are no commercial establishments or residences in the immediate area.

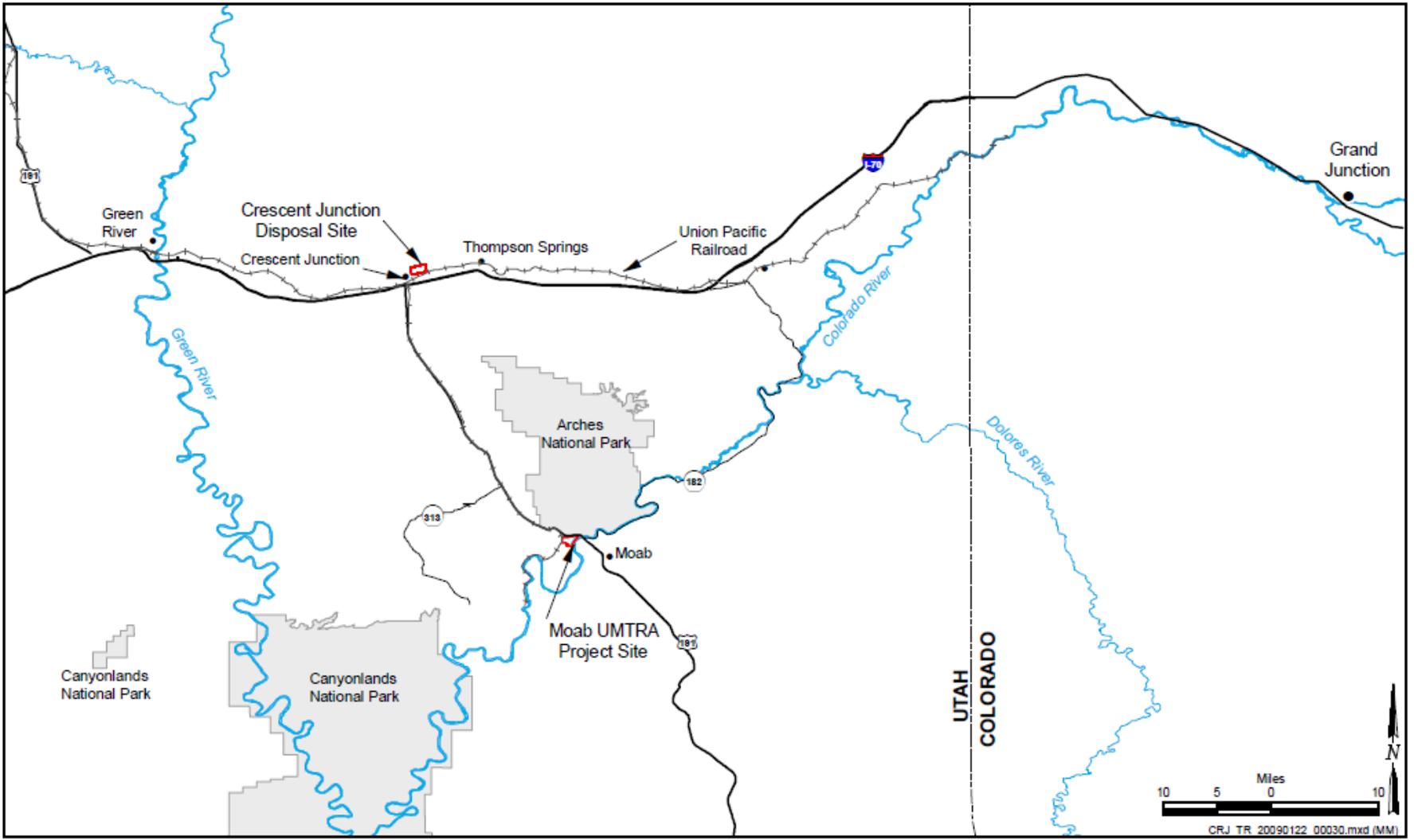


Figure 1. Location of Crescent Junction Disposal Site

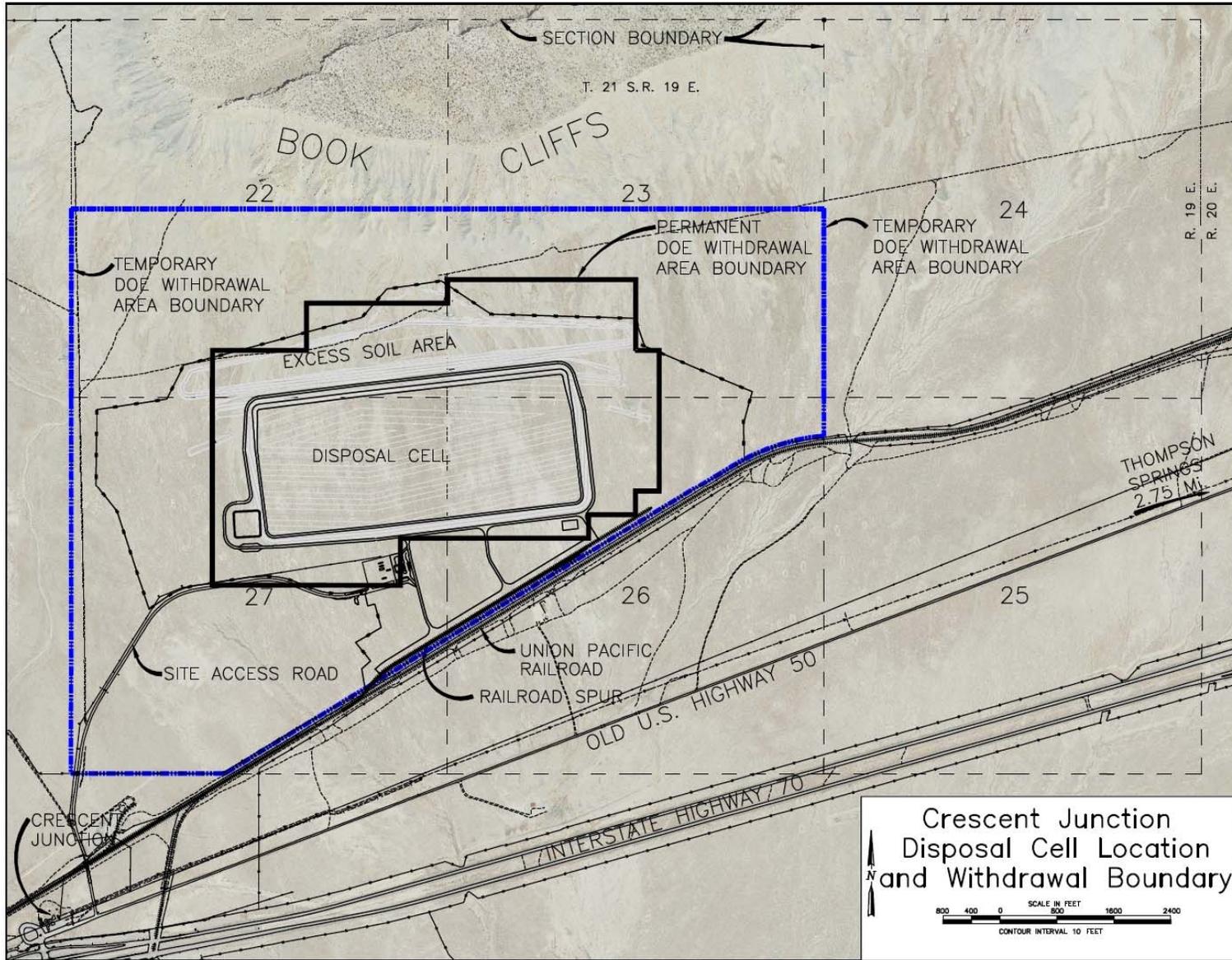


Figure 2. Site Map with Disposal Cell

Approximately one mile southwest of the site is a gas station and restaurant, at the interchange of I-70 and US-191. One residence is located about 1.5 miles south of the disposal site. Thompson Springs, approximately 6 miles to the east, has fewer than 50 full-time residents. There are no rivers or major drainages on the site.

## **1.2 Site History**

The Crescent Junction disposal site area was historically public land administered by the BLM. It contains a cattle grazing allotment that is currently used and oil and gas leases that are undeveloped. The BLM has designated the area as access-limited to existing roads. The general area is used by wildlife for forage, nesting, hunting by various raptors, and as a wildlife migratory corridor. There are prairie dogs, raptors, bighorn sheep, antelope, chukars, and a variety of small mammals and birds (e.g., antelope squirrel, horned lark) that remain in the area part of the year or migrate through the area.

The Crescent Junction disposal site was identified as a disposal site during the environmental impact statement and the DOE “Record of Decision for the Remediation of the Moab Uranium Mill Tailings, Grand and San Juan Counties, Utah” (6450-01-P) process in 2005.

