



Colorado Department
of Public Health
and Environment

Uranium Mill Tailings Management Annual Report for July 1, 2011 - June 30, 2012

Submitted to the Colorado Legislature September 15, 2012



Executive Summary

Authorization

The Colorado Department of Public Health and Environment (department) is authorized by Colorado Revised Statutes (C.R.S. 25-11-301 et. seq.) to assist local governments in the identification and management of uranium mill tailings remaining in western Colorado communities. This authority filled a void left after the U.S. Department of Energy (DOE) authority to remediate surface tailings deposits under the Uranium Mill Tailings Radiation Control Act (UMTRCA) expired on Sept. 30, 1998. Determined to be a health hazard, these uranium mill tailings are likely to be disturbed by infrastructure repair and local redevelopment. Colorado House Bill 99-1267, last amended by Senate Bill 07-200, authorized the department to continue its involvement in the Uranium Mill Tailings Remedial Action (UMTRA) Groundwater Restoration Phase.

Scope of Work

The department assists local governments in identifying, removing, storing and disposing of uranium mill tailings; participates in UMTRA groundwater restoration, monitoring and long-term surveillance activities; and annotates land records as required by federal law. This annual report is required by contractual agreement with the Colorado Department of Local Affairs to document the department's activities within this scope of work, and under the cooperative agreement with the DOE for the UMTRA Groundwater Restoration Program. It also fulfills the reporting requirements of C.R.S. 39-29-116(4).

Accomplishments

The department is working to improve and streamline tailings management. Growing population and continuing development, particularly in Mesa County, has caused an increased public demand for information on the potential for uranium on properties and for field verification where records reviews are not sufficient. The department strives to maintain good working relationships with affected local governments, and engages in outreach to ensure that all the UMTRA communities understand the program and know whom to contact at the state with questions or issues. The city of Grand Junction and Mesa County are the most involved jurisdictions and have the most extensive working

knowledge of the program. In addition, the department continues to provide the public with tailings surveys and information on specific properties, as well as technical assistance on tailings removal projects as necessary. Most of the department's public services are provided within one working day. Recognizing the continued value of the program, legislation was passed in 2007 to extend the program until 2017.

The department continues to work with DOE on refining the groundwater restoration modeling predictions regarding the natural attenuation of contamination. The department and DOE also work with local communities to approve future land uses for the mill sites and to formulate institutional controls to ensure people are not exposed to contaminated groundwater.

Colorado Department of Public Health and Environment Hazardous Materials and Waste Management Division Remediation Program

Remediation Program

Dan Scheppers, Program Manager
Michael Cosby, UMTRA Property Specialist
Kate Elsberry, UMTRA Program Support
Wendy Naugle, UMTRA Groundwater

Statute: C.R.S. 25-11-301 et. seq.

