

STATE OF COLORADO



Colorado Department
of Public Health
and Environment

URANIUM MILL TAILINGS MANAGEMENT
Annual Report for the Period
July 1, 2007 through June 30, 2008

Submitted to the Colorado Legislature
by the Division of Hazardous Materials and Waste Management
Colorado Department of Public Health and Environment
September 15, 2008

AUTHORIZATION

The Colorado Department of Public Health and Environment is authorized by Colorado Revised Statutes (C.R.S. 25-11-301) to provide assistance to 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 authority to remediate surface tailings deposits under the Uranium Mill Tailings Radiation Control Act expired on September 30, 1998. These uranium mill tailings have been determined to be a health hazard and are likely to be disturbed as a result of infrastructure repair and local redevelopment. Colorado House Bill 99-1267 also authorized the Department of Public Health and Environment to continue its involvement in the Uranium Mill Tailings Remedial Action Groundwater Restoration Phase.

SCOPE OF WORK

For the Colorado Department of Public Health and Environment, the scope of this program is to provide assistance to local governments in identifying, removing, storing and disposing of uranium mill tailings; participate in Uranium Mill Tailings Remedial Action groundwater restoration and monitoring and long-term surveillance activities; and annotate 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 U.S. Department of Energy for the Uranium Mill Tailings Remedial Action Groundwater Restoration Program. It also fulfills the reporting requirements of C.R.S. 39-29-116(4).

ACCOMPLISHMENTS

SUMMARY

The tailings management activities in the program continue to go smoothly. The Colorado Department of Public Health and Environment has a good working relationship with the affected local governments, and engages in regular outreach to ensure that all the Uranium Mill Tailings Remedial Action communities maintain a basic understanding of the program and know whom to contact at the state if they have any questions or if issues arise. Due to the amount of tailings in its jurisdiction, the city of Grand Junction is the most involved and has the most extensive working knowledge of the program. In addition, the department continues to provide services to the public regarding tailings surveys and information on specific properties, as well as providing 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, the state Legislature passed legislation in 2007 to extend the program until 2017.

In the groundwater restoration phase of the program, the department has continued to work with the Department of Energy to refine modeling predictions regarding the natural attenuation of contamination. The department and the Department of Energy also have worked with local communities on approving future land uses for the mill sites and in formulating institutional controls to ensure that people are not exposed to contaminated groundwater.

The following report breaks out various aspects of the post-Uranium Mill Tailings Remedial Action Program and describes activities that have occurred during the past state fiscal year.

ASSISTING LOCAL GOVERNMENTS AND THE PUBLIC

Tailings Management Plan

In October 1998, the Colorado Department of Public Health and Environment worked with affected communities to produce the Uranium Mill Tailings Management Plan. The plan was updated in October 2001. The 45-page plan includes health risk information, the problems caused by remaining tailings and the procedures for management of future disturbances. Following finalization of the plan, the department began local outreach efforts to distribute the plan and to familiarize local governments, utilities and other appropriate parties with the necessary precautions and procedures to be used when managing mill tailings. The department provides formal presentations and other written information to the local governments involved in the Uranium Mill Tailings Remedial Action Program, to federal and state government entities, and to entities such as public utilities. The department also provides on-the-job training and oversight to work crews on specific tailings removal projects. The goals are to contact each local government on an annual basis to refresh the staff on tailings management principles and to ensure that all contacts are kept up to date and readily available.

The U.S. Department of Transportation has changed its rules regarding the transportation of radioactive materials. The result of this change is that the transportation of uranium mill tailings with concentrations above 27 pCi/g (virtually all of the shipments) now requires additional paperwork. The Department of Public Health and Environment is currently working with trucking companies to help them understand and meet these requirements, as well as licensing requirements under the state Radiation Control Rules and Regulations. The tailings management plan is being revised to incorporate these new requirements.

Public Information

A major function of the post-Uranium Mill Tailings Remedial Action Program is public information dissemination. The public information presented by the Department of Public Health and Environment is offered in various settings and formats. 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 not only include proper tailings management, but also information on radon and the availability of the department's related printed materials. The program responded to approximately 2,887 phone calls and 1,009 walk-in customers during fiscal year 2008.