Ownership and responsibility of the mill tailings at the Moab site was effectively transferred to DOE by passage of the Floyd D. Spence National Defense Authorization Act for Fiscal Year 2001 (Public Law 106-398). This act further designates that the Moab site undergo remediation in accordance with Title 42 United States Code Chapter 7912 (42 USC 7912) of the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA).

## **1.3 Purpose and Need**

Contaminated materials associated with the former Atlas Minerals mill at the Moab UMTRA site are transported to the Crescent Junction disposal site and placed in a repository that is secure from human intrusion. This action results in the removal of tailings materials at the existing tailings pile, surface contamination, and contamination from vicinity properties for a total volume of approximately 12 million cubic yards (16 million tons) of contaminated materials.

The majority of contaminated materials is transported from the Moab UMTRA Project site in containers by rail over the existing Cane Creek Branch of the Union Pacific Railroad. They are off-loaded adjacent to the southern border of the Crescent Junction disposal site, at which point they are conveyed by truck to the disposal cell. As an option, material may be transported to the disposal site by covered truck along US-191.

The disposal cell footprint is excavated to a depth of approximately 25 feet (ft). Contaminated materials are placed and compacted in layers. Dust is controlled through use of construction water. After all materials are transported, the pile will be covered with a soil and rock cover. The disposal cell excavation and cover are being constructed in phases. Approximately 100 acres of the area have been excavated and 40 acres covered. Surrounding areas would be reclaimed with native seed mixes approved by the BLM, and areas not necessary for future access or study would be released back to the BLM.

Typical site activities include a controlled access area with active tailings deposition, vehicle washing and decontamination stations, a pond for construction water, temporary field offices, maintenance and storage areas, a radiological control area to check worker radiation levels, worker parking, and soil stockpile areas.

#### **1.4 Climatology**

The climate of the Crescent Junction region, statistics obtained from Thompson Springs, Utah (5 miles east), is semiarid. Average annual temperature is approximately 57 °F. January is the coldest month, averaging 30 °F, and July is the warmest month, averaging 82 °F. Extreme temperatures have ranged from -18 °F in January 1963 to 111 °F, which has occurred more than once (in July 1953 and on earlier occasions).

Temperatures of 90 °F or higher occur about 100 days per year, with about 80 percent of those occurring during June, July, and August. Temperatures below 32 °F occur on the average of 123 days of the year, with about 80 percent of those occurring during November through February. The effects of high temperature on human comfort are moderated by the low relative humidity, which is often less than 50 percent during the daytime hours.

Average annual precipitation is approximately 9 inches, distributed approximately equally among the seasons with slight peaks during July through September. Potential evapotranspiration of 50 inches per year greatly exceeds annual precipitation. Mean pan evaporation (about 55 inches per year) and lake evaporation (about 38 inches per year) also greatly exceed the total annual precipitation. Thunderstorms occur about 40 days per year. Hail occurs approximately 3 days per year.

Prevailing winds in the region are from the west. Cold air drainage at the site can occur from the northwest under very stable conditions. The probability of a tornado is very small. One tornado with wind speeds of 100 mph would be expected only once in approximately 100,000 years, according to U.S. Nuclear Regulatory Commission Regulation (NUREG)-1531, "Final Environmental Impact Statement Related to Reclamation of the Uranium Mill Tailings at the Atlas Site, Moab, Utah."

#### **1.5 Regulatory Requirements**

This Fugitive Dust Control Plan is prepared in response to DAQ regulations for the control of fugitive dust, as found in UAC R307-309. Dust control plans are required to minimize fugitive dust on-site from storage and handling of aggregate materials, construction/demolition activities, mining activities, and tailings piles and ponds.

The portion of the Fugitive Dust Rule that specifically applies to the Crescent Junction site is found at UAC R307-309 and requires "... any person owning or operating an existing tailings operation where fugitive dust results from grading, excavating, depositing, or natural erosion or other causes in association with such operation shall take steps to minimize fugitive dust from such activities."

This site-specific Plan was submitted to DAQ in Salt Lake City, Utah, and was approved as permit #DAQC-1110-2006. The Plan is updated and revised as necessary to reflect dust controls that correspond to current and on-going site activities and operations.

## **1.6 Environmental Monitoring**

In addition to the implementation of physical dust controls, the DOE has developed and implemented an Environmental Air Monitoring Program for the Crescent Junction site. This Environmental Air Monitoring Program consists of sampling airborne particulates, radon, and direct gamma radiation at various locations along the site perimeter and at various off-site locations. Background monitoring locations also have been established to provide ambient air quality data.