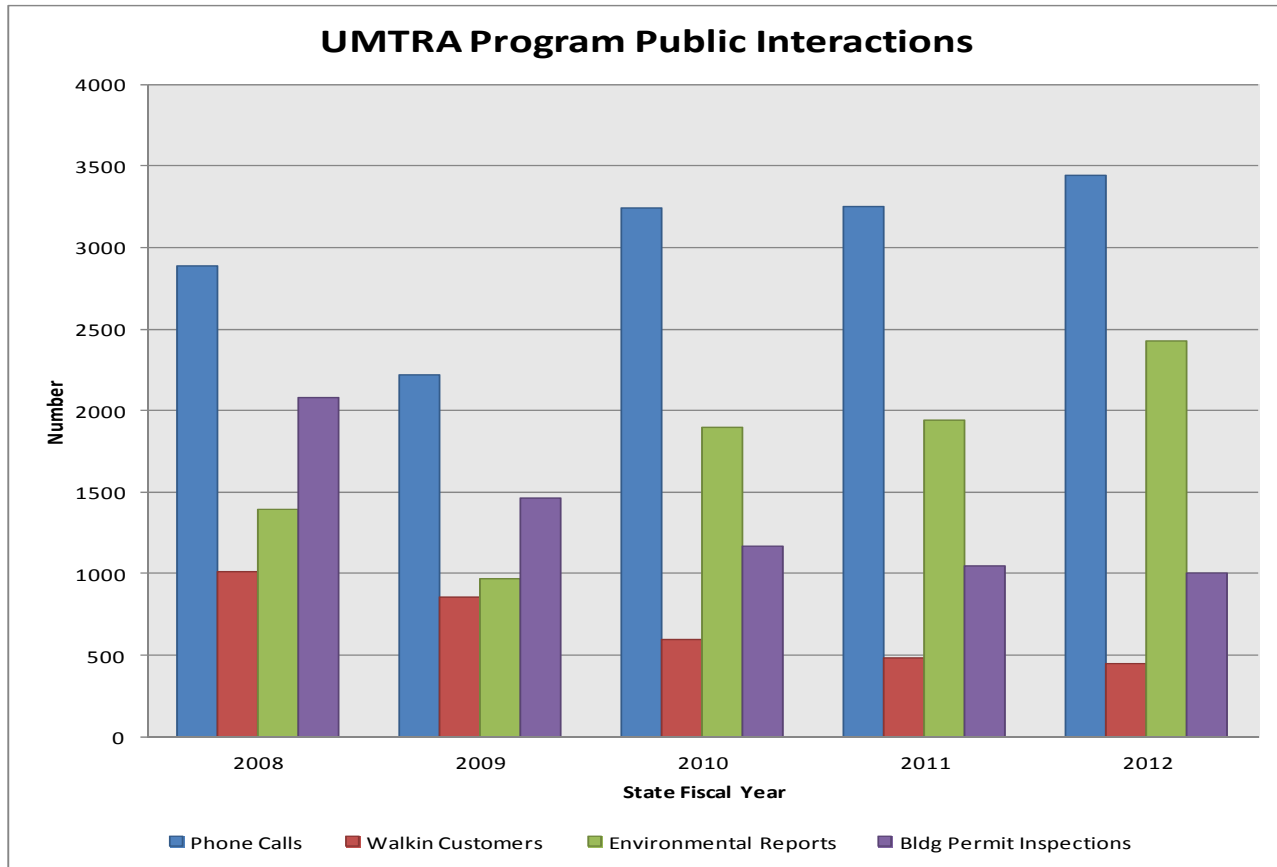
Date: September 15, 2012

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Helping Local Governments and the Public



Public Information

A major function of the post-Uranium Mill Tailings Remedial Action Program is public information dissemination. The Department of Public Health and Environment offers this information in various settings and for-

instruments. In direct support of tailings management activities, explanations and interpretations are provided during building permit survey inspections, environmental report preparation, file searches, interaction with walk-in customers, tailings removals, and radiation survey

instrument loans. The topics discussed include not only proper tailings management, but also radon and the availability of the department's related printed materials. The program responded to approximately 3,445 phone calls and 449 walk-in customers during fiscal year 2011-2012.

Environmental Reports

The department produces environmental reports and letters regarding specific properties in response to public requests, most frequently from real estate companies during property transactions. Department staff review computer databases and property

files to determine whether the property was included in the Uranium Mill Tailings Remedial Action Program, the nature of remediation performed on the property and whether tailings remain on the property. There are files on over 70,000 properties. If a report for a given property does not exist, or indicates that tailings potentially exist, a field survey is con-

ducted at the owner's request. The report often includes data and maps from these files. In fiscal year 2011-2012, the department prepared 2,429 of these reports.

Web Site

Program information is available at www.cdphe.state.co.us/hm/rptailing.htm.

Mill Tailings Management

Interim Storage Facility

One important component of the post-Uranium Mill Tailings Remedial Action Program is the operation of an interim storage facility in Grand Junction. This facility stores tailings temporarily until a sufficient quantity exists to warrant opening the Cheney Disposal Cell for permanent disposal of the material.



The interim storage facility holds tailings for ultimate disposal in the Cheney Disposal Cell.

The interim storage facility, which is located on property owned by the city of Grand Junction, is managed by the department under a contract between the two parties. In 2005, the city of Grand Junction prepared a second storage area at the site for the potential receipt of tailings materials. This area was divided to allow for the separation of materials received from different communities in an effort to address liability concerns regarding mixing of materials and to facilitate the ability of other communities to sign the hauler agreement required by city of Grand Junction for other local governments using the facility.