As a result of some publicity in Grand Junction regarding tailings found at a residence, as well as tailings found at a property in Durango, there has been an increase in interest regarding tailings. As a result, division staff was interviewed for a series of articles that appeared in the Grand Junction newspaper. In addition staff briefed the San Juan County Commissioners, and held training sessions for realtors in Grand Junction (1/31/08 and 3/18/08) and Durango (3/12/08). Staff continues to work with the two homeowners on remediating their properties.

Environmental Reports

In response to public requests, most frequently from real estate companies during property transactions, the Department of Public Health and Environment produces environmental reports and letters regarding specific properties. The department reviews 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 currently remain on the property. The report often includes data and maps from these files. In fiscal year 2008, 1,395 of these reports were prepared.

Web Site

The Department of Public Health and Environment continues to maintain an Internet Web site at <http://www.cdphe.state.co.us/hm/rptailng.htm> to provide information on the Uranium Mill Tailings Remedial Action Program. The entire tailings management plan is available on the Web site, with various cross-links by subject matter.

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 is used to store tailings temporarily until a sufficient quantity exists to warrant opening the Cheney Disposal Cell for permanent disposal of the material. The interim storage facility, which is located on property owned by the city of Grand Junction, is managed by the Colorado Department of Public Health and Environment under a contract between the two parties. In 2005, the city of Grand Junction

prepared a second clarifier at the site for the potential receipt of tailings materials. This clarifier 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 that the city of Grand Junction requires of other local governments that use the facility.

Tailings Activity

Approximately 260 cubic yards of uranium tailings soils and debris were added to storage at the interim storage facility in Grand Junction this year. There is currently more than 2,300 cubic yards of material in the facility. Permanent disposal of this material in the Cheney disposal cell will be scheduled for April 2009.

Waste Minimization

The Department of Public Health and Environment facilitates waste minimization through oversight of excavation activities. Whenever department representatives are on site, they instruct 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 material that has not been excavated as a result of these activities, the department believes this is an important procedure in terms of preserving disposal volume in the Cheney cell. In addition, the department inspects material brought to the interim storage facility to exclude uncontaminated material that was excavated inadvertently.

Building Permit Inspections

Historically, a property check either by computer database or on-site survey has been a requirement for all building and demolition permits in Mesa County. First, a database check is performed to determine if the area had involvement with uranium mill tailings. If the area has a history of tailings, or if there is a site within the immediate vicinity of such an area, an on-site survey is performed. If uranium tailings are discovered, recommendations are made to the owner/builder and to the local planning department.

In fiscal year 2008, 2,078 requests were received for building permit surveys. Of those, 1,731 were processed by a computer data check and 347 underwent both the data check and an actual field survey. From those surveys, 14 properties were found to contain tailings.

GROUNDWATER

Under the post-Uranium Mill Tailings Remedial Action agreement, the Colorado Department of Public Health and Environment also participated in the groundwater restoration phase of the Uranium Mill Tailings Remedial Action project. The goals are to remain informed of Department of Energy activity regarding groundwater activities, to review Department of Energy cleanup strategies at the mill sites and provide state concurrence on these strategies, and to monitor implementation of those strategies and ensure the protectiveness of the remedies. To meet this goal, the department reviews work plans, groundwater data and other Department of Energy reports. In fiscal year 2008, the department engaged in the following activities in the Uranium Mill Tailings Remedial Action groundwater restoration phase:

- In accordance with the roles and responsibilities described in the department's cooperative agreement with the Department of Energy (DOE), the department worked with DOE and the Nuclear Regulatory Commission (NRC) toward finalizing the Groundwater Corrective Action Plan for the Durango site. In addition, the department is attempting to secure environmental covenants on the Slick Rock and Naturita mill sites so the NRC can approve the Groundwater Corrective Action Plans for these sites. NRC requires institutional controls during the periods of natural attenuation, so that people are not exposed to the groundwater while it still exceeds standards.
- At the Durango south mill parcel, the Bureau of Reclamation is continuing construction of the pumping plant for the Animas-La Plata project. The department continues to coordinate with the bureau and the Department of Energy, primarily on monitoring issues, to ensure compliance with the land use restrictions included in the deed for the property. During this period, we reviewed plans submitted by the Western Area Power Administration to bring utilities to the site.
- The department continued to work with city of Rifle regarding the city's violation of land use restrictions that occurred when it constructed a building on East Rifle mill site and a sewer line interconnect and lift station on the West Rifle mill site. The department provided technical assistance in the formulation of new local ordinances that will ensure that the proper notifications and approvals are obtained before developing these sites. In addition, the department reviewed and approved plans for solar arrays and a new water treatment plant at the West Rifle site.