The background or ambient air quality data is compared to air quality data collected from the on-site monitoring locations for the purposes of determining compliance with various DOE orders and federal and state air quality regulations.

As part of DOE's environmental air monitoring and fugitive dust control strategy, a meteorological monitoring station has been established at the Crescent Junction site. Wind speed and wind direction data collected from this monitoring station are used to determine when site-specific action levels have been exceeded and specific dust controls (e.g., the application of dust suppression techniques) must be initiated.

In addition, personnel certified in reading opacity measurements in Utah will also be used to determine when active dust-control measures should be initiated and when specific dust-generating activities (e.g., excavating, hauling, grading) should be discontinued.

In addition to complying with the Utah Fugitive Dust Rule, this Plan is consistent with the intent of complying with various DOE orders. DOE Order (O) 458.1, "Radiation Protection of the Public and the Environment," specifies that effluent monitoring and environmental surveillance be conducted to determine the effect of DOE activities upon on-site and off-site environmental and natural resources, and to verify compliance with applicable federal, state, and local effluent regulations and DOE orders.

The physical form of the radioactive contaminants (e.g., uranium mill tailings) to be transferred from the Moab site is described as a fine-grained, silt/sand-like material that is susceptible to wind erosion. Consequently, one of DOE's major objectives at the Crescent Junction site is to control and contain the off-site transportation of radiological material resulting from the erosive forces of wind and storm water. This Plan outlines DOE's strategy for controlling airborne dust emissions and minimizing/controlling the off-site transport of mill tailings resulting from wind erosion.

A summary of the Air Monitoring Program for the Crescent Junction site is listed below.

- Two on-site stations monitoring radon, direct gamma and radioparticulates (e.g., thorium-230, polonium-210, radium-226 and total uranium).
- Five on-site stations for radon and direct gamma within or near disposal cell area.

- Off-site residential monitoring at one location, approximately 1.5 miles south of the disposal cell, and a second station location in Thompson Springs, Utah, 6 miles downwind, for radon, direct gamma, and radioparticulates.
- Meteorological monitoring stations at disposal site and off-site location near I-70 and US-191 intersection.

Data collection devices are:

- Thermoluminescent dosimeter badge
- Alpha track radon detector cup
- Low-volume particulate sampler

See Figure 3 for the location of the air monitoring network.

## 1.7 Source Information

### **Type of Material Processed or Disturbed**

The materials of concern with respect to fugitive dust emissions at the Crescent Junction site are residual uranium mill tailings and contaminated native soils/sand. Approximately 16 million tons of uranium mill tailings and contaminated soils will be removed from the Moab site and transported to the Crescent Junction disposal site. The majority of materials are highly compacted with low potential for fugitive dust emissions, however prior to compaction materials are non-consolidated, loose mineral soils and therefore considered to be a high potential source of fugitive dust emissions.

The points of potential emissions are the transfer points for transported material from containers to haul trucks and similarly, the dumping of material into the disposal cell, haul roads and active disposal surface. The third major point of potential emissions is the stockpiled soil removed from the disposal cell. Combined, the disposal cell and stockpiled native material comprise approximately 40 percent of the total land surface of the Crescent Junction disposal site.

The remainder of the site is not considered a significant source of fugitive dust emissions due to: 1) low level of past disturbances in these areas, 2) low levels of anticipated activity occurring in these areas, 3) a greater percentage of vegetative cover present within these areas, and 4) rock-covered portions of disposal cell.

Source areas identified as a moderate potential consist of areas that are moderately disturbed and temporarily stabilized and include the office trailer-staging area, access road, rail spur, and construction water pond areas (approximately 20 percent of the total site area). Soils and graveled surfaces in these areas are typically better consolidated and more stable due to varying degrees of vegetation or rock cover. If these areas are a source for fugitive dust emissions, appropriate control measures are implemented.

