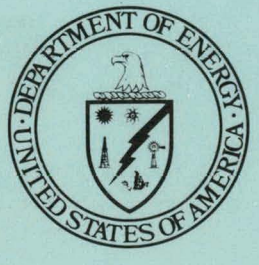
DOE/EV-0060

ANNUAL STATUS REPORT on the Inactive Uranium Mill Tailings Sites Remedial Action Program

December 1979

Prepared by:
Environmental Control Technology Division
Office of Environmental Compliance and Overview
Assistant Secretary for Environment

Prepared in response to the
requirements of Section 114(a)
to Public Law 95-604
U.S. Department of Energy



DISCLAIMER

DOE/EV-0060
UC-2, 11

ANNUAL STATUS REPORT on the Inactive Uranium Mill Tailings Sites Remedial Action Program

December 1979

Prepared by:
Environmental Control Technology Division
Office of Environmental Compliance and Overview
Assistant Secretary for Environment

Prepared in response to the
requirements of Section 114(a)
to Public Law 95-604
U.S. Department of Energy

Available from:

National Technical Information Service (NTIS)
U.S. Department of Commerce
5285 Port Royal Road
Springfield, Virginia 22161

Price:	**Printed Copy:**	$ 9.25
	Microfiche:	$ 3.00

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

EXECUTIVE SUMMARY

This report on the remedial action program at inactive uranium mill tailings sites fulfills the requirements of Section 114(a) of Public Law 95-604, "Uranium Mill Tailings Radiation Control Act of 1978," enacted on November 8, 1978. It provides a summary history of the program, an analysis of its current status, and a forecast of future effort required. The termination date for the receipt of information for the report was November 8, 1979.

Assessments of inactive uranium mill tailings sites in the United States led to the designation of 25 processing sites for remedial action under the provisions of Section 102(a) Public Law 95-604. Under the provisions of Section 102(b), the Department of Energy assessed the potential health effects to the public from the residual radioactive materials on or near the 25 sites; and, with the advice of the Environmental Protection Agency, the Secretary established priorities for performing remedial action. Table 1 lists the 25 sites and the priorities, by affected State.

In designating the 25 sites and establishing the priorities for performing remedial action, the Department of Energy consulted with the Environmental Protection Agency, Nuclear Regulatory Commission, Department of the Interior, governors of the affected States, Navajo Nation, and appropriate property owners. Public participation in this process was encouraged through the publication of two Federal Register notices, two press releases, and public meetings held by three affected States and local governments.

During Fiscal Year 1980, Department of Energy will be conducting surveys to verify the radiological characterization at the designated processing sites; developing cooperative agreements with the affected States; and initiating the appropriate National Environmental Policy Act documentation prior to conducting specific remedial actions.

TABLE 1. PROCESSING SITES AND PRIORITIES

STATE	LOCATION	PROCESSING SITE	PRIORITY
Arizona	Monument Valley	*Monument Valley	Low
	Tuba City	*Tuba City	Medium
Colorado	Durango	Durango	High
	Grand Junction	Grand Junction	High
	Gunnison	Gunnison	High
	Maybell	Maybell	Low
	Naturita	Naturita	Medium
	Rifle	New Rifle	High
	Rifle	Old Rifle	High
	Slick Rock	Slick Rock (NC)	Low
	Slick Rock	Slick Rock (UC)	Low
Idaho	Lowman	Lowman	Low
New Mexico	Ambrosia Lake	Ambrosia Lake	Medium
	Shiprock	*Shiprock	High
North Dakota	Belfield	Belfield	Low
	Bowman	Bowman	Low
Oregon	Lakeview	Lakeview	Medium
Pennsylvania	Canonsburg	Canonsburg	High
Texas	Falls City	Falls City	Medium
Utah	Green River	Green River	Low
	Mexican Hat	*Mexican Hat	Medium
	Salt Lake City	Salt Lake City	High
Wyoming	Baggs	Baggs	Low
	Converse County	Converse County	Low
	Riverton	**Riverton	High

*Processing site on tribal lands owned by the Navajo Nation.

**Processing site located on private property within the boundaries of the Wind River Indian Reservation.

I. INTRODUCTION

A. PURPOSE AND SCOPE OF REPORT

This report has been prepared in accordance with the requirements of Public Law 95-604, "Uranium Mill Tailings Radiation Control Act of 1978," enacted November 8, 1978. Section 114(a) of the Act requires that, beginning on January 1, 1980, and each year thereafter until January 1, 1986, the Department of Energy (DOE) submit a report to Congress with respect to the status of actions required to be taken by DOE, Nuclear Regulatory Commission (NRC), Department of the Interior (DOI), Environmental Protection Agency (EPA), and States and Indian tribes under the Act and any amendments to other laws made by this Act.

Title I of the Act authorizes the DOE, in cooperation with the interested States, Indian tribes, and persons who own or control inactive uranium mill tailings sites, to provide a program of assessment and remedial action at such sites, in order to stabilize and control these tailings in a safe and environmentally sound manner and to minimize or eliminate the radiation health hazards to the public. The program must include, where appropriate, the reprocessing of tailings to extract residual uranium and other mineral values.

This first annual status report includes a brief summary of conditions and activities preceding enactment of legislation for the remedial action program of inactive uranium mill tailings sites, a description of program progress to date, and a forecast of activities to be accomplished during the next year.

B. PROGRAM HISTORY

Much of the uranium ore mined within the United States from the early 1940s through 1970 was processed for the Manhattan Engineering District (MED) and the Atomic Energy Commission (AEC) by private companies.

When processing operations ceased for the Government and a mill became inactive, tons of uranium mill tailings remained. Mill operators were not aware of the potential radiation health hazards to the public from exposure to the mill tailings, and the general scientific consensus at the time was that the effects of the radioactivity on the public were minimal. However, radiological criteria guidelines became more stringent as research on the effects of the low-level radiation progressed. As a result, a program was initiated in 1972 to perform an initial evaluation of inactive uranium mill tailings sites to determine their radiological status and potential health effects on the public. Since 1972, considerable effort has been directed towards recovering and regenerating radiological site status information and records, identifying sites and conducting engineering assessments, and developing legislation to initiate remedial action at inactive uranium mill tailings sites.

In 1972 Congress passed Public Law 92-314 (later amended by Public Law 95-236) to provide authority and funds for a cooperative State/Federal program to perform remedial actions on structures in Grand Junction, Colorado, where mill tailings were used for construction. A DOE report to Congress in February 1979, "Progress Report on the Grand Junction Uranium Mill Tailings Remedial Action Program," (DOE/EV-0033) provided an analysis of the current status of the program.

Also in March 1972, the Subcommittee on Raw Materials of the Joint Committee on Atomic Energy (JCAE) of the Congress, held hearings on bills that would have provided for a cooperative program between the Federal Government and the State of Utah to implement remedial action in the area of the inactive uranium mill tailings site in Salt Lake City. The AEC proposed at the hearings that a comprehensive study be performed of all formerly active uranium mill tailings sites, rather than treat the potential problem on a piece-meal basis. The outcome was an assessment of the existing physical conditions of inactive uranium mill sites located in eight western states by the AEC in 1974, in cooperation with the EPA and the affected States. Detailed engineering evaluations of many of these sites commenced in 1975 and were completed in 1977 by the Energy Research and Development Administration, the successor to the AEC.

C. PROGRAM AUTHORIZATION

In April 1978, DOE submitted proposed legislation to Congress which would establish a program to stabilize and control the mill tailings in a safe and environmentally sound manner. Hearings on the proposed legislation began in June 1978 in conjunction with similar bills introduced in the Senate and House of Representatives.

As a result of these hearings, Public Law 95-604 (Appendix A) was enacted on November 8, 1978. The Act authorizes DOE with the affected States, Indian tribes, and persons who owned or controlled inactive uranium mill tailings, to establish assessment and remedial action programs at inactive uranium mill tailings sites. Title I of the Act further stipulates that DOE will meet all radiation standards promulgated by EPA. Additionally, DOE will finance 90 percent of the remedial action costs, and the affected States will be required to pay remaining costs from non-Federal funds. An exception to this requirement are those sites on Indian tribal lands, where 100 percent of the costs for remedial action will be borne by the Federal Government.

D. PROGRAM REQUIREMENTS

Major program requirements to be accomplished over the next seven years to implement Public Law 95-604 are as follows:

- Designation of processing sites
- Establish site priorities for remedial action
- Establish cooperative agreements with affected states and applicable Indian tribes
- Acquisition and disposition of lands and materials
- Reprocessing of residual radioactive materials
- Compliance with the National Environmental Policy Act (NEPA)
- Remedial action
- Public participation
- Annual status reports to Congress

E. PROGRAM MANAGEMENT AND OPERATIONS

1. Major DOE Programmatic Responsibilities

The Inactive Uranium Mill Tailings Sites Remedial Action Program is being implemented in DOE by the Office of the Assistant Secretary for Environment (ASEV) and the Office of the Assistant Secretary for Nuclear Energy (ASNE). In keeping with DOE's intent to consolidate the management of all nuclear waste management programs, responsibility for the remedial actions at the inactive uranium mill tailings sites was transferred during FY 1979 from ASEV to ASNE. With this transfer, the separation of responsibilities can be characterized as follows:

- o ASEV Designation of processing sites; conduct of radiological and other environmental surveys before, during and after remedial action; determination of the need for and extent of cleanup required; operational safety and environmental overview, including independent audits; participation in the determination of priorities in remedial action projects; initiation of cooperative agreements with the States; review of NEPA documents prepared by ASNE; and certification of compliance with remedial action standards after completion of projects.
- o ASNE Technology development and testing; determination of feasibility of remilling of residual radioactive materials; preparation of NEPA documents; participation in determination of priorities; acquisition of properties; implementation of remedial actions; and, other activities necessary to fulfill the intent of Public Law 95-604.

The ASNE activities are managed by the Office of the Nuclear Waste Management under the direction of ASNE, with appropriate participation by the Environmental Control Technology Division of the Office of Compliance and Overview, ASEV. A Uranium Mill Tailings Remedial Action Program Project Office has been established at the Albuquerque Operations Office to execute the ASNE functions of the program. The Alberquerque Operations Office will have the responsibility for the implementation of remedial action

at inactive uranium mill tailings sites. The Environmental Control Technology Division's survey, overview, and surveillance operations will remain at Germantown, Maryland to allow for an independent environmental participation by the ASEV.

2. Other DOE Coordinating Activities

Support for the remedial action program involves other major offices within DOE. Legal advice and services to the ASEV and ASNE are provided by DOE's Office of General Counsel (GC). Program objectives being accomplished with assistance from GC include: review of DOE's authority to perform remedial actions at candidate processing sites under the Act; determination of the responsibility of private site owners and others for expenses incurred under DOE's remedial action program; drafting of cooperative agreements with the affected States and applicable Indian tribes; review of the designation of processing sites; the drafting of memoranda of understanding with appropriate parties as required; and drafting of rules and regulations respecting the inclusion of notices in local land records concerning the existence of the contamination and the certification of clean-up. The Office of Administration (AD) is responsible for facilities management in DOE. In addition to providing advice to ASEV on designating processing sites, it is anticipated AD will be providing advice and services during the acquisition of properties phase of the program.

3. Other Federal Agency Responsibilities

Public Law 95-604 has authorized EPA to prescribe the general standards for remedial actions at inactive uranium mill tailings sites. No remedial action is to be undertaken prior to the promulgation of these standards. Additionally, EPA is the advisor to DOE on the assessment of hazards and establishing priorities at the designated sites.

The Atomic Energy Act of 1954 was amended by Public Law 95-604 giving the NRC statutory authority to directly license and promulgate regulations over the naturally occurring daughter products of uranium and thorium found in mill tailings. DOE is required to consult with NRC on the

designation of processing sites. In addition, NRC concurrence is required on (1) any cooperative agreements between DOE and the affected states, or where applicable, the Indian tribe on whose land the tailings site is located; (2) the acquisition of all processing and disposal sites and (3) selection and performance of remedial actions.

For processing sites located on tribal lands, DOE, in coordination with DOI, is authorized to enter into a cooperative agreement with the affected Indian tribe to perform the necessary remedial action. When it is necessary or appropriate to consolidate the radioactive wastes removed from sites under any State or tribal agreements or when it is necessary for the permanent disposition and stabilization of radioactive wastes, DOI may, under the provisions of the Act, make available for such purposes public lands that it administers.

