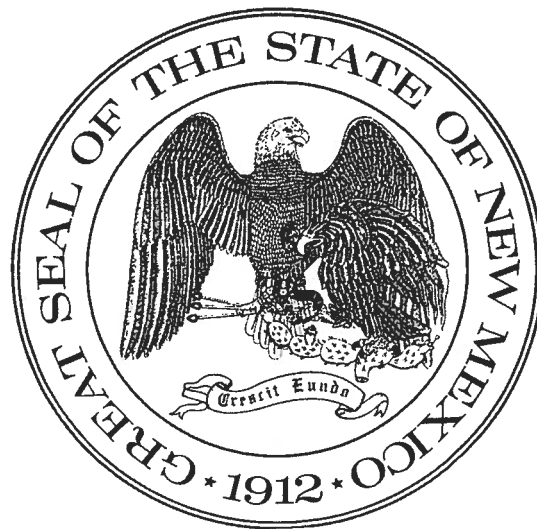


The Uranium Legacy:
A Congressional Briefing Book
Compliments of the
New Mexico Uranium Mining and Tailings
Task Force



May 5-8, 2009
Washington, D.C.

CONGRESSIONAL BRIEFING BOOK

NEW MEXICO URANIUM MINING AND TAILINGS TASK FORCE

May 5-8, 2009
Washington, D.C.

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Executive Summary

The under-regulated uranium mining and milling industries of the twentieth century left a legacy of abandoned and contaminated mine and mill sites in New Mexico, including piles of windblown mining waste and mill tailings and polluted ground water. There are three distinct concerns of contamination left behind by past mining and milling activities. The first is the abandoned uranium mines and mine waste. The second is the mill sites and mill tailings. While the surface contamination at some of the mill sites has been contained or is at various stages of reclamation, the remediation of ground water continues. The third is the contamination of ground water caused by both mining and milling activities. Major aquifers in New Mexico have expanding plumes of contamination, and health advisories have been issued.

Unlike abandoned coal mines, there is no single dedicated funding source for the reclamation of abandoned uranium mines. As a result, state and federal land management agencies piece together funding from various sources. Section 409 of the Surface Mining Control and Reclamation Act of 1977 allows funds to be used for cleanup of non-coal mines; however, Department of the Interior policies have recently severely restricted the use of these funds. Additionally, the Department of the Interior was given discretionary funds in the American Recovery and Reinvestment Act of 2009 that can be used for reclamation of abandoned uranium mines. At the urging of the House Committee on Oversight and Government Reform, the Environmental Protection Agency and other federal agencies have begun addressing the uranium legacy on the Navajo Nation. Pursuant to the Comprehensive Environmental Response, Compensation and Liability Act of 1980, the Environmental Protection Agency has authority for immediate removal and long-term re dedication of contamination caused by abandoned uranium mines. The Rehabilitation of Abandoned Mine Sites project managed by the United States Army Corps of Engineers pursuant to the Water Resources Development Act of 1999 also provides assistance in the reclamation of abandoned uranium mines. Congress has provided piecemeal authority and funding for the reclamation of abandoned uranium mines, even though it specifically took responsibility for the reclamation of uranium milling sites.

While surface reclamation of uranium mills is largely completed pursuant to the Uranium Mill Tailings Radiation Control Act of 1978, there are still lingering concerns of contamination. The use of liners for disposal cells has not been mandated for all milling sites. Additionally, concurrence or approval on "alternate concentration limits" legalizes high levels of ground water contamination. Thus, ground water remediation and containment of the expanding contamination plume must still be addressed.

The concentrations of contaminants in excess of federal maximum contaminant levels are expected to remain even after completion of remediation activities at several milling sites. Unfortunately, the majority of information about ground water quality, as well as most current human consumptive usage, comes from private wells in subdivisions that are located in the southern part of the San Mateo Creek Basin within Cibola County north of Milan, New Mexico.

In order to adequately address uranium legacy issues, including laying a foundation for long-term assessment and funding of reclamation of abandoned mines, remediation of ground water contamination and addressing the public health and environmental impacts of uranium exposure on workers and residents, Congress will need to authorize appropriations for the reclamation of abandoned uranium mines, and the federal agencies must take action.

Proposed Federal Action

- Enact the Hardrock Mining and Reclamation Act of 2009 with an appropriate funding formula to ensure that New Mexico will receive a fair share of the money generated to address reclamation of abandoned uranium mines.
- Restore flexibility under Section 409 of the Surface Mining Control and Reclamation Act of 1977 to use abandoned mine land funds for reclamation of non-coal mines through legislation or Department of the Interior regulations.
- Request congressional hearings or briefings from federal agencies on the status of abandoned uranium mine reclamation, particularly from the Environmental Protection Agency, Department of the Interior and Department of Energy.
- Create a specific source of funding for abandoned uranium mine reclamation; for example, from the sale of uranium inventories by the Department of Energy.
- Authorize the Department of Energy to establish an abandoned uranium mine reclamation program.
- Request a National Academy of Sciences study for reclamation of uranium mines and remediation of ground water contamination.
- Support the Department of the Interior's:
 - ▶ Office of Surface Mining Reclamation and Enforcement and the Office of the Solicitor to amend regulations to return flexibility to use any Surface Mining Control and Reclamation Act of 1977 abandoned mine land funds for reclamation of non-coal mine sites and supporting legislation to amend the Surface Mining Control and Reclamation Act of 1977, if necessary;
 - ▶ Bureau of Land Management to increase efforts to assist with reclamation of uranium mines on its land and use American Recovery and Reinvestment Act of 2009 stimulus funds;
 - ▶ Bureau of Indian Affairs to assist with cleanup efforts and health studies on tribal lands, particularly on the Navajo Nation; and
 - ▶ United States Geological Survey to provide technical support for abandoned uranium mine cleanup and assessment and mapping of the San Mateo Creek Basin, San Juan River Basin and Lower Colorado River Basin.
- Ensure appropriations of at least:
 - ▶ \$65 million to provide alternative water supplies for New Mexico residents affected by uranium contamination of aquifers;

- ▶ \$200,000 for Environmental Protection Agency Regions 9 and 6 to continue to conduct a tiered assessment of abandoned uranium mines and cost analysis in New Mexico;
- ▶ \$4 million for the Department of Energy to continue remediation of ground water and containment of the spreading plume in New Mexico;
- ▶ \$1 million for a study to determine the movement of contaminated ground water and the threats to drinking water supply wells, irrigation water, springs and seeps, as well as the scope of remediation; and
- ▶ \$1 million for the United States Army Corps of Engineers' RAMS project in New Mexico.



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THE LEGACY OF URANIUM MINING & MILLING IN NEW MEXICO

INTRODUCTION

The under-regulated uranium mining and milling industries of the twentieth century left a legacy of abandoned and contaminated mine and mill sites in New Mexico, including piles of windblown mining waste and mill tailings and polluted ground water. While the surface contamination at some of the mill sites has been contained, many of the mine sites remain unremediated, and major aquifers have expanding plumes of contamination. While New Mexico is working to get a handle on this continuing problem, the associated costs are beyond the resources of the state and related tribal entities. The federal government, the principal beneficiary of uranium production prior to the 1970s due to national defense requirements, has a moral obligation to assist with the expense of fully investigating and remediating the legacy of the twentieth century uranium industry in New Mexico.

URANIUM — BACK TO THE FUTURE?

The Grants mineral belt, situated between Shiprock and the Pueblo of Laguna in New Mexico, contains one of the world's richest uranium deposits. During the 30-year period beginning in 1948, the Grants mineral belt produced more uranium than any other district in the world and accounted for one-third of all of the uranium produced in the United States during that period.¹ Through 2002, more than 174,000 tons of uranium oxide (U₃O₈ - also known as "yellowcake") were produced from more than 200 mines located in 18 New Mexico counties; annual production of yellow cake between 1977 and 1982 averaged over \$370 million.² The price per pound of yellowcake peaked in the early 1980s at almost \$40.00 per pound, but declined to \$10.00 per pound in 1989.³ Prior to the 1970s, most of the uranium was sold to the federal government for defense purposes; in the 1970s and 1980s, most of the uranium was sold to fuel nuclear power plants.

The decline in the demand for and the price of uranium with the end of the Cold War and the Three Mile Island nuclear power plant incident resulted in the slowdown in the construction of new nuclear power plants and effectively killed the uranium mining and milling industry in New Mexico by the end of the 1980s. However, the recent increase in demand for new sources of uranium and the subsequent spike in the spot price of uranium to \$138 per pound of yellowcake in July 2007⁴ has led to increased interest in resuming uranium mining and milling in New Mexico. The federal Energy Information Administration has estimated that New Mexico has reserves of at least 341 million pounds of yellowcake (38 percent of the United States' total reserves) that can be mined at a cost of \$50.00 per pound or less.⁵ As of April 27, 2009, the spot price for U₃O₈ was \$44.00 per pound.⁶

Over the past three years, the Mining and Minerals Division (MMD) of the Energy, Minerals and Natural Resources Department (EMNRD) has received 22 applications for the drilling of exploration holes related to uranium mining; nine of these applications have been approved, 12 have been withdrawn or denied and one is still being processed. In addition, two new mining projects are conducting background environmental studies prior to the formal permitting process.⁷ In addition, the Nuclear Regulatory Commission has granted a license for the construction of new in situ leach mining facilities to be located near Church Rock and Crownpoint, New Mexico. Interest also has been expressed in reopening the underground uranium mine located on Mount Taylor.

The potential resumption of uranium mining and milling activities in New Mexico has raised many issues, ranging from the need for new jobs, economic growth and state tax revenue to concerns about new environmental contamination and desecration of Native American sacred sites. Without a doubt, the awareness of the legacy of

past uranium mining and milling in New Mexico has greatly increased.

THE URANIUM MINING AND MILLING LEGACY IN NEW MEXICO

The history of uranium mining in New Mexico has involved a wide variety of activities, including exploratory drilling, small "mom and pop" surface and underground mines and large-scale commercial surface and underground mines.