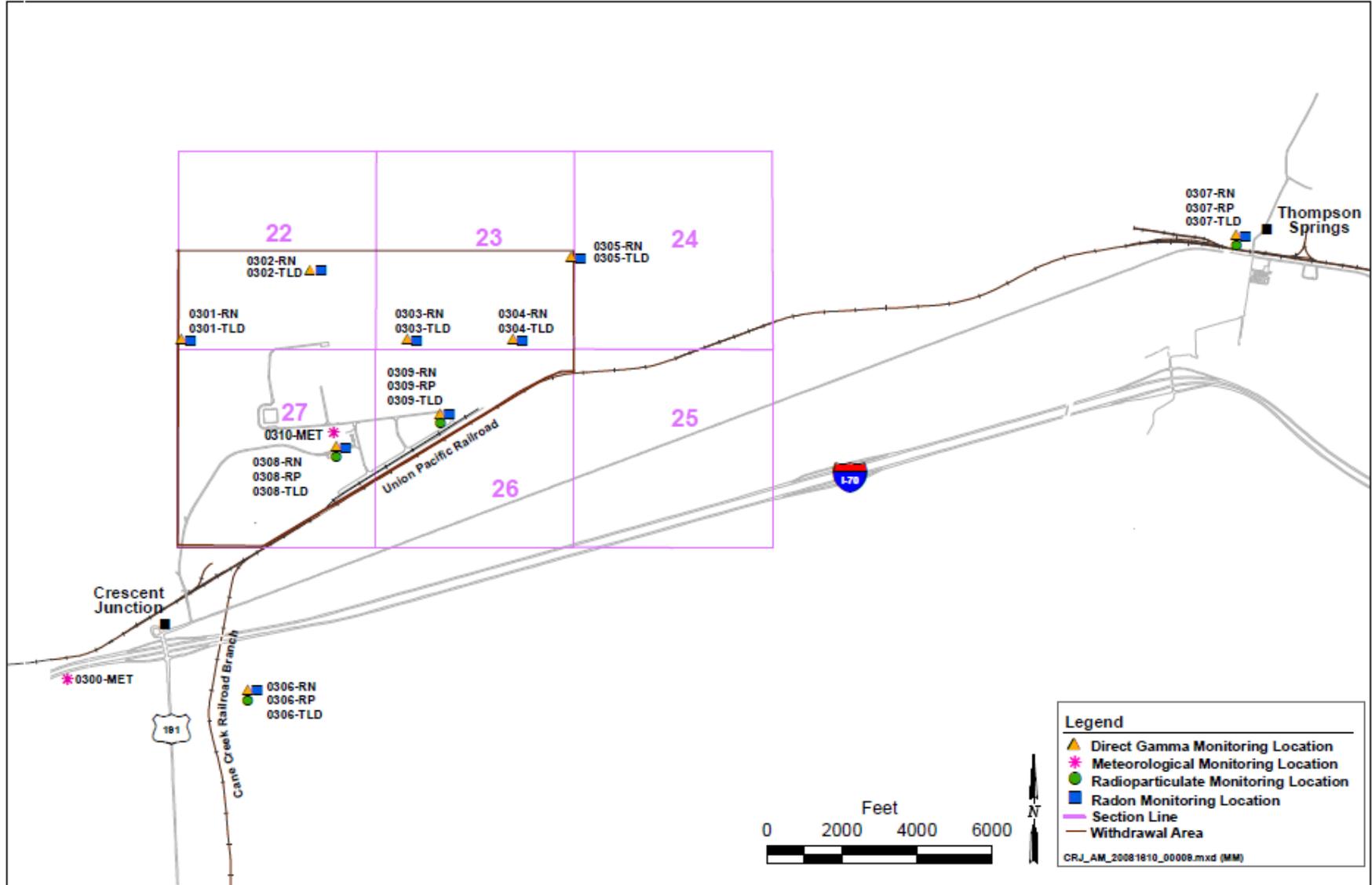


Figure 3. Monitoring Locations

Most of the low potential areas are found along the site perimeter and consist of vegetated rangeland on the margins of the site boundary. Typically, there is little to no activity occurring or planned in these areas. As disposal operations continue, the final stage of covering with rock creates more low potential areas.

The low potential areas comprise approximately 40 percent of the total site area. Consequently, these areas are not a significant source of dust emissions from the facility, and no controls are planned for these areas.

### **Length/Duration of Construction Project**

The Project duration is directly correlated to funding. DOE's responsibility for monitoring and controlling fugitive dust emissions from this site will be at least 10 more years or until disposal cell construction is complete.

### **Description of Planned Activities**

Contaminated materials associated with the former uranium mill at the Moab UMTRA site are transported to the Crescent Junction disposal site and placed in a cell of approximately 230 acres, which is secure from human intrusion. The site consists of the disposal cell, soil stockpile areas and support facilities, offices, railroad spur, roads, and a construction water pond of approximately 500 acres.