In the case of each processing site designated by DOE as requiring remedial action under the provisions of the Act, the Department of Justice (DOJ) is to conduct a study to determine the identity and legal responsibility of any person (other than the United States, a State or Indian tribe) who owned, operated, or controlled the site before November 8, 1978, under any law or rule of law or reclamation or other remedial action with respect to the specific site under study. DOJ is to publish the results of the study and provide copies to Congress. Based on the study, the Attorney General shall, if he deems it appropriate and in the public interest, take the necessary action under any provision of law in effect at the time the uranium was produced at the site to require payment of all or any part of the costs incurred by the U.S. for remedial action.

4. States and Indian Tribes Responsibilities

Public Law 95-604 further provides for the full support of the affected State or applicable Indian tribe under whose jurisdiction a processing site is located. Program objectives initiated and to be accomplished by the affected State and applicable Indian tribe include: consultation with DOE on designation of processing sites; entering into cooperative agreements with DOE; and, participation in remedial action. Additionally, the affected State and applicable Indian tribe are to be actively involved in the acquisition and disposition of lands and materials and full participation or consultation in selection and performance of remedial action.

II. PROGRAM STATUS

This section of the report describes the status of the remedial action program to date and discusses the methodology for accomplishing the program goals.

A. DESIGNATION OF PROCESSING SITES

1. Twenty-Two Processing Site Locations

Section 102(a) (1) of the Act authorized the Secretary to designate, by November 8, 1979, processing sites for remedial action at or near the 22 locations described in this section. In developing the recommended processing site designations, including the boundaries of each site, DOE consulted with EPA, NRC, DOI, the Governors of the nine affected States, and the applicable Indian tribes and sought comments from current property owners. Public participation was encouraged through a Federal Register notice published on September 5, 1979 (Appendix B); a press release (Appendix C); and local meetings at actual sites, when this was determined by State and local officials to be of value in the site designation process. Specifically, local meetings were held at Lakeview, Oregon; Canonsburg, Pennsylvania; and at Durango, Gunnison, Grand Junction and Rifle, Colorado. Assessments of the 22 site locations were performed and input was received from applicable Federal agencies, State and local governments, property owners, and interested public agencies. As a result, on November 8, 1979, the Secretary designated the 22 site locations in Section 102(a)(1) of the Act as processing sites for remedial action (Appendix D). The Committees on Interior and Insular Affairs and on Interstate and Foreign Commerce of the House of Representatives and the Committee on Energy and Natural Resources of the Senate were then informed of these designations (Appendix E) as well as the Governors of each affected State.

2. Other Designated Processing Sites

A Federal Register notice (Appendix F), press release (Appendix G) and communications with the Governors of uranium-producing states resulted in the identification and designation of three additional sites that require remedial action pursuant to the intent of Public Law 95-604. These sites were nominated by the States of North Dakota and Wyoming. They are located in the vicinity of Bowman and Belfield, North Dakota; and Baggs, Wyoming. The site descriptions and specific site boundaries were developed by DOE, and are included in Appendix H.

3. Offsite Contaminated Properties

DOE is developing radiological assessment data on specific properties outside the boundaries of the 25 designated processing sites on a site-by-site basis. Participating in this activity are representatives of the affected State and local governments, applicable Indian tribes, property owners, and the general public, as a result of personal correspondence, a Federal Register notice (Appendix F), press release (Appendix G), and public meetings. As offsite properties are nominated, identified, and evaluated in consultation with NRC and EPA, they will be incorporated into the overall remedial action program under the provisions of Section 102(e)(2) of the Act.

B. ESTABLISHMENT OF SITE PRIORITIES

As specified by Section 102(b) of the Act, DOE has assessed the potential health effects to the public from the residual radioactive material on or near the 22 site locations referenced in Section 102(a)(1) of the Act. Utilizing the advice from the EPA (Appendix I), DOE has established the priorities listed in Appendix J for performing remedial actions.

These priorities were established using estimates of the near-term local rates of induction of health effects associated with radon. The ranking of high, medium, and low categories was considered more meaningful than a numerical ranking because of uncertainties in the estimates of radon-associated health effects. Of importance to the priority issue was the EPA

advice that the priority ranking of sites should not be implemented so strictly that work on lower priority sites could not in any instance be initiated before completion of work at higher priority sites. Although detailed assessments of the three newly identified processing sites at Bowman and Belfield, North Dakota and Baggs, Wyoming, have not been made, the relative amounts of residual radioactive materials involved and the low population distribution around these sites place them in the low-priority category. Listed in Appendix K are the site summaries for these 25 processing sites.

C. ESTABLISHMENT OF COOPERATIVE AGREEMENTS

After notifying the Governor of an affected State of the designation of a processing site within his area of jurisdiction, the Secretary is authorized to enter into cooperative agreements with the affected States to perform remedial actions at each site. Additionally, after notifying the applicable Indian tribes of the designation of processing sites and/or vicinity properties under tribal jurisdiction, the Secretary, in consultation with the Secretary of the Interior, is authorized to enter into a cooperative agreement with any Indian tribe to perform remedial action at a site located on tribal lands.

A sample cooperative agreement shown in Appendix L has been developed by DOE. This agreement was discussed at a DOE-sponsored meeting on the implementation of Public Law 95-604, held in Denver, Colorado, on July 19, 1979, with representatives appointed by the governors of the affected States and Navajo Nation as well as attendees from the NRC, EPA and DOI. Currently, discussions on the sample cooperative agreement are being conducted between the individual states and DOE, and the agreement will be modified based on comments received, to meet the specific requirements of each designated processing site.

D. ACQUISITION AND DISPOSITION OF LANDS AND MATERIALS

Each cooperative agreement between DOE and the affected State will require that the State, where determined appropriate by the Secretary with the concurrence of NRC, to acquire any designated processing site,

including, where appropriate, any interest therein. Additionally, if the Secretary, with the concurrence of NRC, determines that the removal of the residual radioactive material from a processing site is appropriate, the cooperative agreement is to provide that the State will acquire the land to be used as a disposal site for the permanent disposition and stabilization of such residual radioactive materials in a safe and environmentally sound manner. However, acquisition by the State shall not be required if a site is located on land controlled by DOE or made available by the Secretary of the Interior. In cases in which DOE determines that the removal of residual radioactive materials from a processing site on Indian lands is warranted, DOE is to provide, consistent with other applicable provisions of the Law, a site or sites for the permanent disposition and stabilization in a safe and environmentally sound manner of such residual radioactive materials.

The Commonwealth of Pennsylvania has contracted for an appraisal of the former Vitro Manufacturing Company site in Canonsburg for the purpose of holding discussions on the disposition of the property. It is anticipated that a cooperative agreement between the Commonwealth of Pennsylvania and DOE involving the Canonsburg site will be signed during FY 1980. Each cooperative agreement between DOE and the affected State is to contain specific stipulations involving the acquisition and disposition of the processing site and disposal site properties. These stipulations are to be formulated on a case-by-case basis with each affected State and will be governed by the remedial action methodology developed for a specific processing site.

E. REMILLING OF RESIDUAL RADIOACTIVE MATERIALS

Under the provisions of Section 108(a)(1) of Public Law 95-604, the Secretary of Energy is to request, before undertaking any remedial action at a designated site, expressions of interest from private parties regarding the remilling of the residual radioactive materials at the site. On receipt of any expression of interest, DOE is to evaluate (among other things) the mineral concentration of the residual radioactive materials at each designated processing site to determine whether, as a part of any remedial action program, the recovery of such minerals is practicable. Additionally, any person permitted to recover such minerals is to pay to DOE a share of the

net profits derived from such recovery, as determined by DOE. Such a share is not to exceed the total amount paid by DOE for carrying out a remedial action at a designated site.

A preliminary evaluation involving the concentration of residual radioactive materials at processing sites (with the exception of Canonsburg) was performed by the DOE Grand Junction Office in May 1979. The results taken mainly from the Phase II-Title I Engineering Assessments are presented in Appendix M. The study disclosed that mineral recovery might be feasible at many of the sites surveyed, and the DOE Grand Junction Office was tasked in July 1979 to continue the study. When it is determined that mineral recovery is feasible at a processing site, expressions of interest from private parties regarding the remilling of the residual radioactive materials will be requested by DOE.

F. NATIONAL ENVIRONMENTAL POLICY ACT

Before any remedial action is initiated at a processing site the requirements of the National Environmental Policy Act of 1969 (NEPA) must be complied with by DOE.

Based on a preliminary review and evaluation of previously issued DOE engineering assessments, ASEV initially determined that Environmental Assessments should be prepared for all of the designated uranium mill tailings sites to determine whether an EIS would be requested for the remedial action. However, following the establishment of remedial action site priorities, ASEV subsequently advised ASNE that Environmental Impact Statements (EISs) should be developed for all processing sites in the high priority category due to their proximity to large population centers. For processing sites in the medium and low priorities, ASNE was advised that EAs should continue to be prepared because these sites are fairly well isolated from any large population centers and may not require an EIS. The EAs would be used as the basis for a final determination as to whether or not EISs would be required for such sites. To date, 13 EAs are in the process of being developed by ASNE.

G. PUBLIC PARTICIPATION

In carrying out the provisions of Title I of the Law, which includes the designation of processing sites, establishment of priorities for such sites, selection of remedial actions, and execution of cooperative agreements, DOE, EPA, and NRC are to encourage public participation and, where appropriate, DOE is to hold public hearings relative to such matters in the states where processing and disposal sites are located. During the designation of processing sites and establishment of site priority processes, DOE encouraged public participation through the publication of Federal Register notices, and press releases.

In accordance with NEPA requirements and procedures, DOE will be soliciting comments from the public in the form of published Federal Register notices and press releases and will hold formal public hearings on all proposed EISs involving the designated processing sites. If deemed appropriate by the affected State and local authorities, these public hearings will be held in the states where the processing and disposal sites are located. Colorado, Oregon and Pennsylvania have already held public meetings within their states involving the designation of processing sites and establishment of site priorities. DOE anticipates that public meetings or hearings will be held in each of the affected States during the cooperative agreement phase of the remedial action program. Additionally, DOE is in the process of developing public information materials in the form of a pamphlet and fact sheets covering the entire spectrum of the remedial action program. These materials will be made available to the general public during future public meetings and hearings.

H. REPORT TO CONGRESS

As required by Public Law 95-604 on July 1, 1979, the DOE provided a report to Congress identifying all sites located on public or acquired lands of the United States containing residual radioactive materials and other radioactive wastes (other than waste resulting from the production of electric energy). The report, entitled "Report on Residual Radioactive Material on Public or Acquired Lands of the United States" (DOE/EV-0037), was sub-

mitted by the Secretary to the Committees on Interior and Insular Affairs and on Interstate and Foreign Commerce of the House of Representatives and to the Committee on Energy and Natural Resources of the Senate. The report findings disclosed that residual radioactive materials and other radioactive waste were identified by 6 Federal agencies at 48 sites throughout the United States. Of the 48 reported sites, 9 were classified in the controlled radiation category, 39 in the unstabilized category. None was classified as representing a definite long-term risk to the public. Upon submission of the report to Congress, DOE published a press release, and has made available copies of the report to the general public. A copy of the press release is presented in Appendix N.

I. OTHER FEDERAL AGENCY ACTIVITIES

Under the provisions of Section 114(a) of the Act, DOE requested views, comments, and recommendations from EPA, NRC, DOI, and DOJ in preparing this First Annual Status Report. The following are these agencies verbatim responses to this request for information.

1. Environmental Protection Agency

The Environmental Protection Agency's major responsibilities regarding inactive uranium mill sites under PL 95-604 are:

a. To set generally applicable radiological and nonradiological standards for the residual radioactive materials at designated inactive processing sites.

b. To advise the Department of Energy on public health considerations applicable to setting priorities for remedial action at the inactive sites.

EPA discharged the second responsibility in June, 1979, through recommendations provided to the Secretary of Energy. The principal recommendation is that estimates of local rates of induction of health effects associated with radon should be the primary basis for establishing priorities for remedial actions at the various processing sites. These estimates should refer to the

period (7 years) during which PL 95-604 authorizes DOE to perform the remedial actions. The full text of the advisory letter, including additional recommendations, is reproduced in Appendix I.