The New Mexico Bureau of Geology and Mineral Resources has identified nearly 600 mine and exploration sites in McKinley, Cibola and Sandoval counties alone.⁸ A recent inventory study conducted by the MMD identified 259 mining sites in New Mexico that produced uranium. Of these sites, 137 have no record of any reclamation activity.⁹ In addition to uranium mines, mills used to process ore to yellowcake were constructed and operated at seven sites in New Mexico.¹⁰

Much has been said and written about the adverse environmental and health impacts of the twentieth century uranium industry in New Mexico. Two specific examples illustrate the extent of the impacts of these activities. In 1969, the United Nuclear Corporation (UNC) began operating an underground uranium mine near Church Rock, New Mexico, approximately 17 miles northeast of the City of Gallup; subsequently, the UNC constructed a uranium milling facility nearby. The mill produced waste products that were stored in three lagoons surrounded by an earthen dam. On the morning of July 16, 1979, the dam failed, sending approximately 1,100 tons of mill waste and 94 million gallons of acidic mill effluent into the Pipeline Arroyo and the North Fork of the Rio Puerco; contaminants were carried 80 miles downstream to a point near Navajo, Arizona. The total amount of radiation released in this spill was more than three times the amount released in the Three Mile Island nuclear power plant incident that occurred less than four months earlier.¹¹

In 1958, the Homestake Mining Company opened a uranium mill near the Village of Milan, just to the west of Grants, New Mexico. In 1983, the federal Environmental Protection Agency (EPA) placed the Homestake site on the National Priorities List under the Superfund program due to the potential for radon emissions from the tailings piles. Further investigations revealed contamination of the ground water, and the EPA and Homestake entered

into a consent decree for Homestake to provide drinking water to area residents. In 1990, the mill was closed, decommissioned and demolished. Despite more than 30 years and millions of dollars of reclamation activity regarding the tailings piles, the ground water in that area is so contaminated that, in a report issued in May 2008, the Agency for Toxic Substances and Disease Registry, an agency of the federal Department of Health and Human Services, declared the Homestake Mining Company mill site to be a public health hazard.¹²

The cleanup of contaminated abandoned uranium mine sites has been spotty at best. In the spring of 2007, 25 years after the closure of the Northeast Church Rock uranium mine, the EPA removed 5,300 cubic feet of radium-contaminated soil at five residential properties in the Coyote Chapter of the Navajo Nation, located downwind of the mine.

As a result of hearings conducted by the House Committee on Oversight and Government Affairs, five federal agencies (Bureau of Indian Affairs, Department of Energy, EPA, Indian Health Service and Nuclear Regulatory Commission) have prepared a five-year plan to address contamination resulting from uranium mining and milling activities on the Navajo Nation.¹³ In consultation and coordination with the Navajo Nation, the federal agencies intend to accomplish the following tasks on the Navajo Nation within the next five years: assess contamination of 500 structures and remediate those posing a health risk; assess contamination of rural Navajo Nation water sources and provide safe water where necessary; identify the highest risk of the 520 abandoned uranium mine sites on the Navajo Nation; complete the cleanup of the Northeast Church Rock Mine; remediate ground water at uranium milling sites; and support health studies related to the effects of uranium radiation.

NEW MEXICO LEGISLATIVE ACTIONS

During the years 2005 through 2008, the New Mexico Legislature held eight interim legislative committee hearings regarding the legacy of past uranium mining and milling activities and proposals to resume uranium mining and milling in New Mexico. Most of these meetings were conducted at locations on the Navajo Nation and within the Grants mineral belt and included field trips to former mining and milling sites that remain contaminated today. In the 2008 legislative

session, two bills (House Bill 342 and Senate Bill 487) were introduced proposing new funding sources for the cleanup of sites contaminated by past uranium mining activities. The Uranium Legacy Cleanup Act, which would have imposed a surtax on future uranium mining and milling operations in New Mexico, passed the legislature but was vetoed by Governor Bill Richardson because it provided an entirely inadequate level of funding for cleanup activities.¹⁴

Problems related to the contamination of land resulting from uranium mining and milling activities in the twentieth century continued to be a hotly discussed topic during the 2009 legislative session. Senate Joint Memorial 15, which passed both chambers, detailed the nature of the uranium legacy of contaminated sites and requested Congress to allocate funds from the sale of excess federal uranium inventory and from the abandoned coal mine program of the federal Surface Mining Control and Reclamation Act of 1977 (SMCRA) for the cleanup of the contaminated mine sites. The general appropriation bill for fiscal year 2010 includes \$150,000 for site assessments of abandoned uranium mines. House Bill 84, essentially a reintroduction of the proposed Uranium Legacy Cleanup Act vetoed by the governor in 2008, was tabled in the House Energy and Natural Resources Committee. That proposal, however, spawned two other bills: House Bill 749, which financed the cleanup of legacy sites through capital outlay funds rather than through a surtax on future uranium mining and milling activities; and House Bill 755, which would have imposed strict liability on the uranium industry for contamination resulting from future mining and milling activities.

House Bill 755 never got out of its second House committee, but House Energy and Natural Resources Committee Substitute for House Bill 749 passed the House by a vote of 65-0 but never received a hearing in a Senate committee. A duplicate of House Bill 749, Senate Education Committee Substitute for Senate Bill 736, received a hearing by the Senate Finance Committee near the end of the session but was tabled. House Joint Memorial 6, which called for the creation of a task force to study the potential impact and regulation of the resumption of uranium mining and milling activities in New Mexico, passed the House by a vote of 31-28 but was not heard by the Senate Rules Committee. This topic will continue to be an item

of discussion during the interim and will be the subject of proposed legislation in future sessions.

FUNDING THE URANIUM LEGACY CLEANUP

In past years, funding for the assessment and cleanup of sites contaminated by uranium mining and milling activities has come from a variety of sources, including the operating budgets of the involved federal, state and tribal agencies, the Superfund program pursuant to the federal Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), the federal Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA), the Abandoned Mine Lands program pursuant to Title IV of SMCRA and assessments paid by former operators of uranium mines and mills and their successors in interest. This funding, however, has not been adequate to address the full extent of the contamination legacy of the uranium industry in New Mexico.

One source of future funding could be the authorization of a significant portion of funds received pursuant to SMCRA for the cleanup of non-coal mines. Another source could be allocation of a significant share of funds received from the sale by the federal Department of Energy (DOE) of the government's excess uranium inventory, much of which originated in the mines and mills of New Mexico. It is also important that Regions 6 and 9 of the EPA receive sufficient funding to complete the inventory and assessment of abandoned uranium mines and mapping of the continuing contamination of ground water and major aquifers in New Mexico.

CONCLUSION

The uranium industry operating in New Mexico in the twentieth century, which mainly occurred prior to the creation and implementation of federal or state regulations, left a legacy of unreclaimed mines and contaminated mining and milling sites and underground aquifers.

With respect to uranium milling sites, surface reclamation has been completed at six of the seven mill tailing facilities in New Mexico, and four of the seven sites have been turned over to the Office of Legacy Management within the DOE. Reclamation activities continue at the Homestake Milan, Church Rock and Rio Algom mill sites pursuant to the Nuclear Regulatory Commission

license requirements and at the Shiprock mill site under DOE oversight. Ground water and aquifer contamination continue to be a problem even where surface contamination has been cleaned up or contained.

Furthermore, potentially hundreds of abandoned uranium mines in northwest New Mexico remain unreclaimed; the extent of uranium contamination and the cost of cleanup at those sites remain unknown. The impacts of past discharges of mine water on regional ground water quality are also not known.

While the State of New Mexico is taking steps to assess the extent of and characterize the nature of contamination at abandoned uranium mine sites, the state lacks the financial ability to complete the assessment work in a timely fashion or fund the cleanup actions necessary to minimize the adverse health risks represented by those sites if responsible parties are not identified. The uranium mining and milling activities that took place in New Mexico in the twentieth century were undertaken in large part to benefit the federal nuclear weapons program. The federal government in 1978 recognized its responsibility to assist financially in the cleanup of contamination from past uranium milling activities through the passage of the UMTRCA, which provided that the federal government would pay for the cleanup of mill sites that produced uranium solely for government use. Title X of the federal Energy Policy Act of 1992 also provided that the federal government would pay for the cleanup of mill sites that produced uranium for both government and private use in proportion to the amount of uranium that was used for government purposes. If the federal government is responsible for the cost of cleaning up mill sites that produced uranium for national defense purposes, it should also be responsible for the cost of closing and cleaning up the mines that produced the ore for the uranium mills.

ENDNOTES

1. *Uranium - Is the Next Boom Beginning*, New Mexico Bureau of Geology and Mineral Resources, New Mexico Tech, Winter 2007, p. 1.
2. *Ibid.*
3. *Ibid.* at pp. 1-2.
4. The Ux Consulting Company, LLC, www.uxc.com/review/uxc_g_price.html, April 28, 2009.

5. *Uranium - Is the Next Boom Beginning*, New Mexico Bureau of Geology and Mineral Resources, New Mexico Tech, Winter 2007, p. 2.
6. The Ux Consulting Company, LLC, www.uxc.com/review/uxc_prices.aspx, April 28, 2009.
7. Bill Brancard, Director, Mining and Minerals Division, New Mexico Energy, Minerals and Natural Resources Department, April 15, 2009.
8. V. T. McLemore, et al., Database of Uranium Mines, Prospects, Occurrences, and Mills in New Mexico, New Mexico Bureau of Geology and Mineral Resources, New Mexico Institute of Mining and Technology, April 3, 2002.
9. News Release, July 1, 2008, New Mexico Energy, Minerals and Natural Resources Department.
10. Phillips Ambrosia Lake and Shiprock mill sites; Rio Algom Ambrosia Lake mill; Homestake Mining Company Milan mill; Anaconda Bluewater mill; United Nuclear Corporation Churchrock mill; SOHIO/Kennecott L-Bar uranium mill.
11. Doug Brugge and Jamie L. de Lemos, "The Sequoyah Corporation Fuels Release and the Church Rock Spill: Unpublicized Nuclear Releases in American Indian Communities", *American Journal of Public Health*, Vol. 97, No. 9, September 2007.
12. Health Consultation, Homestake Mining Company Mill Site, Milan, Cibola County, New Mexico, Division of Health Assessment and Consultation, Agency for Toxic Substances and Disease Registry, Department of Health and Human Services, May 19, 2008.
13. Health and Environmental Impacts of Uranium Contamination in the Navajo Nation; Five-Year Plan, June 8, 2008.
14. Governor Bill Richardson, Senate Executive Message No. 45, March 3, 2008.