The action will result in the removal of tailings materials at the Moab tailings pile, associated surface contamination, and contamination from vicinity properties for a total volume of approximately 12 million cubic yards of contaminated materials.

The majority of contaminated materials are transported from the Moab UMTRA Project site in sealed containers by rail over the existing Cane Creek Branch of the Union Pacific Railroad. They are off-loaded adjacent to the southern border of the Crescent Junction disposal site in sealed containers and transported by truck to the disposal cell. Some material may be transported to the disposal site by covered truck along US-191.

The disposal cell footprint is excavated to a depth of approximately 25 ft. Contaminated materials are placed and compacted in layers. Dust is controlled through the use of construction water and/or dust palliatives. After portions of the contaminated material reach design grade, soil and rock cover materials will be placed to control wind and water erosion. Surrounding areas will be reclaimed with native seed mixes approved by the BLM, and the temporary withdrawal area will be released back to the BLM.

### **List of Responsible Individuals**

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Mr. Jeffrey C. Biagini, Contractor Project Manager	(970) 257-2117
Mr. Craig Niemeyer, Crescent Junction Operations/Site Manager	(970) 424-4357
Mr. Edward B. Baker, Environmental Compliance Manager	(970) 257-2112

## 2.0 Description of Fugitive Dust Emission Activities

A description of the on-site activities that may contribute to or generate fugitive dust emissions at the Crescent Junction site are discussed below.

### Types of Activity

DOE performs routine disposal activities after involving off-loading containers from trains transporting containers to the disposal cell, dumping containers, and transporting tailings to final placement in the disposal cell. Disposal cell activities are performed in phases, with approximately 25 percent excavated and utilized for disposal at any time. After final placement and compaction of tailings, soil and rock are applied to stabilize the surface and control radon emanation.

### Implementation of Fugitive Dust during Construction

DOE recognizes that disturbed soils, mill tailings, and residual contaminated soils are especially vulnerable to wind erosion. In an effort to contain these contaminants and prevent their migration off site, establishing fugitive dust controls is a priority for DOE. Implementation of these controls necessitate the use of heavy equipment to construct the disposal cell, transport, dump, compact tailings, and apply dust-suppressant materials; however, fugitive emissions expected as a result of these activities are expected to be minimal with extensive dust suppression activities.

### Preliminary Plans for Construction of Disposal Cell

The disposal cell footprint is approximately 230 acres. The cell is excavated to a depth of approximately 25 ft, and excavated material is used for perimeter embankments, cover material and spoil embankments.. Excavation and deposition of tailings material proceeds sequentially to minimize the working area exposed to wind and water erosion.

### Disposal Cell Activities

Cell construction is phased in subsections to minimize disturbed areas and the size of soil stockpiles at any given time. See Figure 2 for locations of the disposal cell. The cell cover is an engineered mixture of various materials. Although more detailed information is available in the *Moab UMTRA Project Remedial Action Plan* (DOE-EM/GJ610), the following is a general description of the cover structure. After tailings are placed, a compacted clay layer (5 ft. thick) is placed over the tailings as a interim cover and radon barrier. A capillary break, consisting of sand and gravel (0.5 ft. thick), is placed over the radon barrier. This is topped with a frost-protection layer (3 ft.), then a durable rock layer (0.5 ft.). Following installation of the final section of the cover, support structures, trailer staging areas, load-out areas, and most of the service roads will be removed and reclaimed.

### Waste Management Activities

For safe storage and to prevent the spread of contaminants into the environment, petroleum products are stored with secondary containment or placed in a best management practice area (BMPA). Operational wastes requiring special handling or management are addressed by DOE's waste management policy and procedures. The BMPA is a bermed temporary storage area constructed with a polyethylene liner. Materials are temporarily stored at this location until a permanent disposal option is defined.

The construction of this area and the removal and excavation of various petroleum-contaminated soils involves the use of heavy equipment. Moderate fugitive dust emissions are expected from these activities.

### **3.0 Description of Fugitive Dust Emission Controls On Site**

The fugitive dust emission controls to be used at the Crescent Junction site are discussed for each of the potential source areas. All sources of fugitive dust emissions at the Crescent Junction site are related to site activities and site conditions. The routine operation of heavy equipment is not considered a significant source of emissions at this site due to planned mitigation measures.