EPA's primary responsibility under PL 95-604 is to "promulgate standards of general application...for the protection of public health, safety, and the environment from radiological and nonradiological hazards associated with residual radioactive materials...located at inactive uranium mill tailing sites and depository sites for such materials...." The present circumstances of inactive sites vary greatly, but all have contaminated adjacent areas to some degree. At least one site has occupied structures over tailings, and several are near highly developed areas. Considering all these circumstances, the standards should cover the following conceptual elements:

(1) Disposal of tailings (at either new or existing sites).

(2) Clean-up of contaminated land.

(3) Remedial measures for occupiable buildings affected by tailings.

It is highly desirable that these conceptual elements be combined or related to one another in the course of developing the rationale and final content for the rule, so as to result in as simple and unified a set of standards as is possible.

In view of the time schedules imposed by Congress, EPA is performing no major new evaluations of health, scientific, technologic, or economic issues in developing these standards. The standards are being determined on the basis of reducing health and environmental impacts to the lowest reasonable levels, taking into consideration health and economic impacts, technical achievability, and the long-term nature of the hazard. The major body of information describing existing conditions and alternative remedial actions at the inactive sites are the Phase II engineering evaluation studies performed for the Department of Energy by Ford, Bacon and Davis Utah, Inc. The staff has

examined these and other studies of the specific sites in a framework of the general requirements of environmental and public health protection. Information from NRC's extensive analysis of generic aspects of uranium mill tailings from active processing sites has also been very useful.

The Agency developed preliminary draft standards in June, 1979, which were reviewed by the Interagency Working Group. It has now prepared revised standards and a draft Environmental Impact Statement. Following additional reviews by EPA and other agencies, the Agency expects to publish proposed standards and request public comments in the first quarter of 1980.

EPA has performed several other functions under PL 95-604. As directed by Section 114(b), it provided DOE with information on radioactive waste under EPA's control. The Agency also was consulted and provided information on the designation of inactive processing sites (reference Section 102(a)(1)).

2. Nuclear Regulatory Commission

Many of the NRC activities in this area are related to the implementation of Title II of the Act. In particular, the following is a summary for the major actions which the Commission has taken in this regard.

- The Commission has reviewed and concurred in the Department of Energy's designation of site boundaries for the 22 processing sites identified in Section 102 of the UMTRCA. The Commission has also reviewed and concurred in the designation of three additional sites at Belfield and Bowman in North Dakota and Baggs in Wyoming.
- The Commission has participated in meetings of the Interagency Working Group for implementation of the UMTRCA (a subgroup of the cabinet level Energy Coordinating Committee). The Interagency Working Group

was established to coordinate agency responsibilities and organize Federal and State actions during the early stages of implementation of the UMTRCA.

- The Commisison has sought and Congress has passed legislation clarifying the UMTRCA to remove NRC jurisdiction over tailings already regulated by Agreement States. However, in passing the clarifying legislation, the Congress also requires the Agreement States to implement now the requirements and procedures for licensing byproduct materials as tailings under the Act, to the maximum extent practicable, and directs the Commission to ensure that the States do this.
- In order to avoid a situation where existing operators would be in technical violation of the law, the staff issued a general license for all uranium recovery operators licensed prior to May 17, 1979, to own, use, and possess byproduct material as tailings. The NRC is currently in the process of amending its regulations on uranium milling facilities to conform to the requirements of the Act. The proposed amendments to the regulations were published on August 24, 1979 in the Federal Register (Appendix O). The bases for these regulations are described in detail in the draft Generic Environmental Impact Statement on Uranium Milling, April 1979.
- The Commission has conducted a study and prepared a preliminary draft report* on the adequacy of the authority to require the owners of certain New Mexico sites referred to in Section 301 of the UMTRCA to control all residual radioactive materials to protect public health and safety and the environment. This preliminary draft report concludes that the authority to regulate and control such materials at these sites is adequate. The report has been reviewed, and its conclusions agreed upon, by New Mexico.

*Final report submitted to DOE on November 7, 1979 (Appendix P)

3. Department of the Interior

Activities of the Department of the Interior under the first phase of P.L. 95-604 have consisted largely in consultation as necessary information was assembled for site designations and priority rankings, and as the standards for remedial actions were drafted. Interior's responsibilities are more significant in the next phase of activities called for by the Act. Once the designations and priority rankings are formalized, and the process of describing and selecting alternatives for remedial action is under way, activities at certain sites will come within Interior's jurisdictions or areas of expertise. Full participation of tribal governments will be expedited. Proposed remedial action alternatives which call for removal of tailings to or across public lands will receive timely and appropriate policy consideration and technical expertise. The Department of the Interior will assist DOE and other agencies in preparing for public information and discussion of such alternatives, and in the necessary logistical support and coordination among Federal, State, local and Tribal officials. Technical expertise of the Department which will be useful in the administrative process including consideration of environmental impacts includes the Geological Survey, especially in hydrology of affected sites; the Fish and Wildlife Service in habitat concerns; and several Interior offices with archaeological, historic preservation, and other cultural or recreation resource expertise.

4. Department of Justice

The Land and Natural Resources Division has been designated by the Attorney General to perform staff work for his responsibility under the Uranium Mill Tailings Radiation Control Act of 1979 (the Act), P.L. 95-604. More specifically, the Attorney General is to: 1) conduct a study under Section 115(b) of the Act to determine the identity and legal responsibility of any person who

owned, operated, or controlled any site designated under the Act; and 2) consult with the Nuclear Regulatory Commission (NRC or Commission) under Section 301 of the Act as the Commission is to determine the extent and adequacy of its authority to take action to control residual radioactive material at two specifically listed sites in the State of New Mexico.

The work required under Section 115(b) of the Act is in the preliminary stages and no conclusions have been reached. Initial review does indicate, however, that a substantial effort will be required to provide necessary answers to the issues posed by Section 115(b).

With respect to the responsibility under Section 301 of the Act, the staff of the Nuclear Regulatory Commission asked the Division to comment on a preliminary analysis in August, 1979. The Division supplied the NRC staff with comments in a letter dated September 19, 1979.

Additionally, this Division is defending the United States in the case Won-Door v. United States, No. 109-79L. In the Court of Claims lawsuit, plaintiff (Won-Door) contends, in part, that radiological contamination for the mill tailings remaining at the Vitro Site in Salt Lake City has effected a "taking" of plaintiff's use or enjoyment of its adjoining property. On the government's motion, the Court of Claims has stayed all proceedings in the case to afford the parties an opportunity to explore the applicability of the Uranium Mill Tailings Radiation Control Act of 1978. The issue of applicability of the Act is expected to be resolved sometime in 1980. However, the filing of this case is clear evidence that radiological taking cases pose a threat of liability to the government, and, to the greatest extent possible, that threat should be considered in carrying out the Act.

III. PROGRAM FORECASTS AND FUNDING

The authority of the Secretary of Energy to perform remedial action under the provisions of Title I of Public Law 95-604 is to terminate seven years after the date of promulgation of standards by EPA unless such termination date is specifically extended by an Act of Congress. This portion of the report deals with those actions to be taken by DOE in the implementation of the Act during FY 1980.

A. SURVEYS

DOE is in the process of conducting aerial and ground level surveys to verify the radiological characterization of six designated processing sites: Salt Lake City, Utah; Rifle (2 sites) and Gunnison, Colorado; Shiprock, New Mexico; and Falls City, Texas. It is anticipated that the surveys will not only verify the results of the radiological assessments conducted as a part of previous engineering assessments of these sites, but will also provide verification data concerning off-site properties that were identified during the process of designating the processing sites and establishing site priorities as discussed in Section II.

B. ESTABLISHMENT OF COOPERATIVE AGREEMENTS

In FY 1980, it is anticipated that cooperative agreements will be initiated between DOE and several of the individual States including Colorado, Pennsylvania, Utah, and Wyoming.

C. SITE ACQUISITION

The Act provides for the acquisition of designated processing or disposal sites as deemed appropriate by the Secretary, with NRC concurrence. In FY 1980, early actions relating to possible site acquisition are expected

to be initiated by several States. The Commonwealth of Pennsylvania is expected to continue its initial activities on the Canonsburg site which was appraised during FY 1979.

D. REPROCESSING OF MILL TAILINGS

Expressions of interest will be solicited from private companies for those processing sites determined to be feasible to recover uranium or other valuable minerals. As proposals for reprocessing are received, they will be evaluated for economic feasibility and for consistency with the range of possible remedial action for a site. Plans will be developed for conducting the reprocessing activities so as to further the remedial action in those cases in which reprocessing is judged feasible and is approved.

E. NATIONAL ENVIRONMENTAL POLICY ACT DOCUMENTATION

Remedial action implementaton will be contingent upon completion of the NEPA process. Therefore, as much of the NEPA work as possible is planned to be completed in FY 1980 (Appendix Q).

In consultation with the DOE Office of General Counsel and the NEPA Affairs Office of ASEV, the ASNE has concluded, as a basis for planning the remedial action program in FY 1980, that EISs will be required for the following nine processing sites in the high-priority category:

- Durango, Colorado
- Grand Junction, Colorado
- Gunnison, Colorado
- Rifle, Colorado (2 sites)
- Shiprock, New Mexico
- Canonsburg, Pennsylvania
- Salt Lake City, Utah
- Riverton, Wyoming

However, it has been determined that only preliminary groundwork such as the assembly of environmental data can be accomplished on the EISs until the proposed EPA standards are issued for public review and comment.

However, draft EISs prepared in accordance with the proposed standards will be subject to possible revision and rehearing, when the final standards are promulgated. Assuming that the proposed standards will be issued in mid FY 1980, it is estimated that work on four draft EISs could be initiated during the last half of the fiscal year and that two of these draft EISs (Canonsburg and Salt Lake City) could be issued for public review by the end of FY 1980. Preparation of the final draft EAs for the medium and low priority sites will also be delayed until the issuance of the draft EPA standards. Based on the same assumption as the above, it is anticipated that the final drafts of the 16 EAs can be completed by the end of FY 1980.

F. REMEDIAL ACTION

Prior to remedial action implementation, the NEPA process must be completed, the cooperative agreement with the affected State in which the site is located executed, the necessary State funding appropriated, evaluations of the potential for reprocessing of minerals completed, site acquisitions and public input completed, and the EPA standards promulgated. It is envisioned the necessary activities required for initiation of remedial action will have progressed sufficiently during FY 1980 so that remedial actions to remove or stabilize the mill tailings will commence in FY 1981.

G. PROGRAM REPORTS AND PLANS

To facilitate the implementation of the remedial action program, DOE planning documents to be developed in FY 1980 include project management, control and remedial action (overall and site specific) plans; public information and participation plans; and, technology development, quality assurance, and State/local coordination plans.

Early in FY 1980, work will be completed on a DOE Background Report for the Inactive Uranium Mill Tailings Sites Remedial Action Program which was developed in draft in FY 1979. The purpose of the document is to provide a consolidated historical summary of the 25 designated processing sites with the most recent data from the ongoing assessment studies.

Applicable sections of the draft report have been provided for review and comments to the appropriate designated representatives from each of the affected States, the Navajo Nation and the property owners of each of the designated sites.

Additionally, a generic program plan for the Inactive Uranium Mill Tailings Sites Remedial Action Program has been developed in draft. This document outlines in generic form a program plan to assess, evaluate, and reduce the potential radiological health hazard to the public from the accumulation of uranium mill tailings resulting from the milling of uranium ore. The document addresses program activities from the identification of potentially hazardous processing sites to the decontamination and decommissioning, and certification of these sites. Additionally, the document addresses the general program management responsibilities and outlines a plan for the dissemination of information to the public. It is envisioned this document will be used in developing the planning documents as enumerated above.

H. INTERAGENCY PROGRAM COORDINATION

The DOE has been actively participating with the other responsible Federal agencies in implementation of Public Law 95-604. An Interagency Working Group on the implementation of the Act has been established. Participating in this Group have been representatives from the EPA, NRC, DOI and DOJ as well as DOE. Major items for discussion and consultation have been the designation of processing sites for remedial action and the establishment of site boundaries by DOE; determination of processing site priorities for remedial action; DOE's methodology for the establishment of cooperative agreements with the affected States and applicable Indian tribes; and, the public participation aspects of the remedial action program. It is envisioned that Interagency planning meetings will continue to be held during FY 1980 and for the duration of the program.