SURFACE PROGRAM ISSUES

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 Colorado Department of Public Health and Environment continues to monitor the disposal sites through the Department of

Energy Long-Term Surveillance and Maintenance Program, which performs site inspections to determine whether the disposal cells are performing as designed. Problems such as minor erosion that are noted during these inspections are repaired when necessary and otherwise are monitored (e.g., small erosion gullies are measured and photographed each year to see if they are expanding). The department performs this inspection oversight within its existing staffing authority and is matched with 90 percent federal dollars under the groundwater restoration phase cooperative agreement. The department also reviews summary reports and data collected during the inspections.

The only significant issue regarding long-term maintenance of the disposal cells involves water levels in the Estes Gulch (Rifle) cell. The department has been monitoring the situation for several years. Based on trigger action levels established in the Department of Energy maintenance plan, a small solar-powered sump was placed in an existing well during the fall of 2001. The extracted water is placed in a lined pond located at the base of the cell. It is believed that this water is transient drainage from the wet tailings that were placed in the cell; however, when the pumps are shut off a rebound in water level still occurs. This situation will continue to be monitored. Pumping has reversed the rising trend in the cell. An additional pump was added in 2004 to accelerate dewatering of the tailings.

Land Annotation

The federal UMTRCA statute requires that all properties that were included in the program have their property records annotated to indicate what cleanup happened on the property and when. However, this requirement in the statute only applies to properties that were cleaned up under the program. No annotation is required on properties that are known to have had tailings, but were never included in the cleanup program due to the owner's refusal. Colorado has historically opposed this annotation requirement because it only applies to properties that participated in the program and because we agree with the UMTRA Oversight Committee's opinion that the requirement unfairly stigmatizes clean properties. The Department of Energy has deferred to Colorado and other states objections by delaying the rulemaking that is required by the law. Without the rule, states have contended that they do not need to implement the annotation requirement, and to date have not.

In 2008, tailings were found at a residence in Grand Junction. Newspaper coverage of this story emphasized that the land annotation requirement in the statute has not been implemented and inferred that such annotations would protect prospective purchasers of property.

Land Transfer

The department has accomplished transfer to local governments of all sites owned by the state. 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. The department last met with representatives of Phelps Dodge in February 2006. Since that time, a new company has acquired Chemetall Foote, and is trying to sell the property to Phelps Dodge as part of the transaction. (Previously the property was to be transferred at no cost.) The request for payment has stopped the transaction, and Phelps Dodge is not pursuing the matter. The Legislative Oversight Committee may wish to consider whether it wants to authorize the department and the Department of Local Affairs to purchase the property for the town (subject to approval from the Capital Development Committee). If so, the next step would be to have the property appraised. Otherwise, this issue should be considered closed. A list of the Uranium Mill Tailings Remedial Action sites and the current owners is presented 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; other half is privately owned.
New Rifle	City of Rifle
Old Rifle	City of Rifle
Slick Rock (2)	Dow Chemical

CONCLUSION

This tenth annual Uranium Mill Tailings Management Report demonstrates that there is a continuing long-term need for assistance to local governments and to private citizens regarding the safe handling of uranium mill tailings and that the Colorado Department of Public Health and Environment is fulfilling this need. The data show that thousands of people annually continue to require information about the history of tailings contamination in Uranium Mill Tailings Remedial Action-impacted communities. In addition, several times each year, tailings that were left behind are encountered and need to be safely managed. As highlighted by events in recent years, it is important that issues involving the presence and safe management of remaining mill tailings remain in the public's awareness, and the Colorado Department of Public Health and Environment should continue public outreach to address this issue.