This information bulletin does not represent a policy statement of the Legislative Council Service or its staff. This information bulletin was written by Chase Van Gorder. For more information, contact the Legislative Council Service at (505) 986-4600.

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Abandoned Uranium Mines

Background and History

Abandoned Uranium Mines (AUMs)

Estimates of AUMs vary; some indicate that there are more than 600 AUMs in New Mexico. Of the 259 AUMs with a record of uranium production, 137 have no record of reclamation.

- 131 AUMs (60%) produced less than 20,000 lbs.; of those, 85 have no record of reclamation.
- 63 AUMs (28%) produced 20,000 to 2 million lbs.; of those, 29 have no reclamation record .
- 25 AUMs (11%) produced over 2 million lbs.; of those, three have no record of reclamation.
- 162 AUMs (68%) have surface ownership by the federal government or a tribal trust or allotment.

Federal Legislative Authorities for Reclamation

The Surface Mining Control and Reclamation Act of 1977 (SMCRA)

Pursuant to SMCRA, two programs were created: 1) for regulating active coal mines; and 2) a fund for reclaiming abandoned mine lands (AMLs). The Office of Surface Mining (OSM), Department of the Interior, promulgates regulations, funds state regulatory and reclamation efforts and ensures consistency among state regulatory programs. In the past, money in the AML fund was used for cleanup and reclamation of coal and non-coal mines, including AUMs. Section 409 of the SMCRA specifically allows the use of these funds for non-coal mines. In November 2008, OSM adopted a rule severely limiting the use of AML funds for non-coal mines.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA, Superfund Act)

Pursuant to CERCLA, the Environmental Protection Agency (EPA) has removal of waste authority when levels of contamination require prompt response and long-term remedial authority when the site is on the EPA's National Priorities List (NPL). The Northeast Church Rock Mine is the highest priority of the AUMs on the Navajo Nation that have been placed on the NPL. EPA Region 9 is the lead agency on the cleanup effort there.

The Water Resources Development Act of 1999 (WRDA)

WRDA established the Rehabilitation of Abandoned Mine Sites (RAMS) project managed by the United States Army Corps of Engineers. RAMS provides technical, planning and design assistance to federal and non-federal interests in carrying out projects to address water quality problems caused by drainage and related activities from abandoned and inactive non-coal mines.

The Hardrock Mining and Reclamation Act of 2009 (Senator Jeff Bingaman and Representative Nick Rahall)

If enacted into law, the bill would provide for the payment of royalties, fees and donations into a Hardrock Minerals Reclamation Fund for the reclamation of land and water affected by hardrock mining. The OSM would administer the fund.

Major Concerns

There are no specific federal statutes or regulations that address AUMs. Unlike abandoned coal mines, there is no single dedicated funding source to clean up AUMs. At the state level, there are very few funding mechanisms to fill the gap. As a result, state and federal land management agencies piece together whatever funding they can, but they are clearly limited in the amount of restoration and safety work they can accomplish. CERCLA is not ideally tailored to address entire mine sites or the low population density in rural New Mexico or on the Navajo Nation. SMCRA is intended for coal mines, and flexibility for non-coal mine reclamation has been prohibited. The funding allocations for the Hardrock Minerals Reclamation Fund are biased toward states with high current or historic hardrock mine production, and New Mexico will likely lag behind.

Requests

- Restore SMCRA flexibility to use AML funds for reclamation of non-coal mines.
- Ensure EPA Regions 9 and 6 appropriations for CERCLA assessment and cleanup of AUMs.
- Earmark U.S. Army Corps of Engineers' RAMS appropriations for New Mexico AUM reclamation.
- Request congressional hearings and follow up on health and environmental impacts.
- Create a specific source of funding for AUM reclamation, for example from the sale of uranium inventories by the Department of Energy.

Assessment and Characterization of Aquifers

Background and History

The New Mexico Department of Environment (NMED) issued a health advisory for unregulated water sources in the San Mateo Creek Basin. Since the 1970s, the Nuclear Regulatory Commission (NRC) has required remediation of ground water contamination at the Homestake Mining Company uranium mill site and other mill sites. The current levels generally exceed maximum contaminant levels (MCLs), indicating that ground water contamination is in excess of federal drinking water standards. Contamination from potential manmade sources came from both ground and surface water passing through and dissolving components of mine or mill wastes and from ground water that has been affected by mine or mill effluents.

Underground uranium mines located near the basin had to be dewatered. Some 60 mines discharged billions of gallons of mine water that was not treated or was inadequately treated to prevent contamination of the aquifers. Piles of mine waste (overburden) created from removing dirt, rock and rubble from the uranium ore bodies contained uranium, radium and other heavy metals. The contaminated overburden had been carried by wind and water erosion off-site, including into the aquifers. Similarly, mill tailing piles and seepage allowed contaminants to make their way into the aquifers. Mills sites did not treat, or they inadequately treated, water to eliminate contaminants from making their way into the aquifers before discharging the water.

Major Concerns

Ground water background contaminant concentrations in excess of federal primary MCLs within the San Mateo Creek Basin are expected to persist after the Homestake Mining Company completes its remediation activities. Limited recent ground water quality data from samples that have been collected in and near abandoned uranium mine shafts in the Ambrosia Lake area also indicate the occurrence of contaminants in concentrations exceeding MCLs within this area of the basin. The majority of information about ground water quality, as well as most current human consumptive usage, comes from private wells in subdivisions that are located in the southern part of this basin within Cibola County north of Milan. Other areas of the basin are sparsely populated, and little current data on ground water quality exist outside of former uranium mine and mill sites.

Additional studies are needed to determine the movement of contaminated ground water and the potential threat to drinking water supply wells, irrigation water, springs and seeps. The spread of the plume from the Bluewater mill is intersecting the plume from Homestake. The studies are also necessary in order to determine the need for and scope of remediation.

Requests

- National Academy of Sciences study for reclamation of uranium mines and ground water contamination
- Comprehensive assessment and mapping of the San Mateo Creek Basin, San Juan River Basin and Lower Colorado River Basin

Uranium Mills

Background and History

Uranium Mills

There are seven uranium mills in New Mexico. All seven had or have reclamation activity.

- Title I Mills: Ambrosia Lake and Shiprock were turned over to the Department of Energy (DOE) for long-term maintenance.
- Title II Mills: Anaconda Bluewater and Sohil L-Bar were turned over to DOE for long-term maintenance. Homestake Milan, Rio Algom and Church Rock are at various stages of reclamation.

Federal Legislative Authorities for Reclamation

Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA)

Pursuant to UMTRCA, the Office of Legacy Management (OLM), DOE, provides for the disposal, long-term stabilization and control of uranium mill tailings. There are two major programs created by Title I and Title II of UMTRCA.

The UMTRCA Title I program funded remedial action at abandoned mill tailings sites prior to 1978. The federal government paid for 90 percent of the reclamation costs, and the state paid for the remaining 10 percent. On tribal lands, the federal government paid 100 percent of the costs. Pursuant to Title I, the DOE is responsible for cleanup and remediation of these abandoned sites, including ground water reclamation and long-term maintenance. The DOE's authority for surface cleanup expired in September 1998. The Nuclear Regulatory Commission (NRC) is required to evaluate the DOE's design and implementation and, after remediation, concur that the sites meet standards set by the Environmental Protection Agency (EPA).

The UMTRCA Title II program is directed toward uranium mill sites licensed by the NRC or by a state on or after 1978. The operator of these mills provides bonds to ensure the reclamation and cleanup of the mill site. The NRC has authority to control radiological and nonradiological hazards. The EPA has authority to set generally applicable standards for both radiological and nonradiological hazards. The DOE is responsible for long-term maintenance of the mill site.

Major Concerns

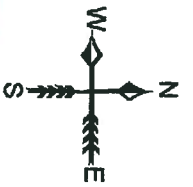
All five Title II mills have ground water contamination problems. The spread of the plume from the Bluewater mill is intersecting the plume from the Homestake mill. While the five-year plan indicates that lining disposal cells would not have significantly enhanced the ground water cleanup at Title I mills, the NRC has established regulations requiring the use of liners and ground water monitoring for tailings impoundment to prevent ground water contamination. None of the UMTRCA Title I disposal cells are lined; it is unclear if the Title II disposal cells are lined. Additionally, the allowance for "alternate concentration limits" has legalized high levels of ground water contamination.

Requests

- Require use of liners on disposal cells to prevent further contamination.
- Continue ground water remediation to lower levels of ground water contamination.
- Reauthorize UMTRCA surface cleanup authority to deal with erosion.
- Authorize the DOE to establish an abandoned uranium mine cleanup program.
- Ensure appropriations to the OLM for lining and maintaining disposal cells and meeting ground water plans.