I. PROGRAM FUNDING

Initial DOE funding for the execution of the mandates of Public Law 95-604 was included as an element of DOE's Decontamination and Decommissioning Program when managed by ASEV. As a result of the transfer of programmatic functions from ASEV to ASNE (Section IE), the management responsibility for remedial action at the designated processing sites was transferred to ASNE and included as an element of their Nuclear Waste Management Program. Total funding levels and estimated costs for FY 1979, and projected costs for FY 1980 are as follows:

1. FY 1979 Estimated Costs

Environmental Impact Statements	$ 89,000
Research and Development	366,000
Surveys	764,000
Evaluation and Certification	15,000
Remedial Action	-
TOTAL	$1,234,000

2. FY 1980 Projected Costs

	ASEV	ASNE
Environmental Impact Statements	-	$1,200,000
Research and Development	-	2,100,000
Surveys	$730,000	-
Evaluation and Certification	220,000	-
Remedial Action	-	4,750,000
TOTAL	$950,000	$8,050,000

APPENDIXES

TO THE ANNUAL STATUS
REPORT ON THE INACTIVE
URANIUM MILL TAILINGS
SITES REMEDIAL ACTION
PROGRAM

INDEX

APPENDIX A

PUBLIC LAW 95-604
URANIUM MILL TAILINGS RADIATION CONTROL ACT OF 1978

Public Law 95-604
95th Congress

An Act

To authorize the Secretary of Energy to enter into cooperative agreements with certain States respecting residual radioactive material at existing sites, to provide for the regulation of uranium mill tailings under the Atomic Energy Act of 1954, and for other purposes.

Nov. 8, 1978
[H.R. 13650]

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SHORT TITLE AND TABLE OF CONTENTS

Uranium Mill Tailings Radiation Control Act of 1978.
42 USC 7901 note.

SECTION 1. This Act may be cited as the "Uranium Mill Tailings Radiation Control Act of 1978".

TABLE OF CONTENTS

FINDINGS AND PURPOSES

SEC. 2. (a) The Congress finds that uranium mill tailings located at active and inactive mill operations may pose a potential and significant radiation health hazard to the public, and that the protection of

42 USC 7901.

39-139 O - 78 (527)

the public health, safety, and welfare and the regulation of interstate commerce require that every reasonable effort be made to provide for the stabilization, disposal, and control in a safe and environmentally sound manner of such tailings in order to prevent or minimize radon diffusion into the environment and to prevent or minimize other environmental hazards from such tailings.

(b) The purposes of this Act are to provide—

(1) in cooperation with the interested States, Indian tribes, and the persons who own or control inactive mill tailings sites, a program of assessment and remedial action at such sites, including, where appropriate, the reprocessing of tailings to extract residual uranium and other mineral values where practicable, in order to stabilize and control such tailings in a safe and environmentally sound manner and to minimize or eliminate radiation health hazards to the public, and

(2) a program to regulate mill tailings during uranium or thorium ore processing at active mill operations and after termination of such operations in order to stabilize and control such tailings in a safe and environmentally sound manner and to minimize or eliminate radiation health hazards to the public.

TITLE I—REMEDIAL ACTION PROGRAM

DEFINITIONS

42 USC 7911.

SEC. 101. For purposes of this title—

(1) The term "Secretary" means the Secretary of Energy.

(2) The term "Commission" means the Nuclear Regulatory Commission.

(3) The term "Administrator" means the Administrator of the Environmental Protection Agency.

(4) The term "Indian tribe" means any tribe, band, clan, group, pueblo, or community of Indians recognized as eligible for services provided by the Secretary of the Interior to Indians.

(5) The term "person" means any individual, association, partnership, corporation, firm, joint venture, trust, government entity, and any other entity, except that such term does not include any Indian or Indian tribe.

(6) The term "processing site" means—

(A) any site, including the mill, containing residual radioactive materials at which all or substantially all of the uranium was produced for sale to any Federal agency prior to January 1, 1971 under a contract with any Federal agency, except in the case of a site at or near Slick Rock, Colorado, unless—

(i) such site was owned or controlled as of January 1, 1978, or is thereafter owned or controlled, by any Federal agency, or

(ii) a license (issued by the Commission or its predecessor agency under the Atomic Energy Act of 1954 or by a State as permitted under section 274 of such Act) for the production at such site of any uranium or thorium product derived from ores is in effect on January 1, 1978, or is issued or renewed after such date; and

(42 USC 2011 note. 42 USC 2021.

(B) any other real property or improvement thereon which—

(i) is in the vicinity of such site, and

(ii) is determined by the Secretary, in consultation with the Commission, to be contaminated with residual radioactive materials derived from such site.

Any ownership or control of an area by a Federal agency which is acquired pursuant to a cooperative agreement under this title shall not be treated as ownership or control by such agency for purposes of subparagraph (A)(i). A license for the production of any uranium product from residual radioactive materials shall not be treated as a license for production from ores within the meaning of subparagraph (A)(ii) if such production is in accordance with section 108(b).

(7) The term "residual radioactive material" means—

(A) waste (which the Secretary determines to be radioactive) in the form of tailings resulting from the processing of ores for the extraction of uranium and other valuable constituents of the ores; and

(B) other waste (which the Secretary determines to be radioactive) at a processing site which relate to such processing, including any residual stock of unprocessed ores or low-grade materials.

(8) The term "tailings" means the remaining portion of a metal-bearing ore after some or all of such metal, such as uranium, has been extracted.

(9) The term "Federal agency" includes any executive agency as defined in section 105 of title 5 of the United States Code.

(10) The term "United States" means the 48 contiguous States and Alaska, Hawaii, Puerto Rico, the District of Columbia, and the territories and possessions of the United States.

DESIGNATION OF PROCESSING SITES

SEC. 102. (a)(1) As soon as practicable, but no later than one year after enactment of this Act, the Secretary shall designate processing sites at or near the following locations: 42 USC 7912.

Salt Lake City, Utah
Green River, Utah
Mexican Hat, Utah
Durango, Colorado
Grand Junction, Colorado
Rifle, Colorado (two sites)
Gunnison, Colorado
Naturita, Colorado
Maybell, Colorado
Slick Rock, Colorado (two sites)
Shiprock, New Mexico
Ambrosia Lake, New Mexico
Riverton, Wyoming
Converse County, Wyoming
Lakeview, Oregon
Falls City, Texas
Tuba City, Arizona
Monument Valley, Arizona
Lowman, Idaho
Cannonsburg, Pennsylvania

Remedial action.

Subject to the provisions of this title, the Secretary shall complete remedial action at the above listed sites before his authority terminates under this title. The Secretary shall within one year of the date of enactment of this Act also designate all other processing sites within the United States which he determines requires remedial action to carry out the purposes of this title. In making such designation, the Secretary shall consult with the Administrator, the Commission, and the affected States, and in the case of Indian lands, the appropriate Indian tribe and the Secretary of the Interior.

(2) As part of his designation under this subsection, the Secretary, in consultation with the Commission, shall determine the boundaries of each such site.

(3) No site or structure with respect to which remedial action is authorized under Public Law 92-314 in Grand Junction, Colorado, may be designated by the Secretary as a processing site under this section.

86 Stat. 222.

Health hazard assessment.

(b) Within one year from the date of the enactment of this Act, the Secretary shall assess the potential health hazard to the public from the residual radioactive materials at designated processing sites. Based upon such assessment, the Secretary shall, within such one year period, establish priorities for carrying out remedial action at each such site. In establishing such priorities, the Secretary shall rely primarily on the advice of the Administrator.

Notification.

(c) Within thirty days after making designations of processing sites and establishing the priorities for such sites under this section, the Secretary shall notify the Governor of each affected State, and, where appropriate, the Indian tribes and the Secretary of the Interior.

(d) The designations made, and priorities established, by the Secretary under this section shall be final and not be subject to judicial review.

(e)(1) The designation of processing sites within one year after enactment under this section shall include, to the maximum extent practicable, the areas referred to in section 101(6)(B).

(2) Notwithstanding the one year limitation contained in this section, the Secretary may, after such one year period, include any area described in section 101(6)(B) as part of a processing site designated under this section if he determines such inclusion to be appropriate to carry out the purposes of this title.

STATE COOPERATIVE AGREEMENTS

42 USC 7913.

SEC. 103. (a) After notifying a State of the designation referred to in section 102 of this title, the Secretary subject to section 113, is authorized to enter into cooperative agreements with such State to perform remedial actions at each designated processing site in such State (other than a site located on Indian lands referred to in section 105). The Secretary shall, to the greatest extent practicable, enter into such agreements and carry out such remedial actions in accordance with the priorities established by him under section 102. The Secretary shall commence preparations for cooperative agreements with respect to each designated processing site as promptly as practicable following the designation of each site.

Terms and Conditions.

(b) Each cooperative agreement under this section shall contain such terms and conditions as the Secretary deems appropriate and consistent with the purposes of this Act, including, but not limited

to, a limitation on the use of Federal assistance to those costs which are directly required to complete the remedial action selected pursuant to section 108.

(c)(1) Except where the State is required to acquire the processing site as provided in subsection (a) of section 104, each cooperative agreement with a State under section 103 shall provide that the State shall obtain, in a form prescribed by the Secretary, written consent from any person holding any record interest in the designated processing site for the Secretary or any person designated by him to perform remedial action at such site. Written consent.

(2) Such written consent shall include a waiver by each such person on behalf of himself, his heirs, successors, and assigns— Waiver.

(A) releasing the United States of any liability or claim thereof by such person, his heirs, successors, and assigns concerning such remedial action, and

(B) holding the United States harmless against any claim by such person on behalf of himself, his heirs, successors, or assigns arising out of the performance of any such remedial action.

(d) Each cooperative agreement under this section shall require the State to assure that the Secretary, the Commission, and the Administrator and their authorized representatives have a permanent right of entry at any time to inspect the processing site and the site provided pursuant to section 104(b)(1) in furtherance of the provisions of this title and to carry out such agreement and enforce this Act and any rules prescribed under this Act. Such right of entry under this section or section 106 into an area described in section 101(6)(B) shall terminate on completion of the remedial action, as determined by the Secretary.

(e) Each agreement under this section shall take effect only upon the concurrence of the Commission with the terms and conditions thereof.

(f) The Secretary may, in any cooperative agreement entered into under this section or section 105, provide for reimbursement of the actual costs, as determined by the Secretary, of any remedial action performed with respect to so much of a designated processing site as is described in section 101(6)(B). Such reimbursement shall be made only to a property owner of record at the time such remedial action was undertaken and only with respect to costs incurred by such property owner. No such reimbursement may be made unless—

(1) such remedial action was completed prior to enactment of this Act, and unless the application for such reimbursement was filed by such owner within one year after an agreement under this section or section 105 is approved by the Secretary and the Commission, and

(2) the Secretary is satisfied that such action adequately achieves the purposes of this Act with respect to the site concerned and is consistent with the standards established by the Administrator pursuant to section 275(a) of the Atomic Energy Act of 1954. *Post*, p. 3039.

ACQUISITION AND DISPOSITION OF LANDS AND MATERIALS

SEC. 104. (a) Each cooperative agreement under section 103 shall require the State, where determined appropriate by the Secretary with the concurrence of the Commission, to acquire any designated process- 42 USC 7914.

ing site, including where appropriate any interest therein. In determining whether to require the State to acquire a designated processing site or interest therein, consideration shall be given to the prevention of windfall profits.

Residual radioactive material, removal.

(b)(1) If the Secretary with the concurrence of the Commission determines that removal of residual radioactive material from a processing site is appropriate, the cooperative agreement shall provide that the State shall acquire land (including, where appropriate, any interest therein) to be used as a site for the permanent disposition and stabilization of such residual radioactive materials in a safe and environmentally sound manner.

(2) Acquisition by the State shall not be required under this subsection if a site located on land controlled by the Secretary or made available by the Secretary of the Interior pursuant to section 106 (a)(2) is designated by the Secretary, with the concurrence of the Commission, for such disposition and stabilization.

(c) No State shall be required under subsection (a) or (b) to acquire any real property or improvement outside the boundaries of—

(1) that portion of the processing site which is described in section 101(6)(A), and

(2) the site used for disposition of the residual radioactive materials.

