

STATE OF COLORADO



Colorado Department
of Public Health
and Environment

URANIUM MILL TAILINGS MANAGEMENT **Annual Report for the Period** **July 1, 2009 through June 30, 2010**

Submitted to the Colorado Legislature
by the Division of Hazardous Materials and Waste Management
Colorado Department of Public Health and Environment
Nov. 1, 2010

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 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 (UMTRCA) expired on Sept. 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, last amended by Senate Bill 07-200, authorized the department to continue its involvement in the Uranium Mill Tailings Remedial Action Groundwater Restoration Phase.

SCOPE OF WORK

For the department, 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, 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 department 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 legislation was passed in 2007 to extend the program until 2017.

In the groundwater restoration phase of the program, the department continues 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 work with local communities on approving future land uses for the mill sites and in formulating institutional controls to ensure 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

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 3,241 phone calls and 596 walk-in customers during fiscal year 2009-2010.

Environmental Reports

In response to public requests, most frequently from real estate companies during property transactions, the department 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 2009-2010, 1,900 of these reports were prepared. This is a significant increase in the last two quarters due to the department's outreach efforts.

Web Site

The department 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 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.

Tailings Activity

In July 2009, approximately 3,500 cubic yards of material from the interim storage facility were permanently disposed in the Cheney Disposal Cell. During fiscal year 2009-2010, approximately 959 cubic yards of uranium tailings soils and debris were added to storage at the interim storage facility in Grand Junction.

Waste Minimization

The department 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 uncontaminated material not excavated as a result of this waste minimization practice, the department believes this is an important procedure in terms of preserving disposal capacity 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

Because of the large amount of tailings left in Grand Junction, the city requires 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 uranium mill tailings. 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 2009-2010, 1,167 requests were received for building permit surveys. Of those, 960 were processed by a computer data check and 207 underwent both the data check and an actual field survey. From those surveys, 30 properties were found to contain tailings.

GROUNDWATER

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 actions regarding groundwater contamination, 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 remedies are protective of human health and the environment. To meet these goals, the department reviews work plans, groundwater data and other Department of Energy reports. In fiscal year 2009-2010, 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, the department worked with the Department of Energy and the Nuclear

Regulatory Commission toward finalizing the Groundwater Compliance Action Plan for the Naturita site.

- The department is attempting to secure environmental covenants or use restrictions on the Slick Rock, Naturita, and Durango South Mill sites and the UMETCO Rifle property, so the Nuclear Regulatory Commission can approve the Groundwater Compliance Action Plans for these sites. The Nuclear Regulatory Commission requires institutional controls during the periods of natural attenuation, so people are not exposed to the groundwater while it still exceeds standards.
- At the Durango South Mill parcel, the Bureau of Reclamation has finalized construction of the pumping plant for the Animas-La Plata project. The department has coordinated with the bureau to ensure compliance with the land use restrictions included in the deed for the property. The Department will also continue to work with the land owner, the Animas La Plata Water Conservancy District, to review and approve any additional plans it may have for reuse of this property.
- The department reviewed and approved two proposals from the city of Rifle for reuse of the New Rifle mill site. The first project was a soil composting operation and the second is for a Western Colorado Carbon Neutral Bioenergy Consortium pilot project to grow switch grass and convert it to biofuel. The department also worked with Gunnison County on reuse activities at the Gunnison Mill 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 department 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 noted during inspections, 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, matched 90 percent with federal dollars under the groundwater restoration phase cooperative agreement. The department also reviews summary reports and data collected during inspections. During 2009-2010, six inspections were performed at the disposal sites.

As reported last year, one issue regarding long-term maintenance of 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 pump 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 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. An additional pump was added in 2004 to accelerate removal of water from the tailings. In 2009, the Department of Energy conducted a thorough review of the Estes Gulch disposal cell and produced a document titled "Rifle Disposal Site Transient Drainage and Slope Stability Evaluation," which currently is being reviewed by the Colorado Department of Public Health and Environment. Also in 2009, DOE reported to the department that a monitor well at the Durango Disposal site had exceeded the groundwater regulatory limit for uranium. The department is working with DOE to determine the cause of the increase in the well, which is

believed to be associated with an in-situ treatment pilot study that was conducted at the site near the well in the 1990s.

Land Annotation

The federal Uranium Mill Tailings Radiation Control Act 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 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 in the program and now are considered to be clean. In deference to these concerns raised by Colorado as well as other states, the Department of Energy has delayed the rulemaking required by federal law to implement the annotation requirement. Without the rule, states contend they do not need to implement the annotation requirement and, to date, have not. However, without a (federal) statutory change, this will remain an open issue.