Abandoned Uranium Mines in New Mexico, Data and Statistics

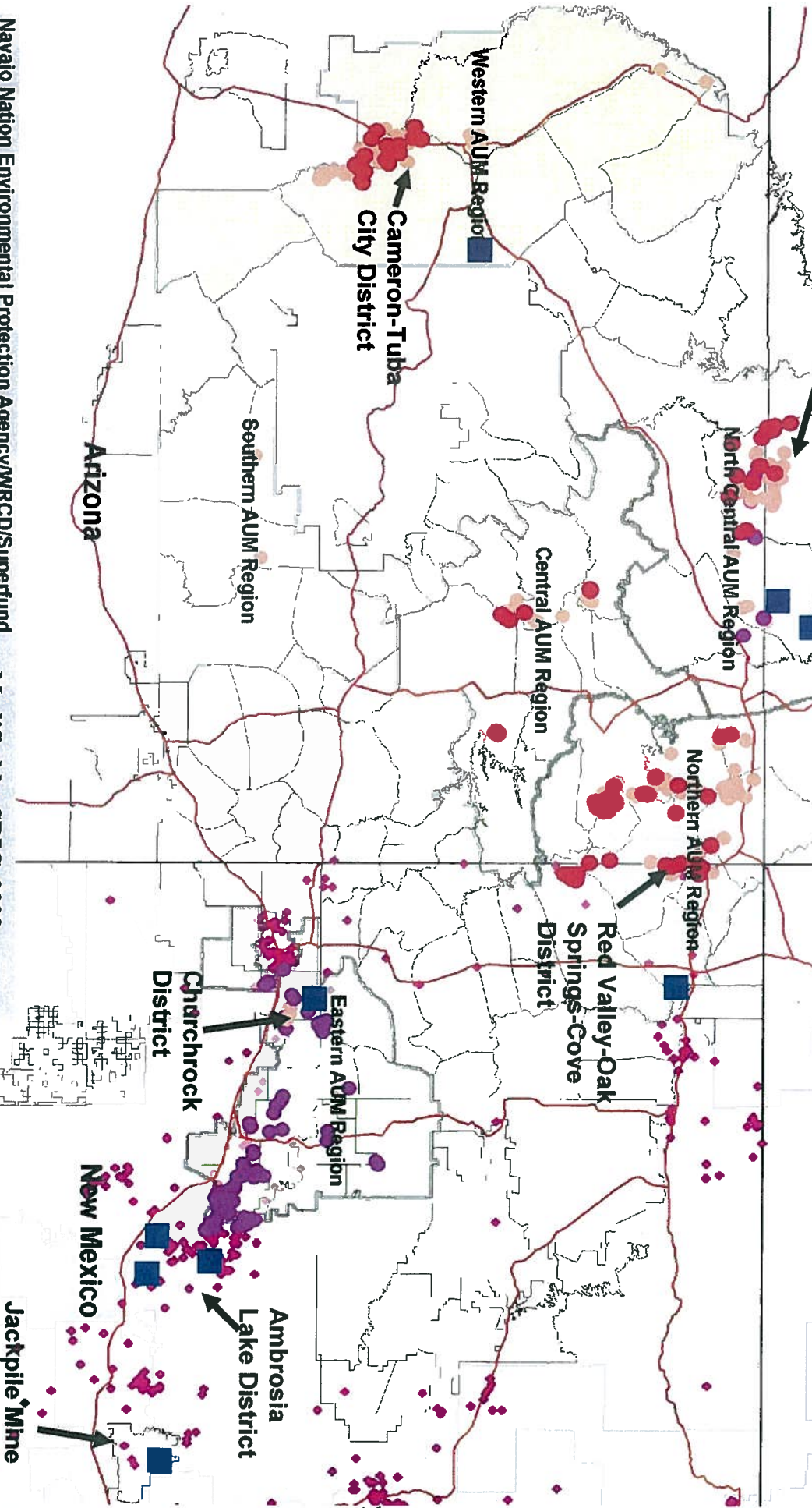
		Abandoned Uranium Mines. All	Abandoned Uranium Mines, No Documented Reclamation
Number of mines		259	137
Production (lbs. U ₃ O ₈)	> 20 million	1	0
	2 million-20 million	24	3
	200,000-2 million	28	10
	20,000-200,000	35	19
	< 20,000	131	85
included with other mines		40	20
County	McKinley	117	60
	San Juan	51	8
	Cibola	34	15
	Rio Arriba	12	12
	Sierra	7	6
	Socorro	7	6
	Grant	6	6
	Catron	5	5
	San Miguel	4	4
	Sandoval	4	4
	Quay	3	3
	Santa Fe	2	1
	Dona Ana	1	1
	Harding	1	1
	Hidalgo	1	1
	Lincoln	1	1
	Mora	1	1
Taos	1	1	
Torrance	1	1	
Surface ownership	Federal	68	48
	Private	78	46
	State	9	9
	Tribal, trust	77	16
	Tribal, allotment	17	16
	Mixed	10	2
Decade of initial uranium production	Pre-1940 (radium mines)	3	3
	1940s	11	3
	1950s	197	115
	1960s	15	7
	1970s	24	5
	1980s	6	1
Unknown		3	3



Utah
 Monument Valley-
 Mexican Hat District

Abandoned Uranium Mines Navajo Nation and Four Corners

Colorado



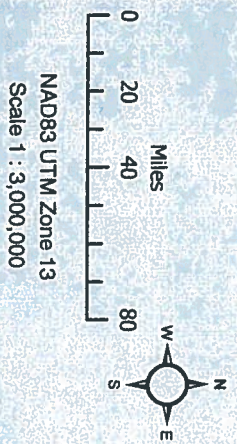
Navajo Nation Environmental Protection Agency/WRCDS/Supfund
 Abandoned Uranium Mines Locations and Reclamation Status

Modified by SRIC, 2008

- | | | | | |
|---------------|--------------|---------------|-------------|----------------------|
| REC_STAT | W_AUM_Region | NC_AUM_Region | NN_Chapters | NM deci Mines |
| Non-reclaimed | S_AUM_Region | C_AUM_Region | NN_State | Other Native Lands |
| Reclaimed | N_AUM_Region | E_AUM_Region | NN_Highways | Closed Uranium Mills |
| Unknown | | | | |

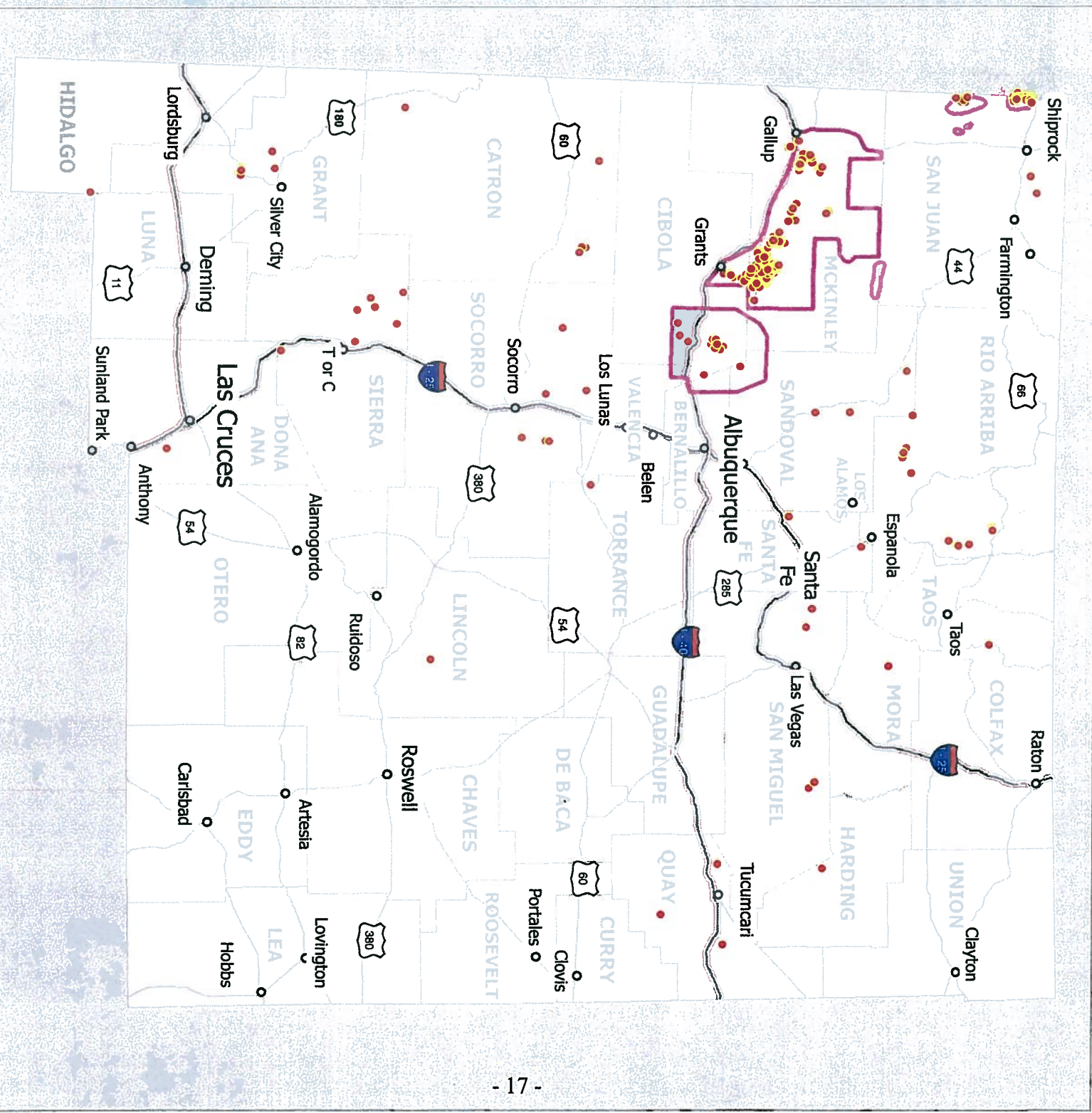
New Mexico Grants Uranium Belt and State-wide Distribution of Abandoned Uranium Mines (AUM)

- AUM
- Major Cities
- Grants Uranium Belt
- Counties
- Interstate
- Hwys
- Major Roads



Created by New Mexico
Mining & Minerals, New Mexico Energy,
Minerals & Natural Resources
April 2009

Data: AUMs from Mining & Minerals
Div. (NM Energy, Minerals & Nat. Res. Dep.)
and NM Bureau of Geology and Mineral
Resources; base layers from ESRI and
NM Resource GIS Program
(<http://rgis.nm.edu/>), US Census Bureau,



Grants Uranium District Stats

Ambrosia Lake Sub-district

103 mines, 4 Mills, 31 operators

1950's – 2002 (most closed in 1980's)

Conventional and open pit mining

Dewatering and surface discharge – 126B gal.