(d) In the case of each processing site designated under this title other than a site designated on Indian land, the State shall take such action as may be necessary, and pursuant to regulations of the Secretary under this subsection, to assure that any person who purchases such a processing site after the removal of radioactive materials from such site shall be notified in an appropriate manner prior to such purchase, of the nature and extent of residual radioactive materials removed from the site, including notice of the date when such action took place, and the condition of such site after such action. If the State is the owner of such site, the State shall so notify any prospective purchaser before entering into a contract, option, or other arrangement to sell or otherwise dispose of such site. The Secretary shall issue appropriate rules and regulations to require notice in the local land records of the residual radioactive materials which were located at any processing site and notice of the nature and extent of residual radioactive materials removed from the site, including notice of the date when such action took place.

Notification.

Rules and regulations.

(e)(1) The terms and conditions of any cooperative agreement with a State under section 103 shall provide that in the case of any lands or interests therein acquired by the State pursuant to subsection (a), the State, with the concurrence of the Secretary and the Commission, may—

(A) sell such lands and interests,

(B) permanently retain such land and interests in lands (or donate such lands and interests therein to another governmental entity within such State) for permanent use by such State or entity solely for park, recreational, or other public purposes, or

(C) transfer such lands and interests to the United States as provided in subsection (f).

No lands may be sold under subparagraph (A) without the consent of the Secretary and the Commission. No site may be sold under subparagraph (A) or retained under subparagraph (B) if such site is used for the disposition of residual radioactive materials.

(2) Before offering for sale any lands and interests therein which comprise a processing site, the State shall offer to sell such lands and interests at their fair market value to the person from whom the State acquired them.

(f)(1) Each agreement under section 103 shall provide that title to—

(A) the residual radioactive materials subject to the agreement, and

(B) any lands and interests therein which have been acquired by the State, under subsection (a) or (b), for the disposition of such materials,

shall be transferred by the State to the Secretary when the Secretary (with the concurrence of the Commission) determines that remedial action is completed in accordance with the requirements imposed pursuant to this title. No payment shall be made in connection with the transfer of such property from funds appropriated for purposes of this Act other than payments for any administrative and legal costs incurred in carrying out such transfer.

(2) Custody of any property transferred to the United States under this subsection shall be assumed by the Secretary or such Federal agency as the President may designate. Notwithstanding any other provision of law, upon completion of the remedial action program authorized by this title, such property and minerals shall be maintained pursuant to a license issued by the Commission in such manner as will protect the public health, safety, and the environment. The Commission may, pursuant to such license or by rule or order, require the Secretary or other Federal agency having custody of such property and minerals to undertake such monitoring, maintenance, and emergency measures necessary to protect public health and safety and other actions as the Commission deems necessary to comply with the standards of section 275(a) of the Atomic Energy Act of 1954. The Secretary or such other Federal agency is authorized to carry out maintenance, monitoring and emergency measures under this subsection, but shall take no other action pursuant to such license, rule or order with respect to such property and minerals unless expressly authorized by Congress after the date of enactment of this Act. The United States shall not transfer title to property or interest therein acquired under this subsection to any person or State, except as provided in subsection (h). Post p. 3039.

(g) Each agreement under section 103 which permits any sale described in subsection (e)(1)(A) shall provide for the prompt reimbursement to the Secretary from the proceeds of such sale. Such reimbursement shall be in an amount equal to the lesser of—

(1) that portion of the fair market value of the lands or interests therein which bears the same ratio to such fair market value as the Federal share of the costs of acquisition by the State to such lands or interest therein bears to the total cost of such acquisition, or

(2) the total amount paid by the Secretary with respect to such acquisition.

The fair market value of such lands or interest shall be determined by the Secretary as of the date of the sale by the State. Any amounts received by the Secretary under this title shall be deposited in the Treasury of the United States as miscellaneous receipts. Fair market value.

(h) No provision of any agreement under section 103 shall prohibit the Secretary of the Interior, with the concurrence of the Secretary of Energy and the Commission, from disposing of any subsurface mineral rights by sale or lease (in accordance with laws of the United States applicable to the sale, lease, or other disposal of such rights) which are associated with land on which residual radioactive materials are disposed and which are transferred to the United States as required under this section if the Secretary of the Interior takes such action as the Commission deems necessary pursuant to a license issued by the Commission to assure that the residual radioactive materials will not be disturbed by reason of any activity carried on following such disposition. If any such materials are disturbed by any such activity, the Secretary of the Interior shall insure, prior to the disposition of the minerals, that such materials will be restored to a safe and environmentally sound condition as determined by the Commission, and that the costs of such restoration will be borne by the person acquiring such rights from the Secretary of the Interior or from his successor or assign.

INDIAN TRIBE COOPERATIVE AGREEMENTS

42 USC 7915.

SEC. 105. (a) After notifying the Indian tribe of the designation pursuant to section 102 of this title, the Secretary, in consultation with the Secretary of the Interior, is authorized to enter into a cooperative agreement, subject to section 113, with any Indian tribe to perform remedial action at a designated processing site located on land of such Indian tribe. The Secretary shall, to the greatest extent practicable, enter into such agreements and carry out such remedial actions in accordance with the priorities established by him under section 102. In performing any remedial action under this section and in carrying out any continued monitoring or maintenance respecting residual radioactive materials associated with any site subject to a cooperative agreement under this section, the Secretary shall make full use of any qualified members of Indian tribes resident in the vicinity of any such site. Each such agreement shall contain such terms and conditions as the Secretary deems appropriate and consistent with the purposes of this Act. Such terms and conditions shall require the following:

Terms and conditions.

(1) The Indian tribe and any person holding any interest in such land shall execute a waiver (A) releasing the United States of any liability or claim thereof by such tribe or person concerning such remedial action and (B) holding the United States harmless against any claim arising out of the performance of any such remedial action.

(2) The remedial action shall be selected and performed in accordance with section 108 by the Secretary or such person as he may designate.

(3) The Secretary, the Commission, and the Administrator and their authorized representatives shall have a permanent right of entry at any time to inspect such processing site in furtherance of the provisions of this title, to carry out such agreement, and to enforce any rules prescribed under this Act.

Each agreement under this section shall take effect only upon concurrence of the Commission with the terms and conditions thereof.

(b) When the Secretary with the concurrence of the Commission determines removal of residual radioactive materials from a process-

ing site on lands described in subsection (a) to be appropriate, he shall provide, consistent with other applicable provisions of law, a site or sites for the permanent disposition and stabilization in a safe and environmentally sound manner of such residual radioactive materials. Such materials shall be transferred to the Secretary (without payment therefor by the Secretary) and permanently retained and maintained by the Secretary under the conditions established in a license issued by the Commission, subject to section 104(f)(2) and (h).

Transfer to Secretary of the Interior.

ACQUISITION OF LAND BY SECRETARY

SEC. 106. Where necessary or appropriate in order to consolidate in a safe and environmentally sound manner the location of residual radioactive materials which are removed from processing sites under cooperative agreements under this title, or where otherwise necessary for the permanent disposition and stabilization of such materials in such manner— 42 USC 7916.

(1) the Secretary may acquire land and interests in land for such purposes by purchase, donation, or under any other authority of law or

(2) the Secretary of the Interior may make available public lands administered by him for such purposes in accordance with other applicable provisions of law.

Prior to acquisition of land under paragraph (1) or (2) of this subsection in any State, the Secretary shall consult with the Governor of such State. No lands may be acquired under such paragraph (1) or (2) in any State in which there is no (1) processing site designated under this title or (2) active uranium mill operation, unless the Secretary has obtained the consent of the Governor of such State. No lands controlled by any Federal agency may be transferred to the Secretary to carry out the purposes of this Act without the concurrence of the chief administrative officer of such agency. Consultation.

FINANCIAL ASSISTANCE

SEC. 107. (a) In the case of any designated processing site for which an agreement is executed with any State for remedial action at such site, the Secretary shall pay 90 per centum of the actual cost of such remedial action, including the actual costs of acquiring such site (and any interest therein) or any disposition site (and any interest therein) pursuant to section 103 of this title, and the State shall pay the remainder of such costs from non-Federal funds. The Secretary shall not pay the administrative costs incurred by any State to develop, prepare, and carry out any cooperative agreement executed with such State under this title, except the proportionate share of the administrative costs associated with the acquisition of lands and interests therein acquired by the State pursuant to this title. 42 USC 7917.

(b) In the case of any designated processing site located on Indian lands, the Secretary shall pay the entire cost of such remedial action.

REMEDIAL ACTION

SEC. 108. (a)(1) The Secretary or such person as he may designate shall select and perform remedial actions at designated processing sites and disposal sites in accordance with the general standards prescribed 42 USC 7918.

by the Administrator pursuant to section 275 a. of the Atomic Energy Act of 1954. The State shall participate fully in the selection and performance of a remedial action for which it pays part of the cost. Such remedial action shall be selected and performed with the concurrence of the Commission and in consultation, as appropriate, with the Indian tribe and the Secretary of the Interior.

Post, p. 3039.

(2) The Secretary shall use technology in performing such remedial action as will insure compliance with the general standards promulgated by the Administrator under section 275 a. of the Atomic Energy Act of 1954 and will assure the safe and environmentally sound stabilization of residual radioactive materials, consistent with existing law. No such remedial action may be undertaken under this section before the promulgation by the Administrator of such standards.

Evaluation.

(b) Prior to undertaking any remedial action at a designated site pursuant to this title, the Secretary shall request expressions of interest from private parties regarding the remilling of the residual radioactive materials at the site and, upon receipt of any expression of interest, the Secretary shall evaluate among other things the mineral concentration of the residual radioactive materials at each designated processing site to determine whether, as a part of any remedial action program, recovery of such minerals is practicable. The Secretary, with the concurrence of the Commission, may permit the recovery of such minerals, under such terms and conditions as he may prescribe to carry out the purposes of this title. No such recovery shall be permitted unless such recovery is consistent with remedial action. Any person permitted by the Secretary to recover such mineral shall pay to the Secretary a share of the net profits derived from such recovery, as determined by the Secretary. Such share shall not exceed the total amount paid by the Secretary for carrying out remedial action at such designated site. After payment of such share to the United States under this subsection, such person shall pay to the State in which the residual radioactive materials are located a share of the net profits derived from sucl. recovery, as determined by the Secretary. The person recovering such minerals shall bear all costs of such recovery. Any person carrying out mineral recovery activities under this paragraph shall be required to obtain any necessary license under the Atomic Energy Act of 1954 or under State law as permitted under section 274 of such Act.

42 USC 2021.

RULES

42 USC 7919.

SEC. 109. The Secretary may prescribe such rules consistent with the purposes of this Act as he deems appropriate pursuant to title V of the Department of Energy Organization Act.

ENFORCEMENT

42 USC 7920.

SEC. 110. (a)(1) Any person who violates any provision of this title or any cooperative agreement entered into pursuant to this title or any rule prescribed under this Act concerning any designated processing site, disposition site, or remedial action shall be subject to an assessment by the Secretary of a civil penalty of not more than $1,000 per day per violation. Such assessment shall be made by order after notice and an opportunity for a public hearing, pursuant to section 554 of title 5, United States Code.

Notice, hearing opportunity.

(2) Any person against whom a penalty is assessed under this section may, within sixty calendar days after the date of the order of

the Secretary assessing such penalty, institute an action in the United States court of appeals for the appropriate judicial circuit for judicial review of such order in accordance with chapter 7 of title 5, United States Code. The court shall have jurisdiction to enter a judgment affirming, modifying, or setting aside in whole or in part, the order of the Secretary, or the court may remand the proceeding to the Secretary for such further action as the court may direct. 5 USC 500 *et seq.* Jurisdiction.

(3) If any person fails to pay an assessment of a civil penalty after it has become a final and unappealable order, the Secretary shall institute an action to recover the amount of such penalty in any appropriate district court of the United States. In such action, the validity and appropriateness of such final assessment order or judgment shall not be subject to review. Section 402(d) of the Department of Energy Organization Act shall not apply with respect to the functions of the Secretary under this section. 42 USC 7172.

(4) No civil penalty may be assessed against the United States or any State or political subdivision of a State or any official or employee of the foregoing.

(5) Nothing in this section shall prevent the Secretary from enforcing any provision of this title or any cooperative agreement or any such rule by injunction or other equitable remedy.

(b) Subsection (a) shall not apply to any licensing requirement under the Atomic Energy Act of 1954. Such licensing requirements shall be enforced by the Commission as provided in such Act. 42 USC 2011 note.