From July 1, 2011 through June 30, 2012, approximately 3,000 cubic yards of material was placed in the interim storage facility. No material was hauled for permanent disposal in the Cheney Disposal Cell during this period.

Waste Minimization

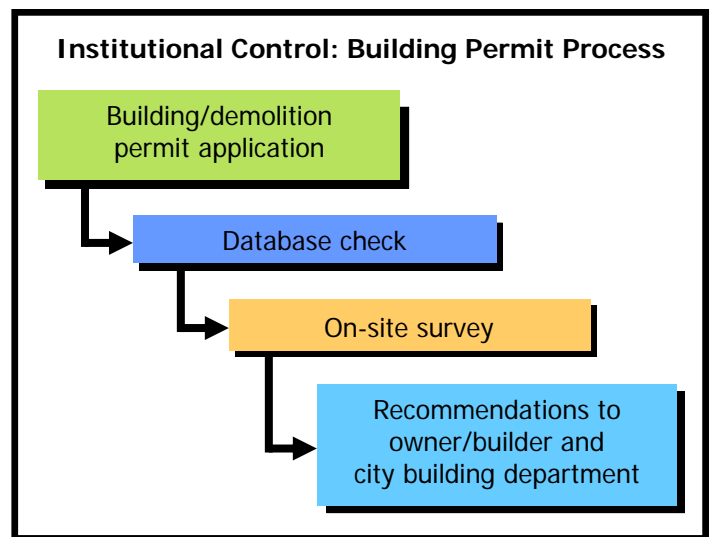
The department facilitates waste minimization through oversight of excavation activities. Whenever department representatives are on site, they work with the contractor to minimize the size of the excavation to avoid digging a larger hole than necessary and to carefully exclude clean material. Although it

is difficult to quantify the amount of uncontaminated material not excavated as a result of this waste minimization practice, the department believes this practice preserves disposal capacity in the Cheney cell while reducing hauling costs. In addition, the department inspects material brought to the interim storage facility to exclude uncontaminated material that was excavated inadvertently.

Building Permit Inspections

Significant volumes of uranium mill tailings remain in the Grand Junction area. The city and county require owners to consult with the department for all building and demolition permits in the city. First, a database check is performed to determine if the property had involvement with the uranium mill tailings program. If the property has a history of tailings, or if there is a tailings site within the immediate vicinity of the property, an on-site survey is performed. If uranium tailings are discovered, recommendations are made to the owner/builder and to the city building department.

In fiscal year 2011-2012, 1,003 requests were received for building permit surveys. Of those, 847 were processed by a computer data check and 156 underwent both the data check and an actual field



survey. From those surveys, 27 properties were found to contain tailings.

Groundwater/Millsite Issues

Under the post-Uranium Mill Tailings Remedial Action agreement, the department participates in the groundwater restoration phase of the Uranium Mill Tailings Remedial Action project. The goals are to remain informed of Department of Energy (DOE) actions regarding groundwater contamination, to review DOE cleanup strategies at the mill sites and provide state concurrence on these strategies, and to monitor implementation of those strategies and ensure the remedies are protective of human health and the environment. To meet these goals, the department reviews work plans, groundwater data and other DOE reports. In fiscal year 2011-2012, the department engaged in the following activities in the Uranium Mill Tailings Remedial Action groundwater restoration phase:

- The department reviewed a revised Ground Water Compliance Action Plan for Gunnison.
- The Notice of Environmental Use Restrictions for the portion of property owned by Chemetall Foote Corp. at Naturita was finalized in November 2011 and recorded by the Montrose county clerk in December 2011. The notice is available on the department Environmental Covenants webpage.
- The department reviewed Validated Data Reports and Verification Monitoring Reports for the UMTRA sites.
- The department participated in the Nuclear Regulatory Commission staff visit to the Colorado sites in the fall of 2011.



At the East Rifle Site, researchers from Lawrence Berkeley National Laboratory, funded by a Department of Energy Environmental Services Laboratory Grant, study the interaction between microbes and uranium in groundwater. This research was featured in an article in the Grand Junction Sentinel. The study is a cooperative effort involving researchers from several institutions including the Colorado School of Mines.