Laguna Sub-district

18 mines, 1 mill, 1 operator

Conventional and open pit mining

Marquez Sub-district

1 mine site, 1 mill, 1 operator

Source of Mine Information:
Uranium Location Database

MAS/MILS Uranium Mines

Km
500



Grants Uranium District Sub-districts

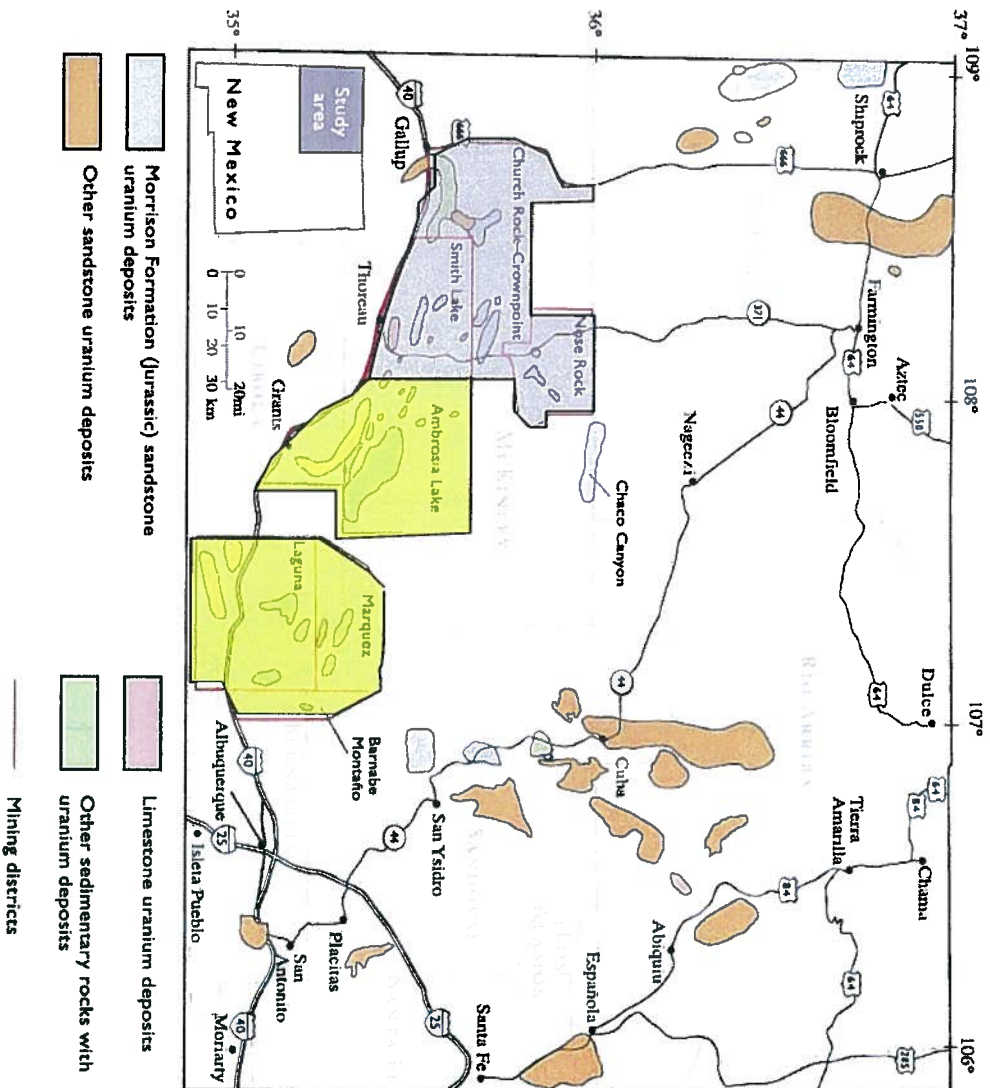
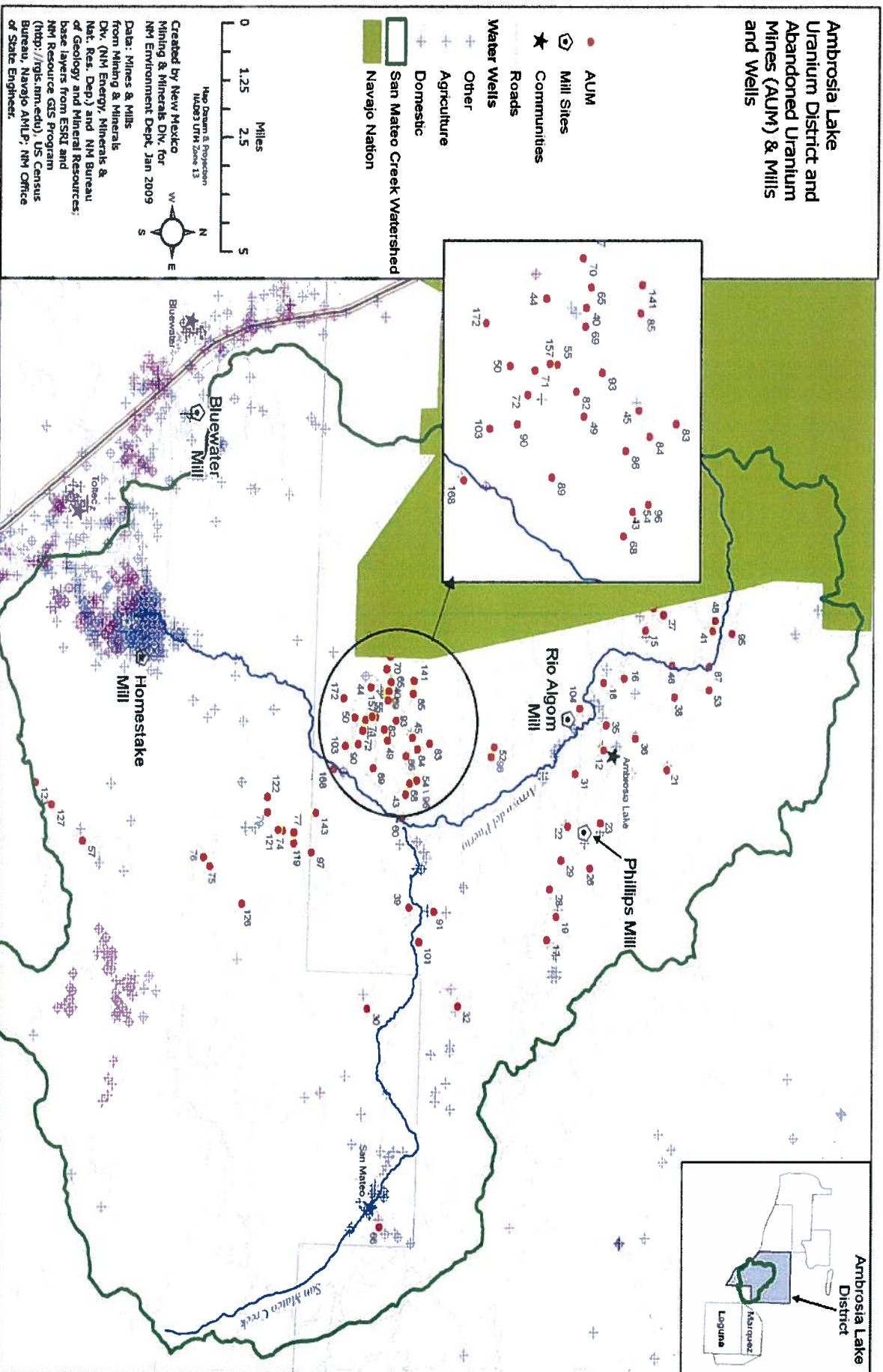


FIGURE 4. Uranium potential in the San Juan Basin, New Mexico (from McLemore and Cherpverth, 1989)

Ambrosia Lake Sub-district Mines & Wells



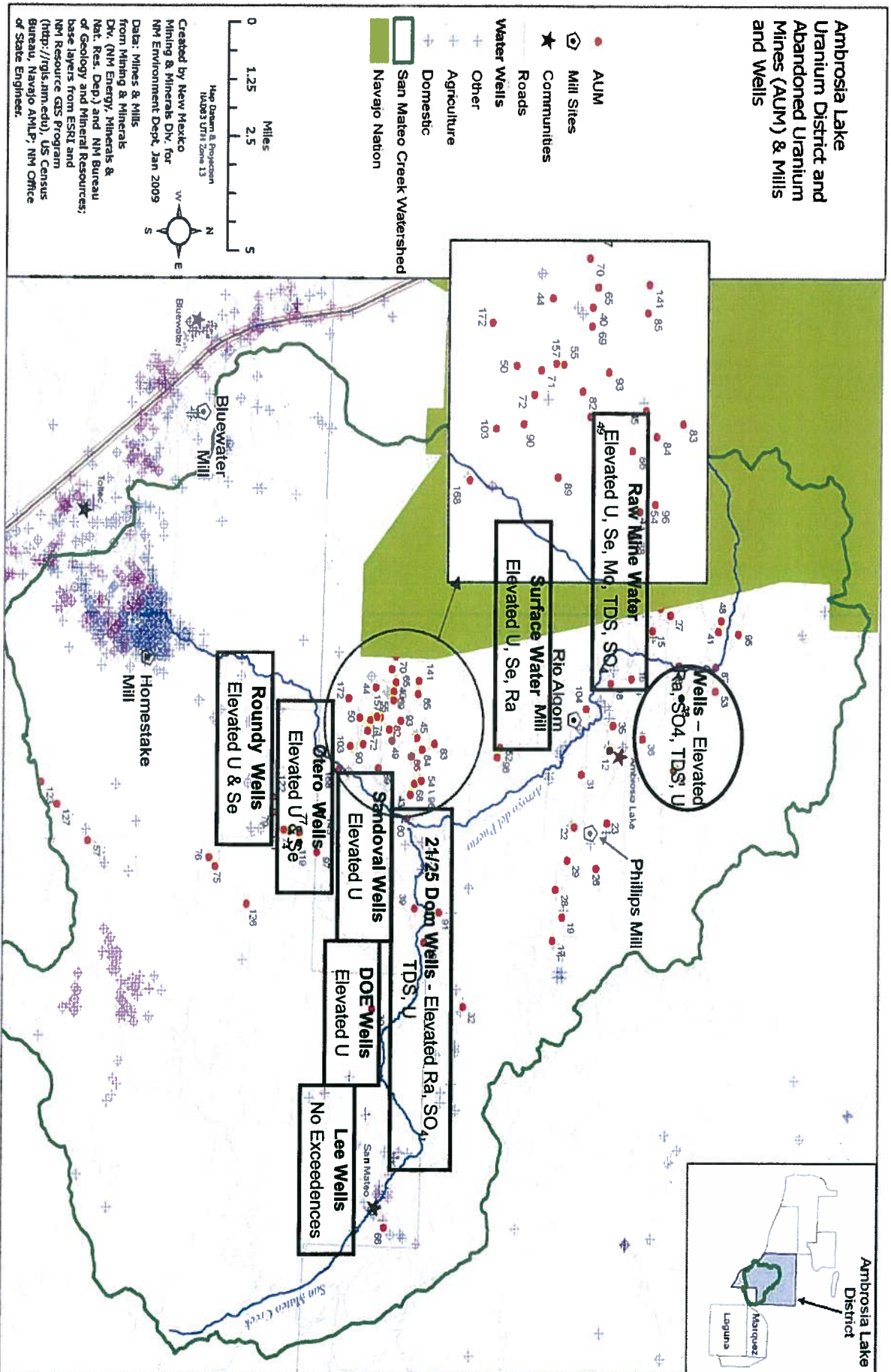
Grants Uranium District

Contaminant Sources

- Mine dewatering with surface discharge of raw mine water
- Seepage from evaporation and mill tailing ponds
- Underground mine disturbance, causing hydrochemical Δ
- Mine stope leaching
- Heap leaching
- Rainfall leaching of waste and abandoned ore stockpiles
- Windblown contamination