PUBLIC PARTICIPATION

SEC. 111. In carrying out the provisions of this title, including the designation of processing sites, establishing priorities for such sites, the selection of remedial actions, and the execution of cooperative agreements, the Secretary, the Administrator, and the Commission shall encourage public participation and, where appropriate, the Secretary shall hold public hearings relative to such matters in the States where processing sites and disposal sites are located. 42 USC 7921.

TERMINATION; AUTHORIZATION

SEC. 112. (a) The authority of the Secretary to perform remedial action under this title shall terminate on the date seven years after the date of promulgation by the Administrator of general standards applicable to such remedial action unless such termination date is specifically extended by an Act of Congress enacted after the date of enactment of this Act. 42 USC 7922.

(b) The amounts authorized to be appropriated to carry out the purposes of this title by the Secretary, the Administrator, the Commission, and the Secretary of the Interior shall not exceed such amounts as are established in annual authorization Acts for fiscal year 1979 and each fiscal year thereafter applicable to the Department of Energy. Any sums appropriated for the purposes of this title shall be available until expended.

LIMITATION

SEC. 113. The authority under this title to enter into contracts or other obligations requiring the United States to make outlays may 42 USC 7923.

be exercised only to the extent provided in advance in annual authorization and appropriation Acts.

REPORTS TO CONGRESS

42 USC 7924.

SEC. 114. (a) Beginning on January 1, 1980, and each year thereafter until January 1, 1986, the Secretary shall submit a report to the Congress with respect to the status of the actions required to be taken by the Secretary, the Commission, the Secretary of the Interior, the Administrator, and the States and Indian tribes under this Act and any amendments to other laws made by this Act. Each report shall—

(1) include data on the actual and estimated costs of the program authorized by this title;

(2) describe the extent of participation by the States and Indian tribes in this program;

(3) evaluate the effectiveness of remedial actions, and describe any problems associated with the performance of such actions; and

(4) contain such other information as may be appropriate.

Such report shall be prepared in consultation with the Commission, the Secretary of the Interior, and the Administrator and shall contain their separate views, comments, and recommendations, if any. The Commission shall submit to the Secretary and Congress such portion of the report under this subsection as relates to the authorities of the Commission under title II of this Act.

(b) Not later than July 1, 1979, the Secretary shall provide a report to the Congress which identifies all sites located on public or acquired lands of the United States containing residual radioactive materials and other raidoactive waste (other than waste resulting from the production of electric energy) and specifies which Federal agency has jurisdiction over such sites. The report shall include the identity of property and other structures in the vicinity of such site that are contaminated or may be contaminated by such materials and the actions planned or taken to remove such materials. The report shall describe in what manner such sites are adequately stabilized and otherwise controlled to prevent radon diffusion from such sites into the environment and other environmental harm. If any site is not so stabilized or controlled, the report shall describe the remedial actions planned for such site and the time frame for performing such actions. In preparing the reports under this section, the Secretary shall avoid duplication of previous or ongoing studies and shall utilize all information available from other departments and agencies of the United States respecting the subject matter of such report. Such agencies shall cooperate with the Secretary in the preparation of such report and furnish such information as available to them and necessary for such report.

Cooperation.

(c) Not later than January 1, 1980, the Administrator, in consultation with the Commission, shall provide a report to the Congress which identifies the location and potential health, safety, and environmental hazards of uranium mine wastes together with recommendations, if any, for a program to eliminate these hazards.

(d) Copies of the reports required by this section to be submitted to the Congress shall be separately submitted to the Committees on Interior and Insular Affairs and on Interstate and Foreign Commerce

of the House of Representatives and the Committee on Energy and Natural Resources of the Senate.

(e) The Commission, in cooperation with the Secretary, shall ensure that any relevant information, other than trade secrets and other proprietary information otherwise exempted from mandatory disclosure under any other provision of law, obtained from the conduct of each of the remedial actions authorized by this title and the subsequent perpetual care of those residual radioactive materials is documented systematically, and made publicly available conveniently for use.

ACTIVE OPERATIONS; LIABILITY FOR REMEDIAL ACTION

SEC. 115. (a) No amount may be expended under this title with respect to any site licensed by the Commission under the Atomic Energy Act of 1954 or by a State as permitted under section 274 of such Act at which production of any uranium product from ores (other than from residual radioactive materials) takes place. 42 USC 7925. 42 USC 2011 note. 42 USC 2021.

(b) In the case of each processing site designated under this title, the Attorney General shall conduct a study to determine the identity and legal responsibility which any person (other than the United States, a State, or Indian tribe) who owned or operated or controlled (as determined by the Attorney General) such site before the date of the enactment of this Act may have under any law or rule of law for reclamation or other remedial action with respect to such site. The Attorney General shall publish the results of such study, and provide copies thereof to the Congress, as promptly as practicable following the date of the enactment of this Act. The Attorney General, based on such study, shall, to the extent he deems it appropriate and in the public interest, take such action under any provision of law in effect when uranium was produced at such site to require payment by such person of all or any part of the costs incurred by the United States for such remedial action for which he determines such person is liable. Study.

TITLE II—URANIUM MILL TAILINGS LICENSING AND REGULATION DEFINITION

SEC. 201. Section 11e. of the Atomic Energy Act of 1954, is amended to read as follows: 42 USC 2014.

"e. The term 'byproduct material' means (1) any radioactive material (except special nuclear material) yielded in or made radioactive by exposure to the radiation incident to the process of producing or utilizing special nuclear material, and (2) the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content." "Byproduct material."

CUSTODY OF DISPOSAL SITE

SEC. 202. (a) Chapter 8 of the Atomic Energy Act of 1954, is amended by adding the following new section at the end thereof: 42 USC 2111 *et seq.*

"SEC. 83. OWNERSHIP AND CUSTODY OF CERTAIN BYPRODUCT MATERIAL AND DISPOSAL SITES.— 42 USC 2113.

"a. Any license issued or renewed after the effective date of this section under section 62 or section 81 for any activity which results in the production of any byproduct material, as defined in section 11e. 42 USC 2002, 2111, 42 USC 2014.

(2), shall contain such terms and conditions as the Commission determines to be necessary to assure that, prior to termination of such license—

"(1) the licensee will comply with decontamination, decommissioning, and reclamation standards prescribed by the Commission for sites (A) at which ores were processed primarily for their source material content and (B) at which such byproduct material is deposited, and

"(2) ownership of any byproduct material, as defined in section 11 e. (2), which resulted from such licensed activity shall be transferred to (A) the United States or (B) in the State in which such activity occurred if such State exercises the option under subsection b. (1) to acquire land used for the disposal of byproduct material.

42 USC 2014.

Any license in effect on the date of the enactment of this section shall either contain such terms and conditions on renewal thereof after the effective date of this section, or comply with paragraphs (1) and (2) upon the termination of such license, whichever first occurs.

Rule, regulation or order.

"(b)(1)(A) The Commission shall require by rule, regulation, or order that prior to the termination of any license which is issued after the effective date of this section, title to the land, including any interests therein (other than land owned by the United States or by a State) which is used for the disposal of any byproduct material, as defined by section 11 e. (2), pursuant to such license shall be transferred to—

"(A) the United States, or

"(B) the State in which such land is located, at the option of such State.

"(2) Unless the Commission determines prior to such termination that transfer of title to such land and such byproduct material is not necessary or desirable to protect the public health, safety, or welfare or to minimize or eliminate danger to life or property. Such determination shall be made in accordance with section 181 of this Act. Notwithstanding any other provision of law or any such determination, such property and materials shall be maintained pursuant to a license issued by the Commission pursuant to section 84(b) in such manner as will protect the public health, safety, and the environment.

"(B) If the Commission determines by order that use of the surface or subsurface estates, or both, of the land transferred to the United States or to a State under subparagraph (A) would not endanger the public health, safety, welfare, or environment, the Commission, pursuant to such regulations as it may prescribe, shall permit the use of the surface or subsurface estates, or both, of such land in a manner consistent with the provisions of this section. If the Commission permits such use of such land, it shall provide the person who transferred such land with the right of first refusal with respect to such use of such land.

"(2) If transfer to the United States of title to such byproduct material and such land is required under this section, the Secretary of Energy or any Federal agency designated by the President shall, following the Commission's determination of compliance under subsection c., assume title and custody of such byproduct material and land transferred as provided in this subsection. Such Secretary or Federal agency shall maintain such material and land in such manner as will protect the public health and safety and the environment. Such

custody may be transferred to another officer or instrumentality of the United States only upon approval of the President.

"(3) If transfer to a State of title to such byproduct material is required in accordance with this subsection, such State shall, following the Commission's determination of compliance under subsection d., assume title and custody of such byproduct material and land transferred as provided in this subsection. Such State shall maintain such material and land in such manner as will protect the public health, safety, and the environment.

"(4) In the case of any such license under section 62, which was in effect on the effective date of this section, the Commission may require, before the termination of such license, such transfer of land and interests therein (as described in paragraph (1) of this subsection) to the United States or a State in which such land is located, at the option of such State, as may be necessary to protect the public health, welfare, and the environment from any effects associated with such byproduct material. In exercising the authority of this paragraph, the Commission shall take into consideration the status of the ownership of such land and interests therein and the ability of the licensee to transfer title and custody thereof to the United States or a State. 42 USC 2092.

"(5) The Commission may, pursuant to a license, or by rule or order, require the Secretary or other Federal agency or State having custody of such property and materials to undertake such monitoring, maintenance, and emergency measures as are necessary to protect the public health and safety and such other actions as the Commission deems necessary to comply with the standards promulgated pursuant to section 84 of this Act. The Secretary or such other Federal agency is authorized to carry out maintenance, monitoring, and emergency measures, but shall take no other action pursuant to such license, rule or order, with respect to such property and materials unless expressly authorized by Congress after the date of enactment of this Act. *Post*, p. 3039.

"(6) The transfer of title to land or byproduct materials, as defined in section 11 e. (2), to a State or the United States pursuant to this subsection shall not relieve any licensee of liability for any fraudulent or negligent acts done prior to such transfer. 42 USC 2014.

"(7) Material and land transferred to the United States or a State in accordance with this subsection shall be transferred without cost to the United States or a State (other than administrative and legal costs incurred in carrying out such transfer). Subject to the provisions of paragraph (1)(B) of this subsection, the United States or a State shall not transfer title to material or property acquired under this subsection to any person, unless such transfer is in the same manner as provided under section 104(h) of the Uranium Mill Tailings Radiation Control Act of 1978.

"(8) The provisions of this subsection respecting transfer of title and custody to land shall not apply in the case of lands held in trust by the United States for any Indian tribe or lands owned by such Indian tribe subject to a restriction against alienation imposed by the United States. In the case of such lands which are used for the disposal of byproduct material, as defined in section 11 e. (2), the licensee shall be required to enter into such arrangements with the Commission as may be appropriate to assure the long-term maintenance and monitoring of such lands by the United States.

"c. Upon termination on any license to which this section applies, the Commission shall determine whether or not the licensee has com-

plied with all applicable standards and requirements under such license.".

Effective date. 42 USC 2113 note.

(b) This section shall be effective three years after the enactment of this Act.

(c) The table of contents for chapter 8 of the Atomic Energy Act of 1954, is amended by inserting the following new item after the item relating to section 82:

"Sec. 83. Ownership and custody of certain byproduct material and disposal sites.".

AUTHORITY TO ESTABLISH CERTAIN REQUIREMENTS

42 USC 2201.

SEC. 203. Section 161 of the Atomic Energy Act of 1954, is amended by adding the following new subsection at the end thereof:

"x. Establish by rule, regulation, or order, after public notice, and 42 USC 2231. in accordance with the requirements of section 181 of this Act, such standards and instructions as the Commission may deem necessary or desirable to ensure—

"(1) that an adequate bond, surety, or other financial arrangement (as determined by the Commission) will be provided, before termination of any license for byproduct material as 42 USC 2014. defined in section 11 e. (2), by a licensee to permit the completion of all requirements established by the Commission for the decontamination, decommissioning, and reclamation of sites, structures, and equipment used in conjunction with byproduct material as so defined, and

"(2) that—

"(A) in the case of any such license issued or renewed after the date of the enactment of this subsection, the need for long term maintenance and monitoring of such sites, structures and equipment after termination of such license will be minimized and, to the maximum extent practicable, eliminated; and

"(B) in the case of each license for such material (whether in effect on the date of the enactment of this section or issued or renewed thereafter), if the Commission determines that any such long-term maintenance and monitoring is necessary, the licensee, before termination of any license for byproduct material as defined in section 11 e. (2), will make available such bonding, surety, or other financial arrangements as may be necessary to assure such long-term maintenance and monitoring.