The program continues to operate in a very cost-effective manner by providing services to Western Slope communities and thousands of citizens in dealing with uranium mill tailings within a budget largely financed with the interest from the funds remaining in the Uranium Mill

Tailings Remedial Action Trust Fund when it was absorbed back into the Mineral Severance Tax Fund. This report shows that the parties involved in the program, at all levels of government, have been able to work together cooperatively to achieve program goals.

FISCAL YEAR 2010 BUDGET REQUEST

The attached spreadsheet presents the budget request for 2010. This budget includes the standard salary survey increases in personnel costs. In addition, the budget includes a line item for retirement payouts. Based on the Department's FY 2009 appropriation, less money will be available for retirement payouts in FY2009-10. As a result, there is a high probability that Divisions and programs (including UMTRA) will be asked to fund these payouts. As this is new information, and as we anticipate a retirement during the period, we have included the estimated cost in the budget.

**State of Colorado UMTRA Budget
2009-2010**

Personnel			POST-UMTRA		Groundwater		LTSM		TOTAL
			FTE	Cost	FTE	Cost	FTE	Cost	
Title	Task	Salary*							
Program Manager	Policy	\$ 139,224	0.03	\$ 4,177	0.00	\$	0.00	\$	\$ 4,177
Professional Engineer	Technical review	\$ 127,408			0.12	\$ 15,289	0.03	\$ 3,822	\$ 19,111
Env. Protection Spec.	Technical review	\$ 100,527	0.97	\$ 97,512			0.03	\$ 3,016	\$ 100,527
Env. Protection Spec.	Technical review	\$ 83,787	0.06	\$ 5,027					\$ 5,027
Program Assistant I	Staff support	\$ 66,242	0.98	\$ 64,917		\$	0.02	\$ 1,325	\$ 66,242
Administration	Budget management	\$ 90,516	0.39	\$ 34,082	0.09	\$ 8,223	0.02	\$ 2,255	\$ 44,560
	Personnel Subtotal		2.43	\$205,715	0.21	\$ 23,512	0.10	\$ 10,417	\$ 239,644
POTS									
			2.43	\$205,715	0.21	\$23,512	0.10	\$10,417	\$ 239,644
Travel				\$ 210		\$ 200		\$ 1,000	\$ 1,410
Operating	Supplies			\$ 5,250		\$ 1,000		\$ 200	\$ 6,450
	Vehicle Lease & Mileage			\$ 3,150		\$ 500		\$ 500	\$ 4,150
Contractual	Legal Services			\$ 525		\$ 2,000			\$ 2,525
Other	Training			\$ 525		\$ 500		\$ 100	\$ 1,125
	Medical Monitoring			\$ 315		\$ 300		\$ 100	\$ 715
	Retirement payouts			\$ 9,844		\$		\$	\$ 9,844
	Total Direct Charges			\$225,534		\$28,012		\$12,317	\$ 265,863
Indirect Costs									
	Federal On-site @: 19.2%					\$ 4,460		\$ 1,378	\$ 5,839
	Off-site @: 13.6%					\$		\$ 531	\$ 531
	Flow-thru @: 1.0%					\$ 18		\$	\$ 18
	State Cash On-site @: 20.1%			\$ 11,530		\$ 523		\$	\$ 12,052
	Off-site @: 15.5%			\$ 25,956		\$		\$ 67	\$ 26,023
	Flow-thru @: 1.5%			\$ 8		\$ 3		\$	\$ 11
Planned Indirect				\$ 37,493		\$ 5,004		\$ 1,977	\$ 44,474
	Total Cost			\$263,027		\$ 33,016		\$ 14,294	\$ 310,337
	Total State Share			\$263,027		a \$ 3,327		a \$ 1,299	\$ 267,653
	Total Federal Share			\$		b \$29,689		b \$ 12,995	\$ 42,684

* Salaries include base salary plus benefits.

a - equal to 10% of Total Direct Charges plus State Cash Indirect

b - equal to 90% of Total Direct Charges plus Federal Cash Indirect