08.04.2005 10:55

Ambrosia Lake Sub-district Known Contamination



San Mateo Creek Health Advisory

Advises private well owners within the San Mateo Creek basin to have well water tested for contaminants associated with legacy uranium site operations



Proposed Legacy Uranium Site Assessment Activities

- Perform emergency removal assessments and actions, with initial focus on structures
- Establish air monitoring programs within populated areas to quantify potential air impacts
- Assess and characterize potential impacts to alluvial sediments and ground water from possible releases from the Anaconda Bluewater mill (*provides basis for proposed additional assessment activities in GMB*)
- Assess and characterize potential impacts to alluvial sediments and ground water from contaminant migration from “dry” minesites
- Assess and characterize potential impacts to alluvial sediments and ground water from “wet” minesite ground water discharges
- Assess and characterize potential impacts to bedrock aquifers from underground “wet” mines.
- Assess human and environmental risk

04/25/2007 11:43

Potential contaminant pathways and exposure routes

PRIMARY SOURCES	RELEASE MECHANISM	PATHWAYS	EXPOSURE ROUTE	RECEPTOR		
				Area Resident	Livestock and Terrestrial Wildlife	Aquatic Wildlife
Uranium Mines and Natural Ore Bodies	Infiltration / Percolation	Groundwater	Direct Contact	✓	✓	✓
			Direct Contact	✓	✓	✓
	Storm water Runoff	Surface Water and Sediments	Inhalation	✓	✓	
			Direct Contact	✓	✓	
	Particulates/Dust	Soil Exposure	Inhalation	✓	✓	
			Direct Contact	✓	✓	
Particulates/Dust	Air	Direct Contact	✓	✓		

Table 1. Possible pathways, exposure routes, and human and ecological receptors (after EPA, 1991).

URANIUM EXPOSURE AND PUBLIC HEALTH IN NEW MEXICO AND THE NAVAJO NATION: A LITERATURE SUMMARY

Compiled by Chris Shuey, MPH
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I. Occupational Exposures and Health Effects

- **Navajo Uranium Miners.** Risk of lung cancer among male Navajo uranium miners was 28 times higher than in Navajo men who never mined, and two-thirds of all new lung cancer cases in Navajo men between 1969 and 1993 was attributable to a single exposure — underground uranium mining.¹ Through 1990, death rates among Navajo uranium miners were 3.3 times greater than the U.S. average for lung cancer and 2.5 times greater for pneumoconioses and silicosis.² Smoking does NOT account for the large increased risk of lung cancer in Navajo men who were uranium miners.³ The root cause was the miners' exposure to in-mine radon and radon progeny: "The causal association between exposure to radon progeny and lung cancer has been firmly established".⁴ Of an estimated 5,000 Navajo uranium workers, 500-600 had died by 1990 and another 500-600 were expected to have died by 2000.⁵ Vital status for these workers has not been updated since the early 1990s.
- **All Uranium Miners.** That underground miners of uranium and uranium-containing ores suffer mortality from lung diseases, including lung cancer, at rates significantly greater than the general population was first documented in studies of European miners from the late 16th Century through the first half of the 20th Century.⁶ The U.S. Public Health Service first documented high levels of radon and radon progeny in underground uranium mines on the Colorado Plateau in the early-1950s.⁷ A decade later, a series of studies confirmed an excess of radiation-induced lung cancers among white Colorado Plateau underground miners.⁸ In 1968, the federal government adopted the first in-mine radon exposure standard (4 Working Level Months [WLM] per year), requiring companies to install ventilation systems and provide workers with respiratory protection starting in 1971.⁹ Compliance and record-keeping were not uniform or complete, and in 1980, a federal agency tracking uranium miners concluded that the 4 WLM/yr standard "does not provide an adequate

degree of protection for underground miners."¹⁰ No changes in the standard have been made since then, and no formal follow up of the health of post-1971 uranium workers has ever been conducted. A workers advocacy group is conducting an informal survey of Post-1971 uranium workers, and through May 2008, had collected more than 1,550 surveys.¹¹

- **Uranium Millworkers.** A series of federal studies of mortality among uranium millworkers beginning in 1973 and continuing through 2004¹² has shown progressively increased mortality risks as the millers population has aged. The health of more than 2,000 millers who worked between 1940 and 1972 has been followed since 1952. The most recent evaluation, published in 2004, examined mortality among nearly 1,500 men who worked at seven different uranium mills and who *never* were miners, and confirmed previous findings of an excess mortality risk from non-malignant lung diseases,¹³ lung cancer, blood cancers,¹⁴ and chronic kidney disease. However, the risk of death from these diseases was not higher among workers who were employed for the greatest number of years. As a result, while the study found an increased risk for various causes of death among millers, it was unable to show conclusively that these deaths resulted from working in the mills. No studies have included millworkers after 1972.

II. Population Health Studies

- **Uranium Toxicity.** Six population-based studies conducted between 1980 and 1998 consistently found that chronic ingestion of uranium is associated with adverse changes in kidney function.¹⁵ The lowest level of adverse chemical toxicity to the kidney observed in these studies was 14 micrograms per liter (ug/l) in water. Collectively, these studies served as the basis for USEPA's adoption of the national drinking water standard for uranium of 30 ug/l in 2000. Recognition of uranium's nephrotoxicity also

led to a three-fold *decrease* in the state's groundwater protection standard for uranium in 2003¹⁶.

- **Community Health Studies.** Despite more than 50 years of uranium development on the Navajo Nation, no *comprehensive* public health study has ever been conducted in uranium-mining communities.¹⁷ The federally funded **DINEH Project** is an ongoing cross-sectional study examining the relationship of high rates of kidney disease in the Eastern Navajo Agency to exposure to uranium and other heavy metals in the environment. Preliminary results of the study indicate that the percentages of self-reported chronic kidney disease, diabetes, high blood pressure and autoimmune diseases are higher in Navajo communities with higher numbers of uranium mines.¹⁸ Initial exposure modeling indicates that environmental exposures, including living within 0.8 kilometer of a uranium mine site and coming in contact with uranium wastes, are significant predictors of kidney disease/diabetes.¹⁹
- **Navajo Neuropathy.** Progressive neurological deterioration of the hands and arms of two Navajo sisters (two of 37 cases) was attributed to their exposures as fetuses and newborns to uranium mine wastes and consumption of mine water; genetic predisposition or causes were ruled out in these cases.²⁰ Most people with Navajo neuropathy died of liver failure and other complications in their late teens or early 20s, and the number of cases declined to zero after closure of abandoned open pit uranium mines by the early 1990s.²¹
- **Birth Defects.** Rates of birth defects in babies born to Navajo women living in uranium mining areas in New Mexico and Arizona between 1964 and 1981 were 2 to 8 times the national averages, depending on the type of defect.²² An association between uranium exposure and birth defects may be significant when the mothers' and fathers' exposures are combined.²³

III. Ecological and Environmental Studies in New Mexico and the Navajo Nation

- **Churchrock Spill.** The July 16, 1979, uranium mill tailings spill at the United Nuclear Corporation Church Rock, N.M., tailings disposal facility was the largest release of radioactive wastes, by volume, in U.S. history, and ranked second only to the Chernobyl reactor accident in 1986 in total curies of radiation released to the environment. Yet this event received significantly less national media coverage than the March 1979 Three Mile Island nuclear

reactor accident, which released less than a third of the radiation released in the Church Rock accident.²⁴

- **Animal Studies.** Livestock that grazed in uranium mining areas of the Grants Mineral Belt were found to have significantly higher levels of uranium and radium in their muscles and organs than livestock not raised in uranium mining areas, according to a series of studies done in the 1980s to assess the effects of the July 1979 Church Rock uranium mill tailings spill and nearly 20 years of chronic mine-water discharges to the Puerco River system.²⁵
- **Navajo Abandoned Mines.** More than 1,200 abandoned uranium mines have been documented on the Navajo Nation,²⁶ and of those, as many as 500 may need environmental restoration costing hundreds of millions of dollars.²⁷ (*See map below.*) More than 100 abandoned uranium mines have been documented in 17 chapters of the Eastern Agency of the Navajo Nation in New Mexico.²⁸ Two of those mines sandwich a Navajo community where nearly 6,000 cubic yards of radium- and uranium-contaminated soils were removed from around six homes by USEPA in Spring 2007.²⁹ USEPA and other federal agencies have developed a 5-year plan to investigate and clean up of high-risk uranium mine and waste sites, contaminated structures and polluted water wells as a result of Congressional inquiries.³⁰
- **Waste Volumes.** The New Mexico Bureau of Geology documented 123 abandoned uranium mines in Cibola County, 358 in McKinley County and 109 in Sandoval County.³¹ About half of those mines were developed and operated in the Grants Mineral Belt between 1950 and the early-1990s, generating 38 million tons of ore by 1970, and roughly an equivalent volume thereafter.³² About a third of that total was taken from the Jackpile Mine on Laguna Pueblo, once the largest open-pit mine in the world.³³ Seven uranium mills were operated in the state between 1947 and 1995, generating more than 90 million tons of radioactive tailings, all of which have been subject to reclamation pursuant to federal regulations.³⁴ Each of these mills and tailings disposal sites caused extensive groundwater contamination by radium, uranium, various trace metals and dissolved solids. One estimate is that 1.2 million acre-feet of groundwater (or enough to fill Elephant Butte Reservoir *more than twice*) have been contaminated in the Ambrosia Lake-Milan area from historic mine and mill discharges, and less than two-tenths of 1 percent has been treated to reduce contaminant levels.³⁵

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New Mexico State Legislature

STATE CAPITOL
Santa Fe

October 17, 2008

VIA FAX AND MAIL

The Honorable Jeff Bingaman
United States Senator
703 Hart Senate Office Building
Washington, DC 20510-3102

Re: Federal Funding of the Cleanup of Abandoned Uranium Mining Sites in New Mexico

Dear Senator Bingaman:

At a joint meeting of the interim Indian Affairs Committee and the interim Radioactive and Hazardous Materials Committee held on October 1 and 2, 2008 in Crownpoint and Grants, New Mexico, the committees received presentations from state and federal agencies and from private citizens concerning the status of ongoing contamination of former uranium mining and milling sites in New Mexico and the prospect of the resumption of uranium mining and milling within the foreseeable future.