Such standards and instructions promulgated by the Commission pursuant to this subsection shall take into account, as determined by the Commission, so as to avoid unnecessary duplication and expense, performance bonds or other financial arrangements which are required by other Federal agencies or State agencies and/or other local governing bodies for such decommissioning, decontamination, and reclamation and long-term maintenance and monitoring except that nothing in this paragraph shall be construed to require that the Commission accept such bonds or arrangements if the Commission determines that such bonds or arrangements are not adequate to carry out subparagraphs (1) and (2) of this subsection.".

COOPERATION WITH STATES

42 USC 2021.

SEC. 204. (a) Section 274 b. of the Atomic Energy Act of 1954, is amended by adding "as defined in section 11 e. (1)" after the words

"byproduct materials" in paragraph (1) by renumbering paragraphs (2) and (3) as paragraphs (3) and (4); and by inserting the following new paragraph immediately after paragraph (1):

"(2) byproduct materials as defined in section 11 e. (2);".

(b) Section 274 d. (2) of such Act is amended by inserting the following before the word "compatible": "in accordance with the requirements of subsection o. and in all other respects". 42 USC 2021.

(c) Section 274 n. of such Act is amended by adding the following new sentence at the end thereof: "As used in this section, the term 'agreement' includes any amendment to any agreement.". "Agreement."

(d) Section 274 j. of such Act is amended—

(1) by inserting "all or part of" after "suspend";

(2) by inserting "(1)" after "finds that"; and

(3) by adding at the end before the period the following: ", or (2) the State has not complied with one or more of the requirements of this section. The Commission shall periodically review such agreements and actions taken by the States under the agreements to ensure compliance with the provisions of this section.". Review.

(e)(1) Section 274 of such Act is amended by adding the following new subsection at the end thereof:

"o. In the licensing and regulation of byproduct material, as defined in section 11 e. (2) of this Act, or of any activity which results in the production of byproduct material as so defined under an agreement entered into pursuant to subsection b., a State shall require—

"(1) compliance with the requirements of subsection b. of section 83 (respecting ownership of byproduct material and land), and

"(2) compliance with standards which shall be adopted by the State for the protection of the public health, safety, and the environment from hazards associated with such material which are equivalent, to the extent practicable, or more stringent than, standards adopted and enforced by the Commission for the same purpose, including requirements and standards promulgated by the Commission and the Administrator of the Environmental Protection Agency pursuant to sections 83, 84, and 275, and *Ante*, p. 3033.

"(3) procedures which— *Post*, p. 3039.

"(A) in the case of licenses, provide procedures under State law which include—

"(i) an opportunity, after public notice, for written comments and a public hearing, with a transcript,

"(ii) an opportunity for cross examination, and

"(iii) a written determination which is based upon findings included in such determination and upon the evidence presented during the public comment period and which is subject to judicial review;

"(B) in the case of rulemaking, provide an opportunity for public participation through written comments or a public hearing and provide for judicial review of the rule;

"(C) require for each license which has a significant impact on the human environment a written analysis (which shall be available to the public before the commencement of any such proceedings) of the impact of such license, including any activities conducted pursuant thereto, on the environment, which analysis shall include—

"(i) an assessment of the radiological and nonradiological impacts to the public health of the activities to be conducted pursuant to such license;

"(ii) an assessment of any impact on any waterway and groundwater resulting from such activities;

"(iii) consideration of alternatives, including alternative sites and engineering methods, to the activities to be conducted pursuant to such license; and

"(iv) consideration of the long-term impacts, including decommissioning, decontamination, and reclamation impacts, associated with activities to be conducted pursuant to such license, including the management of any byproduct material, as defined by section 11 e. (2); and

"(D) prohibit any major construction activity with respect to such material prior to complying with the provisions of subparagraph (C).

If any State under such agreement imposes upon any licensee any requirement for the payment of funds to such State for the reclamation or long-term maintenance and monitoring of such material, and if transfer to the United States of such material is required in accordance with section 83 b. of this Act, such agreement shall be amended by the Commission to provide that such State shall transfer to the United States upon termination of the license issued to such licensee the total amount collected by such State from such licensee for such purpose. If such payments are required, they must be sufficient to ensure compliance with the standards established by the Commission pursuant to section 161 x. of this Act. No State shall be required under paragraph (3) to conduct proceedings concerning any license or regulation which would duplicate proceedings conducted by the Commission.".

Ante, p. 3033.

42 USC 2201.

(f) Section 274 c. of such Act is amended by inserting the following new sentence after paragraph (4) thereof: "The Commission shall also retain authority under any such agreement to make a determination that all applicable standards and requirements have been met prior to termination of a license for byproduct material, as defined in section 11 e. (2).".

42 USC 2021.

42 USC 2014.

(g) Nothing in any amendment made by this section shall preclude any State from exercising any other authority as permitted under the Atomic Energy Act of 1954 respecting any byproduct material, as defined in section 11 e. (2) of the Atomic Energy Act of 1954.

42 USC 2021 note.

(h)(1) On or before the date three years after the date of the enactment of this Act, notwithstanding any amendment made by this title, any State may exercise any authority under State law respecting byproduct material, as defined in section 11 e. (2) of the Atomic Energy Act of 1954, in the same manner, and to the same extent, as permitted before the enactment of this Act.

(2) An agreement entered into with any State as permitted under section 274 of the Atomic Energy Act of 1954 with respect to byproduct material as defined in section 11 e. (2) of such Act, may be entered into at any time after the date of the enactment of this Act but no such agreement may take effect before the date three years after the date of the enactment of this Act.

AUTHORITIES OF COMMISSION RESPECTING CERTAIN BYPRODUCT MATERIAL

SEC. 205. (a) Chapter 8 of the Atomic Energy Act of 1954, is amended by adding the following new section at the end thereof: 42 USC 2111 *et seq.*

"SEC. 84. AUTHORITIES OF COMMISSION RESPECTING CERTAIN BYPRODUCT MATERIAL.— 42 USC 2114.

"a. The Commission shall insure that the management of any byproduct material, as defined in section 11 e. (2), is carried out in such manner as— 42 USC 2014.

"(1) the Commission deems appropriate to protect the public health and safety and the environment from radiological and nonradiological hazards associated with the processing and with the possession and transfer of such material,

"(2) conforms with applicable general standards promulgated by the Administrator of the Environmental Protection Agency under section 275, and *Infra.*

"(3) conforms to general requirements established by the Commission, with the concurrence of the Administrator, which are, to the maximum extent practicable, at least comparable to requirements applicable to the possession, transfer, and disposal of similar hazardous material regulated by the Administrator under the Solid Waste Disposal Act, as amended. 42 USC 6901 note.

"b. In carrying out its authority under this section, the Commission is authorized to— Rule, regulation or order.

"(1) by rule, regulation, or order require persons, officers, or instrumentalities exempted from licensing under section 81 of this Act to conduct monitoring, perform remedial work, and to comply with such other measures as it may deem necessary or desirable to protect health or to minimize danger to life or property, and in connection with the disposal or storage of such byproduct material; and 42 USC 2111.

"(2) make such studies and inspections and to conduct such monitoring as may be necessary.

Any violation by any person other than the United States or any officer or employee of the United States or a State of any rule, regulation, or order or licensing provision, of the Commission established under this section or section 83 shall be subject to a civil penalty in the same manner and in the same amount as violations subject to a civil penalty under section 234. Nothing in this section affects any authority of the Commission under any other provision of this Act.". Civil penalty. *Ante*, p. 3033. 42 USC 2282.

(b) The first sentence of section 81 of the Atomic Energy Act of 1954, is amended to read as follows: "No person may transfer or receive in interstate commerce, manufacture, produce, transfer, acquire, own, possess, import, or export any byproduct material, except to the extent authorized by this section, section 82 or section 84.". 42 USC 2111. 42 USC 2112.

(c) The table of contents for such chapter 8 is amended by inserting the following new item after the item relating to section 83: *Supra.*

"Sec. 84. Authorities of Commission respecting certain byproduct material".

AUTHORITY OF ENVIRONMENTAL PROTECTION AGENCY RESPECTING CERTAIN BYPRODUCT MATERIAL

SEC. 206. (a) Chapter 19 of the Atomic Energy Act of 1954, is amended by inserting after section 274 the following new section: 42 USC 2021.

"SEC. 275. HEALTH AND ENVIRONMENTAL STANDARDS FOR URANIUM MILL TAILINGS.— 42 USC 2022.

Rule.

"a. As soon as practicable, but not later than one year after the date of enactment of this section, the Administrator of the Environmental Protection Agency (hereinafter referred to in this section as the 'Administrator') shall, by rule, promulgate standards of general application (including standards applicable to licenses under section 104(h) of the Uranium Mill Tailings Radiation Control Act of 1978) for the protection of the public health, safety, and the environment from radiological and nonradiological hazards associated with residual radioactive materials (as defined in section 101 of the Uranium Mill Tailings Radiation Control Act of 1978) located at inactive uranium mill tailings sites and depository sites for such materials selected by the Secretary of Energy, pursuant to title I of the Uranium Mill Tailings Radiation Control Act of 1978. Standards promulgated pursuant to this subsection shall, to the maximum extent practicable, be consistent with the requirements of the Solid Waste Disposal Act, as amended. The Administrator may periodically revise any standard promulgated pursuant to this subsection.

42 USC 6901 note.

Rule.

"b. (1) As soon as practicable, but not later than eighteen months after the enactment of this section, the Administrator shall, by rule, promulgate standards of general application for the protection of the public health, safety, and the environment from radiological and nonradiological hazards associated with the processing and with the possession, transfer, and disposal of byproduct material, as defined in section 11 e. (2) of this Act, at sites at which ores are processed primarily for their source material content or which are used for the disposal of such byproduct material.

42 USC 2014.

"(2) Such generally applicable standards promulgated pursuant to this subsection for nonradiological hazards shall provide for the protection of human health and the environment consistent with the standards required under subtitle C of the Solid Waste Disposal Act, as amended, which are applicable to such hazards: *Provided, however,* That no permit issued by the Administrator is required under this Act or the Solid Waste Disposal Act, as amended, for the processing, possession, transfer, or disposal of byproduct material, as defined in section 11 e. (2) of this Act. The Administrator may periodically revise any standard promulgated pursuant to this subsection. Within three years after such revision of any such standard, the Commission and any State permitted to exercise authority under section 274 b. (2) shall apply such revised standard in the case of any license for byproduct material as defined in section 11 e. (2) or any revision thereof.

42 USC 2021.

Publication in Federal Register. Notice, hearing opportunity.

"c. (1) Before the promulgation of any rule pursuant to this section, the Administrator shall publish the proposed rule in the Federal Register, together with a statement of the research, analysis, and other available information in support of such proposed rule, and provide a period of public comment of at least thirty days for written comments thereon and an opportunity, after such comment period and after public notice, for any interested person to present oral data, views, and arguments at a public hearing. There shall be a transcript of any such hearing. The Administrator shall consult with the Commission and the Secretary of Energy before promulgation of any such rule.

Consultation.

Judicial review.

"(2) Judicial review of any rule promulgated under this section may be obtained by any interested person only upon such person filing

a petition for review within sixty days after such promulgation in the United States court of appeals for the Federal judicial circuit in which such person resides or has his principal place of business. A copy of the petition shall be forthwith transmitted by the clerk of court to the Administrator. The Administrator thereupon shall file in the court the written submissions to, and transcript of, the written or oral proceedings on which such rule was based as provided in section 2112 of title 28, United States Code. The court shall have jurisdiction to review the rule in accordance with chapter 7 of title 5, United States Code, and to grant appropriate relief as provided in such chapter. The judgment of the court affirming, modifying, or setting aside, in whole or in part, any such rule shall be final, subject to judicial review by the Supreme Court of the United States upon certiorari or certification as provided in section 1254 of title 28, United States Code. 5 USC 701 *et seq.*

"(3) Any rule promulgated under this section shall not take effect earlier than sixty calendar days after such promulgation.