#### **3.1 High Potential Source Areas**

Certain portions of the Crescent Junction site are considered potentially significant sources of fugitive dust emissions and require more active controls than other areas. These areas are characterized by: loose, poorly consolidated sediments; poor vegetative cover; high levels of previous disturbance; high levels of future/anticipated activity or disturbance; or areas with significant residual radioactive contamination remaining. Because both the native soils and uranium mill tailings possess a silt/sand-like texture, these materials can easily become airborne given sufficient climatic conditions (e.g., low soil moisture content, sufficient wind speeds). Consequently, DOE has designated these areas as having the highest priority in their dust-control strategy. Cumulatively, these high potential areas comprise approximately 40 percent of the total site surface area. The specific high potential source areas, generally associated with the disposal cell, train/truck transfer station, and site roads, and the dust controls implemented for each of these areas, are summarized in Table 1.

#### **3.2 Moderate Potential Source Areas**

Other portions of the Crescent Junction site are considered moderate sources of fugitive dust emissions and require a less aggressive approach to dust control. These areas are characterized by more stable soil conditions, a greater percentage of vegetative cover, lesser quantities of radiologically contaminated materials, and moderate levels of activity. These areas are found mostly around or in the disposal cell in areas utilized for short-term stockpiling of excavated native material and areas in the final stage of tailings placement. Cumulatively, these moderate potential areas comprise approximately 20 percent of the total site surface area. A summary of the anticipated dust-control measures to be used in these areas is found in Table 1.

#### **3.3 Low Potential Source Areas**

Approximately 40 percent of the site is considered a low potential source for fugitive dust emissions. These areas include the trailer support facilities, railroad support area, access road, construction water pond, rock-covered portions of disposal cell, and relatively undisturbed areas. These areas are designated to have a low potential for fugitive dust emissions, because there is very little continuing surface disturbances in these areas, and some areas contain asphalt or vegetative cover.

After the initial construction and stabilization with water and/or dust palliative, gravel, or vegetation, the potential for fugitive dust is very low. Minimal dust controls are planned for these areas, as shown in Table 1.

### 3.4 Standards, Action Levels, and Response Actions

Table 2 outlines the applicable regulatory standards and action levels relative to controlling fugitive dust emissions at the Crescent Junction site and the appropriate response actions to be implemented once it is determined that standards or actions levels have been exceeded.

An air particulate monitoring network has been implemented at the Crescent Junction site in accordance with DOE Order 458.1, “Radiation Protection of the Public and Environment,” and DOE’s “Environmental Regulatory Guide for Radiological Effluent Monitoring and Environmental Surveillance” (DOE/EH0173T). Air quality monitoring data are routinely collected and reviewed to ensure compliance with DOE orders and applicable federal and state air quality regulations. Air particulate sample locations are shown in Figure 3.

Table 1. Summary of Fugitive Dust Controls for the Crescent Junction Site

Fugitive Dust Source		Dust Controls						
		Water Truck	Vegetative Cover	Soil Conditioner i.e. Lignum Sulfate	Surfactant	Water or Dust Palliative i.e. Magnesium/ Calcium Chloride	Gravel/Rock/ Asphalt	Other (Polymer, Fiber Mat, Tackifier)
<b>High Potential Areas</b>	Active Tailings Pile	X				X		
	Rail/Truck Transfer Area	X				X		X
	Tailings Pile (inactive sites)	X				X		
	Buttress Material Area	X	X	X	X			X
	Site Work Roads	X	X			X	X	
<b>Moderate Potential Areas</b>	Excavated Material Stockpile Areas	X	X	X				X
	Utility Corridors	X	X	X				X
<b>Low Potential Areas</b>	Trailer Support Area						X	
	Main Access Road		X			X	X	
	Railroad Support Area						X	
	Rock-covered Surface Area						X	

Table 2. Fugitive Dust Standards, Action Levels, and Response Actions

Standard/ Site-Specific Action Level	Method of Determination	Response Action
Opacity cannot exceed 20 percent at any on-site location or source (R307–309 U.A.C.). DOE's goal at the site boundary is 0 percent opacity.	Visual observation by a Certified Opacity Reader (EPA Method 9 - Visual Determination of Opacity Emissions from Stationary Sources)	Initiate immediate dust-control measures as outlined in Table 1. Cease all dust-generating activities.
Sustained wind speeds exceeding 20 mph. (EPA Method 9 - Visual Determination of Opacity Emissions from Stationary Sources)	Real-time meteorological monitoring of wind speed.	Monitor visible emissions. Cease all dust-generating activities if necessary to maintain 20 percent opacity or less. If needed, initiate immediate dust-control measures as outlined in Table 1.
Cannot exceed public exposure standards (DOE Standard 1196-2011)	Radioparticulate analysis of filters collected by continuous air samplers.	Re-assess dust control plan and controls.