- The department continues to work with the city of Rifle during its reuse of the New Rifle mill site. Over the past few years, the department has approved several reuse requests from the city of Rifle for its Energy Innovation Park on the former mill site. Currently the department is working with the city regarding a soil treatment operation on the West Rifle Site.
- Gunnison County requested the department's review and approval for security upgrades at the Fed Ex Annex on the former mill site. Department approval was granted upon receipt of additional information from the county.
- The department assisted DOE in working with the Colorado Oil and Gas Conservation Commission regarding issues related to gas drilling within the New Rifle groundwater contaminant plume.
- The department began an initiative to formalize the verification of compliance with Institutional Controls at the UMTRA mill sites, involving more formalized reporting by the entities charged with implementing the controls, usually local governments or private property owners.

Surface Program/Disposal Site Issues



Erosion gullies near the Durango disposal cell, above, are photographed annually to ensure that they do not threaten cap integrity. This photo was taken in 2005, and the gullies have since stabilized. Other threats to cap integrity include rodent burrows and deep-rooted plants.

Long Term Stewardship

All surface site work was completed by the Uranium Mill Tailings Remedial Action Program and reviewed by the state in fiscal year 1999. The department continues to monitor the disposal sites through the Department of Energy (DOE) Long-Term Surveillance and Maintenance Pro-

gram, which performs site inspections to determine whether the disposal cells are performing as designed. Problems, such as minor erosion, are repaired when necessary and otherwise are regularly monitored (e.g., small erosion gullies are measured and photographed each

year to see if they are expanding). The department performs inspection oversight within its existing staffing authority, with federal dollars under the groundwater restoration phase cooperative agreement. The department also reviews summary reports and data collected during inspections. During 2011-2012, seven inspections were performed at the disposal sites. No significant problems or issues were identified by CDPHE at any of the disposal sites during the inspections.

As reported the past 2 years, DOE continues to investigate a monitor well at the Durango Disposal site that had exceeded the groundwater regulatory limit for uranium. The concentrations of uranium in the groundwater continue to fluctuate around the compliance standard and DOE continues to investigate possible causes. Monitoring of the suspect well continues on a more frequent basis, as well as monitoring of several nearby monitor wells. An abandoned treatment system, suspected as a possible culprit was removed, but no contamination was found.

Land Annotation

The federal Uranium Mill Tailings Radiation Control Act requires that all properties included in the program have their property records annotated to indicate what cleanup happened on the property and when. However, this requirement only applies to properties cleaned up under the program. No annotation is required on properties that are

known to have had tailings, but that were never included in the cleanup program due to the owner's refusal to participate. Colorado historically has opposed this annotation requirement because it applies only to properties that participated in the program and unfairly stigmatizes properties that did participate and now are considered to be clean. In deference to these concerns raised by Colorado as well as other states, the

DOE has delayed the rulemaking required by federal law to implement the annotation requirement. Without the rule, states contend they need not implement the annotation requirement and, to date, have not. However, without a (federal) statutory change, this issue will remain open. A more effective solution might be to pass legislation requiring a report for all building permits and/or real estate transactions in the affected areas.

Surface Program/Disposal Site Issues

Land Transfer

To preclude windfall profits to the mill site owners, the UM-TRCA statute required the state to take title to the property. The statute then allows the state to keep the property, sell it (giving 90 percent of the revenue to DOE), or donate it to a local government for public use. The department has transferred all sites owned by the state to the relevant local governments. In addition, the department has been working with Dow Chemical (parent of Umetco Minerals) to execute environmental covenants on the Slick Rock Mill sites. There is an outstanding issue regarding transfer of the Naturita site to the

town of Naturita. During spring 2009, the town expressed its desire to obtain the property. The current owners want to sell, rather than donate the property to the town, but have not determined an asking price. The next step would be a prop-

erty appraisal. The department has no continuing involvement in this proposed property transfer other than providing technical assistance to the town.

A list of the Uranium Mill Tailings Action sites and the current owners appears below.