Land Transfer

To preclude windfall profits to owners of the mill sites, the UMTRCA 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 the Department of Energy), 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. In e-mail correspondence 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; however they have not determined an asking price for the property. 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, the department would have no continuing involvement in this proposed property transfer. 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 12th annual Uranium Mill Tailings Management Report demonstrates 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 the department 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 affected communities. In addition, several times each year, tailings that were left behind are encountered and must 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 department 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 after it was absorbed back into the Mineral Severance Tax Fund. This report shows all the parties involved in the program have been able to work together cooperatively to achieve program goals.

FISCAL YEAR 2011 BUDGET REQUEST

The attached spreadsheet presents the budget request for 2011. This budget is basically the same as 2010, as no increases in personnel costs (salary survey, performance-based pay) are expected. However, 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 of the distribution due to lack of funds, and other programs must pick up the slack. More importantly, there will be some large funding needs to maintain the program's functionality. The most critical of these is to convert microfiche records to a digital format. This will ensure our continued access to the information as microfiche technology becomes increasingly unsupportable, and will increase our ease and flexibility in retrieving and storing this information. The program began digitizing the microfilm in 2010 and will start to develop an online database in 2011. We currently are digitizing any new property reports that are produced and need to establish a database to keep track of these files. In the future, the old paper records need to be digitized and added to the database. Currently, staff work on these tasks as they have time available.

Table 1
State of Colorado UMTRA Budget
July 2010 - June 2011

a. Personnel			POST-UMTRA (7X9)		Groundwater (RJ7 & 7J9)		LTSM (RL7 & 7J9)		TOTAL
			FTE	Cost	FTE	Cost	FTE	Cost	
<u>Title</u>	<u>Task</u>	<u>Salary*</u>							
Program Manager	Policy	\$ 132,697	0.03	\$ 3,981	0.00	\$ -	0.00	\$ -	\$ 3,981
Professional Engineer	Technical review	\$ 102,172		\$ -	0.12	\$ 12,261	0.03	\$ 3,065	\$ 15,326
Env. Protection Spec.	Technical review	\$ 95,888	0.97	\$ 93,012			0.03	\$ 2,877	\$ 95,888
Env. Protection Spec.	Technical review	\$ 80,568	0.06	\$ 4,834					\$ 4,834
Program Assistant I	Staff support	\$ 64,521	0.93	\$ 60,005		\$ -	0.02	\$ 1,290	\$ 61,295
Administration	Budget management		0.39	\$ 32,461		\$ 7,386		\$ 1,998	\$ 41,845
	Retirement payouts			\$ -					\$ -
Personal services subtotals			2.38	\$ 194,292	0.12	\$ 19,647	0.08	\$ 9,230	\$ 223,169
POTS									\$ -
			2.38	\$ 194,292	0.12	\$ 19,647	0.08	\$ 9,230	\$ 223,169
b. Travel				\$ 206		\$ 210		\$ 1,050	\$ 1,466
c. Operating				\$ 5,150		\$ 1,050		\$ 210	\$ 6,410
	Supplies			\$ 5,150		\$ 1,050		\$ 210	\$ 6,410
	Vehicle Lease & Mileage			\$ 3,150		\$ 525		\$ 525	\$ 4,200
d. Contractual						\$ 5,250			\$ 5,250
e. Other									
	Legal Services					\$ 5,250			\$ 5,250
	Training			\$ 515		\$ 525		\$ 105	\$ 1,145
	Medical Monitoring			\$ 515		\$ 315		\$ 105	\$ 935
	Document Digitization			\$ -		\$ -		\$ -	\$ -
Total Direct Charges				\$ 203,828		\$ 27,522		\$ 11,225	\$ 242,575
INDIRECT									
	Federal On-site @: 16.00%					\$ 3,177		\$ 1,016	\$ 4,193
	Federal Off-site @: 11.20%					\$ -		\$ 420	\$ 420
	Federal Flow-thru @: 1.50%					\$ 71		\$ -	\$ 71
	State Cash Onsite @: 21.40%			\$ 9,799		\$ 477		\$ -	\$ 10,276
	State Cash Offsite @: 17.50%			\$ 27,624		\$ -		\$ 73	\$ 27,697
	State Cash Flow-thru @: 2.00%			\$ -		\$ 11		\$ -	\$ 11
	Planned Indirect			\$ 37,423		\$ 3,735		\$ 1,509	\$ 42,667
Total Cost				\$ 241,251		\$ 31,257		\$ 12,734	\$ 285,242
				\$ 241,251		\$ 31,257		\$ 12,734	
Total State Share				\$ 241,251	a	\$ 3,239	a	\$ 1,195	\$ 245,686
Total Federal Share				\$ -	b	\$ 28,018	b	\$ 11,539	\$ 39,556

* 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