Over the past several years, representatives of the uranium industry have testified to several New Mexico legislative committees regarding their interest in resuming the mining and milling of uranium in the area of the Grants Mineral Belt in New Mexico. The Mining and Minerals Division of the New Mexico Energy, Minerals and Natural Resources Department has issued seven applications for permits for exploratory drilling related to potential uranium mining. The Water and Waste Management Division of the New Mexico Department of Environment is currently processing a renewal application for the ground water discharge permit for the Mount Taylor uranium mine and has been involved in discussions regarding a new uranium ground water discharge permit for the Strathmore Roca Hondo mine (including the receipt of a notice of intent to discharge water from new test wells).

Testimony has been received by the interim Indian Affairs Committee and the interim Radioactive and Hazardous Materials Committee from private individuals and interest groups as well as from tribal representatives expressing concern over the resumption of uranium mining and milling. Much of the testimony has voiced opposition to new

uranium mining and milling activity until such time as the contamination remaining from past uranium mining activities has been cleaned up. A recent survey undertaken in cooperation with the Mining and Minerals Division identified 259 abandoned uranium mines in New Mexico that had a record of production of uranium, 139 of which have no record of reclamation. The Mining and Minerals Division is currently undertaking a detailed evaluation of the extent of contamination at 21 of those mine sites. Many of those unreclaimed mines were operated during the 1950s and 1960s when the primary purchaser of uranium was the federal government.

After listening to testimony regarding the extent of contamination remaining from unreclaimed uranium mines, on the second day of its meeting on October 2 in Grants, upon a motion by Senator David Ulibarri, seconded by Representative James Roger Madalena, the Indian Affairs Committee voted without opposition to request that you consider initiating and following up on two specific legislative proposals to address the cleanup of abandoned uranium mines in New Mexico.

1. A significant percentage of the proceeds from the sale by the United States Department of Energy of its excess uranium inventory should be allocated on an annual basis to New Mexico to be used by state and tribal entities to cleanup and close abandoned uranium mines.
2. All federal funds allocated to New Mexico pursuant to the federal Surface Mining Control and Reclamation Act of 1977 (SMCRA) Abandoned Coal Mine Program should be available for the cleanup of any abandoned mines, including uranium mines of state and tribal lands, and should not be restricted to the closing and cleanup only of coal mines.

The federal government in 1978 recognized its responsibility to financially assist in the cleanup of contamination from past uranium milling activities through the passage of the federal Uranium Mill Tailings Radiation Control Act of 1978. That act provided that the federal government would pay for the cleanup of mill sites that produced uranium solely for government use. Title X of the federal Energy Policy Act of 1992 also provided that the federal government would pay for the cleanup of mill sites that produced uranium for both government and private use in proportion to the amount of uranium that was used for government purposes. It only stands to reason that if the federal government is responsible for the cost of cleaning up mill sites that produced uranium for national defense purposes, it should also be responsible for the cost of closing and cleaning up the mines that produced the ore for the uranium mills.

Over the past few years, the federal Department of Energy has been developing a policy for managing its surplus uranium inventories. One element of that policy has been to sell part of its surplus uranium inventories, and it is estimated that the department sold

Senator Jeff Bingaman
October 17, 2008
Page 3

approximately five million pounds of uranium in 2005, one million pounds in 2006 and 500,000 pounds in 2007. In July 2007, the department's estimated total excess uranium inventory was equivalent to 160.3 million pounds of natural uranium. This inventory, at a conservative value of \$50.00 per pound, represents a value of \$8 billion. Much of the department's excess uranium inventory originated in the uranium mines and mills in New Mexico, activities that have left a legacy of radioactive contamination threatening the health, safety and welfare of residents in the area of the Grants Mineral Belt. It is appropriate that a substantial portion of the proceeds that will be realized as a result of the department's sale of its excess uranium inventory be appropriated for the cleanup of the abandoned uranium mines in New Mexico and elsewhere that produced that excess inventory.

Testimony at the recent hearing highlighted the fact that federal agencies such as the Environmental Protection Agency have insufficient financial resources to resolve the risks to public health posed today by unreclaimed uranium mining and milling sites. Revenue sharing from the sale of the federal government's excess uranium inventory is one way to boost the funding available for cleanup activities at abandoned, unreclaimed uranium mine sites. In addition, Congress should allow funds generated pursuant to the SMCRA to be used to cleanup and reclaim abandoned uranium mines. This would be one of the objectives of Senate Bill 2779, which you introduced in March 2008. S.2779 was the subject of a hearing on July 9, 2008 by the Subcommittee on Public Lands and Forests and was reported favorably out of the Committee on Energy and Natural Resources on September 16, 2008. Unfortunately, no further legislative action appears to have been taken on this bill, and the related bill in the House of Representatives, H.R.5661 introduced by Representative Steve Pearce, has had no consideration whatsoever.

The New Mexico Legislature has taken steps to address the cleanup of contaminated uranium mining and milling sites. In the 2008 legislative session, the legislature passed a bill (the Uranium Legacy Cleanup Act) that would have imposed a surtax on future uranium mining and milling activities and redistributed a portion of the resources tax imposed on such activities, the proceeds from which would be used to cleanup contaminated uranium legacy sites. That bill, Senate Bill 487, was vetoed by Governor Bill Richardson, in part because the level of funding that would have been generated was "entirely inadequate" to do the necessary work to remediate abandoned uranium mining sites across New Mexico. It is important to note, however, that even if some version of the Uranium Legacy Cleanup Act is enacted in the future, funds will be generated only after uranium mining and milling activities resume in New Mexico, something that cannot occur for another three to four years at the earliest. Therefore, it is important that immediate funding through the sale of the federal government's excess uranium inventory and through the SMCRA be made available to New Mexico so that essential but long-delayed remediation activities can be initiated at abandoned uranium mine sites in New

Senator Jeff Bingaman

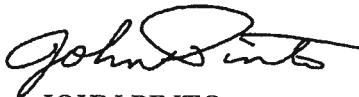
October 17, 2008

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Mexico. It should be noted that when the motion by Senator Ulibarri to write this letter was discussed at the committee's meeting on October 2, representatives of the uranium industry and those whose expressed reservations about the resumption of uranium mining and milling in New Mexico expressed support for the recommendations contained in this letter.

Representatives of both the Indian Affairs Committee and the Radioactive and Hazardous Materials Committee could be available to meet with you in person prior to the convening of the first session of the 111th Congress to discuss our concerns regarding this matter. Thank you for your consideration of the committees' position on this matter. Please feel free to contact either of us or Chase Van Gorder, staff attorney at the Legislative Council Service at (505) 986-4604, should you have any questions or comments or if you would like to schedule a personal meeting regarding this matter.

Sincerely,



JOHN PINTO
State Senator, District 3
Co-Chair, Indian Affairs Committee



JAMES ROGER MADELENA
State Representative, District 65
Co-Chair, Indian Affairs Committee

JP/JRM:kf

cc: Representative John A. Heaton, Chair, Radioactive and Hazardous Materials Committee
Senator Richard C. Martinez, Vice Chair, Radioactive and Hazardous Materials Committee
Ron Curry, New Mexico Secretary of Environment
Joanna Prukop, New Mexico Secretary of Energy, Minerals and Natural Resources
Patricia Beneke, Senator Bingaman Staff
Johnathon Epstein, Senator Bingaman Staff



State of New Mexico

Office of the Governor

Bill Richardson
Governor

January 15, 2009

The Honorable Jeff Bingaman
United States Senate Committee on Energy and Natural Resources
364 Dirksen Senate Office Building
Washington, DC 20510

Dear Chairman Bingaman:

In the last Session, you introduced S.2779, a bill that would restore to the states the flexibility to fund either coal or non-coal abandoned mine reclamation projects with funds received under Title IV of the Surface Mining Control and Reclamation Act (SMCRA) of 1977. This bill would have reversed the Department of the Interior's misinterpretation of SMCRA. I am writing today to urge you to re-introduce this needed legislation.

The need for this legislation remains as strong as ever. In November 2008, the Office of Surface Mining (OSM) adopted rules which included the codification of their new policy severely restricting the use of Title IV funds for non-coal abandoned mines. Testimony opposing this rule was submitted by the Interstate Mining Compact Commission, the National Association of Abandoned Mine Land Programs and individual states and tribes. OSM ignored the evidence in opposition.

The impact of OSM's policy, and now rule, is significant. Previously, the states had the option to allocate Title IV grant funds to either coal or non-coal abandoned mines that presented a serious threat to public health or safety. New Mexico recently received notice of a \$3.8 million grant for the next fiscal year. However, of that amount, only \$800,000 can be divided between coal and non-coal mines; the remaining \$3 million can only be spent at coal mines.

In western States such as New Mexico, Colorado and Utah, the Title IV grants have been employed to mitigate the threats posed by non-coal abandoned mines. These threats are significant and growing. In New Mexico, we estimate over 15,000 mine openings remain unaddressed; the overwhelming majority of these hazards are at abandoned non-coal mines. Some of the greatest threats are at abandoned uranium mines located near residences and water sources in northwestern New Mexico. We recently inventoried mines in New Mexico that produced uranium from the 1950s to the 1980s and found that over half the mines have no record of any reclamation.