Site	Owner
Durango South Parcel	Animas-La Plata Water Conservation District
Durango North Parcel	City of Durango
Grand Junction	City of Grand Junction
Gunnison	Gunnison County
Maybell	U.S. Department of Energy
Naturita	Town of Naturita owns half of the site; the other half is privately owned.
New Rifle	City of Rifle
Old Rifle	City of Rifle
Slick Rock (2)	Dow Chemical

Conclusion

This is the 14th annual Uranium Mill Tailings Management Report. Continued requests for reports and surveys demonstrates the long-term need for assistance to local governments and private citizens regarding the safe handling of uranium mill tailings. More than a thousand people an-

nually require information about the history of tailings contamination in communities affected by the Uranium Mill Tailings Remedial Action Program. Many times each year, tailings are encountered that must be managed safely. Continued public awareness of the

presence and safe handling of mill tailings is important, and the department should continue its public outreach efforts.

The program continues to operate cost-effectively and within budget. This report further demonstrates all the involved parties have worked cooperatively to achieve program goals.

Fiscal Year 2014 Budget Request

The following spreadsheet presents the budget request for state fiscal year 2014. this budget remains the same as 2013, as no increases in personnel costs are expected. For 2013, DOE removed the requirement that the state match 10% of the federal grant. The budget remains insufficient to cover various routine and special costs. For example, when the division allocates costs across programs, the Uranium

Mill Tailings Remedial Action Program is left out due to lack of funds, and other programs must pick up the slack.

The program completed the digitizing of microfilm that was started in 2010. The digitized microfilm files amount to 70,000 separate records, and we have continued to index them into corresponding electronic files. We currently are digitizing new property reports

that are produced and have established a database to track these files and to integrate them with the newly digitized microfilm files. We finished scanning the old paper records and have added them to the database begun in 2011. Currently, staff work on these tasks as they have time available. Using existing budget and staff, we estimate it will take several years to index all the files in an electronic database.

State of Colorado UMTRA Budget (July 2013-June 2014)

a. Personnel			POST-UMTRA (7X3)		Groundwater (RJ3)		TOTAL
			FTE	Cost	FTE	Cost	
<u>Title</u>	<u>Task</u>	<u>Salary*</u>					
Program Manager	Policy	\$ 136,912	0.03	\$4,107	0.00	\$0.00	\$4,107
Professional Engineer	Technical review	\$ 105,597		\$0	0.20	\$21,119	\$21,119
Env. Protection Spec.	Technical review	\$ 99,801	0.90	\$89,821	0.10	\$9,980	\$99,801
Env. Protection Spec.	Technical review	\$ 100,054	0.06	\$6,003			\$6,003
Program Assistant I	Staff support	\$ 61,106	0.93	\$56,829	0.07	\$4,277	\$61,106
Administration	Budget management		0.39	\$29,314		\$6,615	\$35,930
	Retirement payouts			\$0			\$0
			2.31	\$186,075	0.37	\$41,992	\$228,067
			2.31	\$186,075	0.37	\$41,992	\$228,067
b. Travel				\$437		\$2,000	\$2,437
c. Operating				\$5,200		\$1,298	\$6,498
	Supplies			\$3,200		\$1,082	\$4,282
	Vehicle Lease & Mileage			\$386		\$5,360	\$5,746
Contractual	Legal Services			\$525		\$649	\$1,174
Other	Training			\$525		\$420.00	\$945
	Medical Monitoring			\$5,000			\$5,000
	Records Storage			\$6,513		\$1,470	\$7,982
	OIT (estimated at 3.5% of all PS)						
Total Direct Charges				\$207,860		\$54,270	\$262,131
INDIRECT							
	Federal On-site @: 19.10%					\$5,956	\$5,956
	Federal Off-site @: 13.50%					\$1,925	\$1,925
	Federal Flow-thru @: 1.00%					\$54	\$54
	State Cash On-site @:18.60%			\$10,119		\$0	\$10,119
	State Cash Off-site @:15.00%			\$22,898		\$0	\$22,898
	State Cash Flow-thru @:1.90%			\$7		\$0	\$7
	Planned Indirect			\$33,024		\$7,934	\$40,958
Total Cost				\$240,884		\$62,205	\$303,089
Total State Share				\$240,884		\$0	\$240,884
Total Federal Share				\$0		\$62,205	\$62,205

* Salaries include base salary plus benefits.