### 3.5 Best Management Practices

The following BMPs are also followed to help minimize and control dust emissions at the Crescent Junction site to the greatest extent possible.

#### Roads

All on-site traffic is restricted to specific designated roads. Off-road travel is only authorized on a case-by-case basis (e.g., access to a remote monitoring station). The main access road is paved, and traffic on the active tailings pile, disposal cell, and cover material is restricted to designated roads to minimize disturbance of previously treated/stabilized areas. Traffic speed is also restricted to an appropriate level on all designated roads. All designated roads are considered high potential dust source areas, and, as such, they are a priority for dust control utilizing water or magnesium/calcium chloride or gravel.

#### Hours of Operation

This Plan is in effect during all hours of operation at the Crescent Junction site. During non-business hours, there are no activities generating dust, so dust-control actions are restricted to hours of operation only. However, as a BMP, if high winds are evident at the close of a business day or immediately before a weekend or holiday, site personnel should evaluate vulnerable areas and implement controls as appropriate to minimize off-hour emissions.

#### Use of Dust Palliatives or Chemical Suppressants

Use of various chemical dust suppressants (e.g., surfactants, salt-based soil conditioners, polymers) shall be in accordance with the recommended end-uses for those products. For temporary dust control, a polymer may be used for stabilization before revegetation. Site personnel shall not exceed the manufacturer recommended application rates. Safety Data Sheets for all dust-suppressant materials used at the Crescent Junction site shall be reviewed and approved by the RAC Environmental Compliance Manager.

Before application, site personnel shall determine and evaluate if the use of the dust suppressant could interfere with other site-monitoring activities or cause other harm to the environment.

#### **4.0 Description of Fugitive Dust Emission Controls Off Site**

To minimize the potential for off-site releases or emissions, the following controls are also implemented.

##### **Decontamination and Tracking Pad**

Before leaving designated contamination areas at the Crescent Junction site, all vehicles and equipment are thoroughly washed and decontaminated using a high-pressure water wash. This practice minimizes the potential for any off-site tracking of sediment or contaminants.

##### **Covered Loads**

Tailings material is transported to the disposal site in sealed containers on railcars. At the rail-staging area, the tailings material is transferred to haul trucks for final transport to the disposal cell. A minor portion of the tailings-contaminated material may be transported entirely by truck. All trucks hauling materials shall be tarped to minimize the loss of materials in transit. All loads shall be inspected to ensure they are properly covered before departure.

##### **Spill Response**

In the event of an off-site spill or release of contaminated materials, the spilled materials will be immediately contained and cleaned up. Emergency spill response actions are outlined in the *Moab UMTRA Project Transportation Plan* (DOE-EM/GJ1639).

#### **5.0 References**

42 USC 7912 (United States Code), the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA).

DOE (U.S. Department of Energy) *Moab UMTRA Project Remedial Action Plan* (DOE-EM/GJ610),

DOE (U.S. Department of Energy) *Moab UMTRA Project Transportation Plan* (DOE-EM/GJ1639).

DOE (U.S. Department of Energy) “Environmental Regulatory Guide for Radiological Effluent Monitoring and Environmental Surveillance” (DOE/EH-0173T).

DOE (U.S. Department of Energy) “Record of Decision for the Remediation of the Moab Uranium Mill Tailings, Grand and San Juan Counties, Utah” (6450-01-P).

DOE (U.S. Department of Energy) Order 458.1, “Radiation Protection of the Public and the Environment.”

DOE (U.S. Department of Energy) Standard-1196-2011, “Derived Concentration Technical Standard.”

Floyd D. Spence National Defense Authorization Act for Fiscal Year 2001 (Public Law 106-398).

NRC (U.S. Nuclear Regulatory Commission) NUREG-1531, “Final Environmental Impact Statement Related to Reclamation of the Uranium Mill Tailings at the Atlas Site, Moab, Utah.”

UAC (Utah Administrative Code) R307-205-6, “Emission Standards: Fugitive Emissions and Fugitive Dust, Roads.”

UAC (Utah Administrative Code) R307-309, “Nonattainment and Maintenance Areas for PM<sub>10</sub> and PM<sub>2.5</sub>: Fugitive Emission and Fugitive Dust Rule.”