The support for this legislation is broad. In addition to states and tribes, industry and environmental groups have also expressed support for this legislation. Recently, two New Mexico Legislative Interim Committees sent you a letter supporting S. 2779. The only opposition to the bill came from the Bush Administration. Now that Senator Salazar, a co-sponsor of S. 2779, is about to become Interior Secretary, we are hopeful the new Administration will support this change.

This legislation will NOT increase the funds granted to the states and tribes under Title IV of SMCRA. It will only restore the flexibility -which had always existed under SMCRA -to use the funds for either coal or non-coal abandoned mine projects.

Once again, thank you for all of your support of our abandoned mine programs. New Mexico is determined to address the unabated hazards at both coal and non-coal abandoned mines. While the total task is enormous, it is essential that we fulfill the intent of Congress to address the greatest threats to public health and safety whether they are at coal or non-coal abandoned mines. Therefore, we request that Congress restore the flexibility to use Title IV funds for high priority coal and non-coal sites and not impose any new restrictions on the use of the funds.

Sincerely,

A handwritten signature in black ink that reads "Bill Richardson". The signature is fluid and cursive, with a long horizontal stroke at the end.

Bill Richardson
Governor of New Mexico

BR/mr

Cc: Senator Tom Udall
Representative Martin Heinrich
Representative Ben R. Lujan
Representative Harry Teague



New Mexico State Legislature

STATE CAPITOL
Santa Fe

April 15, 2009

VIA FAX AND MAIL

The Honorable Jeff Bingaman
United States Senate
703 Hart Senate Office Building
Washington, D.C. 20510-3102

Re: Amendments to the Radiation Exposure Compensation Act

Dear Senator Bingaman:

In 1990, the United States Congress enacted the Radiation Exposure Compensation Act to provide "compassionate payments" to uranium miners who suffered from radiation-related diseases presumed to have been caused by their work in uranium mines and mills that provided uranium ore to the United States government for military purposes. In 2000, Congress amended the Radiation Exposure Compensation Act to include people who worked in open-pit uranium mines and uranium mills or who hauled uranium ore; to expand the list of compensable diseases; and to lower the minimum lifetime radiation dose and the minimum amount of time of employment in the uranium industry in order to extend eligibility to individuals who became sick or who died as a result of their uranium work but who were not eligible participants in the original Radiation Exposure Compensation Act. However, as presently written, the Radiation Exposure Compensation Act covers only those persons who worked in the uranium industry between January 1, 1942 and December 31, 1971.

An informal survey, conducted by the Post '71 Uranium Workers Committee of Milan, New Mexico, of more than 1,200 men and women who worked in the uranium industry since January 1, 1972 shows that more than half of the respondents to the survey reported at least one adverse health condition, including but not limited to lung cancer and kidney disease, conditions that are currently compensable pursuant to the federal Radiation Exposure Compensation Act. Furthermore, respondents to the Post '71 survey self-reported frequencies of birth defects among offspring of former workers that appear to be greater than the overall New Mexico birth defect rate for the period of 1995 to 1999, and more than 90 percent of respondents to the Post '71 survey reported that their employers did not inform them about the health risks of exposure to radiation or advise them of the dangers to their family members of laundering their uranium-contaminated work clothes at home.

Senator Bingaman
April 15, 2009
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The New Mexico Energy, Minerals and Natural Resources Department estimates that about 7,000 people were employed in the uranium industry in New Mexico in 1978, the record year for uranium production in the state. The federal Department of Energy reports that nearly 12,000 persons were employed in the uranium mining and milling industry in the United States in 1980. The National Institute for Occupational Safety and Health reports that no comprehensive health study has ever been conducted among post-1971 uranium workers. A 1980 report by the institute found that average uranium miner exposure in underground mines in the 1970s was "significantly greater" than indicated in company records and, on average, exceeded applicable in-mine exposure limits.

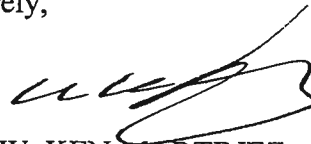
In view of the number of individuals who worked in the uranium mines and mills after 1971 who have suffered adverse health conditions as a result of that work, we encourage you to support legislation or provide budget directives authorizing the National Institute for Occupational Safety and Health to conduct formal health studies among persons who worked in the domestic uranium industry after January 1, 1972. We also request that you work toward expanding eligibility for compensation pursuant to the federal Radiation Exposure Compensation Act for persons who worked in the uranium mining, milling and ore-hauling industries after January 1, 1972 in order that they might receive the same compensation benefits now enjoyed by pre-1972 uranium workers.

Thank you for your consideration of our position on this matter. Please feel free to contact any of us, or contact Damian Lara, staff attorney at the Legislative Council Service, at (505) 986-4600, should you have any questions or comments or if you would like to schedule a personal meeting regarding this matter.

Sincerely,



DAVID ULIBARRI
State Senator, District 30



W. KEN MARTINEZ
State Representative, District 69



ELISEO LEE ALCON
State Representative, District 6

DU/WKM/ELA:cm

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A JOINT MEMORIAL

URGING CONGRESS TO APPROPRIATE FUNDS FOR THE CLEANUP OF
ABANDONED URANIUM MINES OPENED AND OPERATED FOR THE BENEFIT
OF THE FEDERAL GOVERNMENT.

WHEREAS, a recent survey undertaken in cooperation with
the mining and minerals division of the energy, minerals and
natural resources department identified two hundred
fifty-nine abandoned uranium mines in New Mexico that had a
record of production of uranium, one hundred thirty-nine of
which have no record of reclamation, and the mining and
minerals division is currently undertaking a detailed
evaluation of the extent of contamination at twenty-one of
those mine sites; and

WHEREAS, many of the unreclaimed uranium mines located
in New Mexico were operated during the 1950s and 1960s when
the primary purchaser of uranium was the federal government;
and

WHEREAS, the federal government in 1978 recognized its
responsibility to assist financially in the cleanup of
contamination from past uranium milling activities through
the passage of the federal Uranium Mill Tailings Radiation
Control Act of 1978, which provided that the federal
government would pay for the cleanup of mill sites that
produced uranium solely for government use; and

1 WHEREAS, Title X of the federal Energy Policy Act of
2 1992 also provided that the federal government would pay for
3 the cleanup of mill sites that produced uranium for both
4 government and private use in proportion to the amount of
5 uranium that was used for government purposes; and

6 WHEREAS, if the federal government is responsible for
7 the cost of cleaning up mill sites that produced uranium for
8 national defense purposes, it should also be responsible for
9 the cost of closing and cleaning up the mines that produced
10 the ore for the uranium mills; and

11 WHEREAS, the federal department of energy has developed
12 a policy for managing its surplus uranium inventories, one
13 element of which is to sell part of its surplus uranium
14 inventories; and

15 WHEREAS, it is estimated that the federal department of
16 energy sold approximately five million pounds of uranium in
17 2005, one million pounds in 2006 and five hundred thousand
18 pounds in 2007; and

19 WHEREAS, in July 2007, the federal department of
20 energy's estimated total excess uranium inventory was
21 equivalent to one hundred sixty million three hundred
22 thousand pounds of natural uranium that, at a conservative
23 value of fifty dollars (\$50.00) per pound, represents a value
24 of eight billion dollars (\$8,000,000,000); and

25 WHEREAS, much of the federal department of energy's

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Page 2

1 excess uranium inventory originated in the uranium mines and
2 mills in New Mexico, activities that have left a legacy of
3 radioactive contamination threatening the health, safety and
4 welfare of residents in the area of the Grants mineral belt;
5 and

6 WHEREAS, it is appropriate that a substantial portion of
7 the proceeds that will be realized as a result of the federal
8 department of energy's sale of its excess uranium inventory
9 be appropriated for the cleanup of the abandoned uranium
10 mines in New Mexico and elsewhere that produced that excess
11 inventory; and

12 WHEREAS, congress should permit funds generated pursuant
13 to the federal Surface Mining Control and Reclamation Act of
14 1977 to be used to cleanup and reclaim abandoned uranium
15 mines, which expenditures would have been permitted pursuant
16 to the provisions of Senate Bill 2779 and House Bill 5661
17 introduced in the one-hundred-tenth session of congress; and

18 WHEREAS, it is important that funding through the sale
19 of the federal government's excess uranium inventory and
20 through the federal Surface Mining Control and Reclamation
21 Act of 1977 be made available to New Mexico so that essential
22 but long-delayed remediation activities can be initiated at
23 abandoned uranium mine sites in New Mexico; and

24 WHEREAS, funding through the sale of the federal
25 government's excess uranium inventory and through the federal

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Page 3

1 Surface Mining Control and Reclamation Act of 1977 would
2 provide immediate financial assistance for remediation
3 activities at abandoned uranium mine sites in New Mexico;

4 NOW, THEREFORE, BE IT RESOLVED BY THE LEGISLATURE OF THE
5 STATE OF NEW MEXICO that the United States senate and the
6 United States house of representatives be requested to
7 approve, during the one-hundred-eleventh session of congress,
8 a program whereby a significant percentage of the proceeds
9 from the sale by the federal department of energy of its
10 excess uranium inventory should be allocated on an annual
11 basis to New Mexico to be used by state and tribal entities
12 to clean up and close abandoned uranium mines; and

13 BE IT FURTHER RESOLVED that the United States senate and
14 the United States house of representatives be requested to
15 approve, during the one-hundred-eleventh session of congress,
16 a program whereby all federal funds allocated to New Mexico
17 pursuant to the abandoned coal mine program of the federal
18 Surface Mining Control and Reclamation Act of 1977 will be
19 made available for the cleanup of any abandoned mines,
20 including uranium mines of state and tribal lands, and not be
21 restricted to the closing and cleanup only of coal mines; and

22 BE IT FURTHER RESOLVED that copies of this memorial be
23 transmitted to New Mexico's congressional delegation, the
24 governor, the president of the Navajo Nation, the speaker of
25 the Navajo Nation council, the governor of the Pueblo of Acoma

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and the governor of the Pueblo of Laguna. _____

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