"d. Implementation and enforcement of the standards promulgated pursuant to subsection b. of this section shall be the responsibility of the Commission in the conduct of its licensing activities under this Act. States exercising authority pursuant to section 274 b. (2) of this Act shall implement and enforce such standards in accordance with subsecton o. of such section. 42 USC 2021.

"e. Nothing in this Act applicable to byproduct material, as defined in section 11 e. (2) of this Act, shall affect the authority of the Administrator under the Clean Air Act of 1970, as amended, or the Federal Water Pollution Control Act, as amended.". 42 USC 2014. 42 USC 7401 note.

(b) The table of contents for chapter 19 of the Atomic Energy Act is amended by inserting the following new item after the item relating to section 274: 33 USC 1251 note. 42 USC 2018 *et seq.*

"Sec. 275. Health and environmental standards for uranium mill tailings.".

AUTHORIZATION OF APPROPRIATION FOR GRANTS

SEC. 207. There is hereby authorized to be appropriated for fiscal year 1980 to the Nuclear Regulatory Commission not to exceed $500,000 to be used for making grants to States which have entered into agreements with the Commission under section 274 of the Atomic Energy Act of 1954, to aid in the development of State regulatory programs under such section which implement the provisions of this Act.

EFFECTIVE DATE

SEC. 208. Except as otherwise provided in this title the amendments made by this title shall take effect on the date of the enactment of this Act. 42 USC 2014 note.

CONSOLIDATION OF LICENSES AND PROCEDURES

SEC. 209. The Nuclear Regulatory Commission shall consolidate, to the maximum extent practicable, licenses and licensing procedures under amendments made by this title with licenses and licensing procedures under other authorities contained in the Atomic Energy Act of 1954. 42 USC 2113 note. 42 USC 2011 note.

TITLE III—STUDY AND DESIGNATION OF TWO MILL TAILINGS SITES IN NEW MEXICO

STUDY

42 USC 7941.

SEC. 301. The Commission, in consultation with the Attorney General and the Attorney General of the State of New Mexico, shall conduct a study to determine the extent and adequacy of the authority of the Commission and the State of New Mexico to require, under the Atomic Energy Act of 1954 (as amended by title II of this Act) or under State authority as permitted under section 274 of such Act or under other provision of law, the owners of the following active uranium mill sites to undertake appropriate action to regulate and control all residual radioactive materials at such sites to protect public health, safety, and the environment: the former Homestake-New Mexico Partners site near Milan, New Mexico, and the Anaconda carbonate process tailings site near Bluewater, New Mexico. Such study shall be completed and a report thereof submitted to the Congress and to the Secretary within one year after enactment of this Act, together with such recommendations as may be appropriate. If the Commission determines that such authority is not adequate to regulate and control such materials at such sites in the manner provided in the first sentence of this section, the Commission shall include in the report a statement of the basis for such determination. Nothing in this Act shall be construed to prevent or delay action by a State as permitted under section 274 of the Atomic Energy Act of 1954 or under any other provision of law or by the Commission to regulate such residual radioactive materials at such sites prior to completion of such study.

42 USC 2021.

Report to Congress.

DESIGNATION BY SECRETARY

42 USC 7942.

SEC. 302. (a) Within ninety days from the date of his receipt of the report and recommendations submitted by the Commission under section 301, notwithstanding the limitations contained in section 101(6)(A) and in section 115(a), if the Commission determines, based on such study, that such sites cannot be regulated and controlled by the State or the Commission in the manner described in section 301, the Secretary may designate either or both of the sites referred to in section 301 as a processing site for purposes of title I. Following such designation, the Secretary may enter into cooperative agreements with New Mexico to perform remedial action pursuant to such title concerning only the residual radioactive materials at such site resulting from uranium produced for sale to a Federal agency prior to January 1, 1971, under contract with such agency. Any such designation shall be submitted by the Secretary, together with his estimate of the cost of carrying out such remedial action at the designated site, to the Committee on Interior and Insular Affairs and the Committee on Interstate and Foreign Commerce of the House of Representatives and to the Committee on Energy and Natural Resources of the Senate.

Submittal to congressional committees.

(b)(1) No designation under subsection (a) shall take effect before the expiration of one hundred and twenty calendar days (not including any day in which either House of Congress is not in session

because of an adjournment of more than three calendar days to a day certain or an adjournment sine die) after receipt by such Committees of such designation.

(c) Except as otherwise specifically provided in subsection (a), any remedial action under title I with respect to any sites designated under this title shall be subject to the provisions of title I (including the authorization of appropriations referred to in section 112(b)).

Approved November 8, 1978.

LEGISLATIVE HISTORY:

HOUSE REPORT No. 95-1480, Pt. I (Comm. on Interior and Insular Affairs) and Pt. II (Comm. on Interstate and Foreign Commerce).

CONGRESSIONAL RECORD, Vol. 124 (1978):

Oct. 3, considered and passed House.

Oct. 13, considered and passed Senate, amended.

Oct. 14, House concurred in Senate amendment with amendments.

Oct. 15, Senate concurred in House amendment.

APPENDIX B

FEDERAL REGISTER NOTICE, PROPOSED DESIGNATION OF PROCESSING SITES AND ESTABLISHMENT OF PRIORITIES UNDER THE URANIUM MILL TAILINGS RADIATION CONTROL ACT 1978

9-5-79
Vol. 44 No. 173
Pages 51795-51964

Federal Register

Wednesday
September 5, 1979

Highlights

ADDRESSES FOR DELIVERY OF COMMENTS

Some readers of the **FEDERAL REGISTER** have complained that it is difficult to hand deliver comments on agency rulemakings. Agencies always give a mailing address, but when that address is a post office box, it may take many phone calls to find out where to deliver comments. Consider saving the readers time by including this information in proposed rule documents. For example—

ADDRESSES: Comments may be mailed to Box 1, Washington, D.C. 00000, or delivered to Room 1, 1 First Street, Washington, D.C. between 8:45 am and 5:15 pm. Comments received may also be inspected at Room 1 between 8:45 am and 5:15 pm.

CONTINUED INSIDE

DEPARTMENT OF ENERGY

Proposed Designation of Processing Sites and Establishment of Priorities Under the Uranium Mill Tailings Radiation Control Act of 1978 (Pub. L. 95-604)

AGENCY: Department of Energy.

ACTION: Notice of proposed designation of processing sites and establishment of priorities as required by Section 102 of Pub. L. 95-604, Uranium Mill Tailings Radiation Control Act of 1978, enacted on Novembr 8, 1978.

SUMMARY: The purpose of the Uranium Mill Tailings Radiation Control Act of 1978 is to provide, in cooperation with interested states, Indian tribes, and persons who own or control inactive mill tailings sites, a program of assessment and remedial action at these sites to stablize and control the tailings in a safe and environmentally sound manner and to minimize or eliminate radiation health hazards. Where appropriate, the program may include the reprocessing of tailings to extract residual uranium and other mineral values.

Consistent with the provisions of Section 102(a)(1) of Public Law 95-604, the Secretary of Energy shall, no later than November 8, 1979, designate processing sites for remedial action at or near the following locations:

Salt Lake City, Utah
Green River, Utah
Mexican Hat, Utah
Durango, Colorado
Grand Junction, Colorado
[illegible], Colorado (two sites)
Gunnison, Colorado
Naturita, Colorado
Maybell, Colorado
Rifle, Colorado (two sites)
Slickrock, New Mexico
Ambrosia Lake, New Mexico
Riverton, Wyoming
Converse County, Wyoming
Lakeview, Oregon
Falls City, Texas
Tuba City, Arizona
Monument Valley, Arizona
Lowman, Idaho
Canonsburg, Pennsylvania

As part of his designation, the Secretary shall determined the boundaries of each designated processing site. This notice announces the proposed designation of 22 processing sites for remedial action and includes the site boundaries. These 22 sites are listed, along with their respective boundary descriptions, in Appendix A.

Additionally, by November 8, 1979, the Secretary is obliged to assess the potential health hazard to the public from the residual radioactive materials at designated processing sites and to establish priorities for carrying out remedial action at each site. In establishing priorities, the Secretary shall rely primarily on the advice of the Administrator of the Environmental Protection Agency. The proposed priority ranking for the 22 sites is given in Appendix B.

DATE: Request comments be received concerning the proposed designation of these processing sites and establishment of site priorities on or before September 15, 1979.

ADDRESS FOR COMMENTS AND FURTHER INFORMATION: Dr. William E. Mott, Director, Environmental Control Technology Division, Office of the Assistant Secretary for Environment, U.S. Department of Energy, Washington, D.C. 20545, telephone: (301) 353-3016.

Issued in Washington, D.C. this 22nd day of August 1979.

Ruth C. Clusen,

Assistant Secretary for Environment.

BILLING CODE 6450-01-M

Appendix B—Priorities for sites and Locations

The Secretary requested the Environmental Protection Agency's (EPA) advice on the proposed establishment of priorities for the 22 sites at locations referenced in P.L. 95-604. EPA has viewed the suggested DOE priority listing as being reasonable and acceptable at the present time for initiating remedial action. The site locations and respective priorities are as follows:

Site Locations and Priority

Salt Lake City, Utah: High.
Canonsburg, Pennsylvania; High.
Durango, Colorado; High.
Shiprock, New Mexico: High.
Grand Junction, Colorado: High.
Riverton, Wyoming: High
Gunnison, Colorado; High.
Old Rifle, Colorado; High.
New Rifle, Colorado: High.
Mexican Hat, Utah: Medium.
Lakeview, Oregon; Medium.
Falls City, Texas; Medium.
Tuba City, Arizona; Medium.
Naturita, Colorado: Medium.
Ambrosia Lake, New Mexico; Medium.
Green River, Utah: Low.
Slick Rock (NC), Colorado: Low.
Slick Rock (UCC), Colorado; Low.
Maybell, Colorado: Low.
Monument Valley, Arizona; Low
Lowman, Idaho; Low
Converse County, Wyoming (Spook Site): Low.

[FR Doc. 79-26782 Filed 9-3-79, 8:45 am]
BILLING CODE 6450-01-M

APPENDIX C

PRESS RELEASE ON THE PROPOSED DESIGNATION OF PROCESSING SITES AND ESTABLISHMENT OF PRIORITIES UNDER THE URANIUM MILL TAILINGS RADIATION CONTROL ACT OF 1978

U.S. DEPARTMENT OF ENERGY
OFFICE OF PUBLIC AFFAIRS
WASHINGTON, DC 20585

DOE NEWS:

FOR IMMEDIATE RELEASE
SEPTEMER 20, 1979

DOE PROPOSES PRIORITIES FOR REMEDIAL ACTIONS AT 22 URANIUM MILL TAILINGS SITES

The Department of Energy has proposed priorities for remedial actions to clean up or stabilize mill tailings at 22 inactive uranium processing sites.

Mill tailings are the solid wastes left after uranium is removed from ore. The tailings produce low-level radiation which, if left uncontrolled for long periods of time, could pose environmental or health hazards.

The 22 sites are those listed in the Uranium Tailings Radiation Control Act of 1978. The proposed rankings and details of site boundaries -- information which is required under the law -- were published in the Federal Register of Sept. 5, 1979.

Sites which are proposed to have "high priority" for remedial actions are located at or near Salt Lake City, Utah; Canonsburg, Penn.; Shiprock, N. Mex.; Riverton, Wyo.; and Durango, Grand Junction, Gunnison, Old Rifle and New Rifle, Colo.

Sites proposed to have "medium priority" are located at or near Mexican Hat, Utah; Lakeview, Ore.; Falls City, Texas; Tuba City, Ariz.; Naturita, Colo.; and Ambrosia Lake, N. Mex.

Sites proposed to have "low priority" are located at or near Green River, Utah; Slick Rock (two sites) and Maybell, Colo.; Monument Valley, Ariz.; Lowman, Idaho; and Converse County, Wyo. (Spook Site).

(MORE)

R-79-415

The proposed priorities were ranked with advice from the U.S. Environmental Protection Agency.

Under the legislation, tailings on inactive sites must be stabilized and controlled in a safe and environmentally sound manner to minimize or eliminate any environmental or health hazards. That work, under the law, must be done in cooperation with concerned states, Indian tribes, and persons who own or control the sites.

Exact remedies for dealing with the tailings could differ for each site. The remedies could range from moving tailings to permanent burial sites to stabilizing them with asphalt-like emulsions. The action ultimately taken will be tailored to each site, after consultation with the groups noted above.

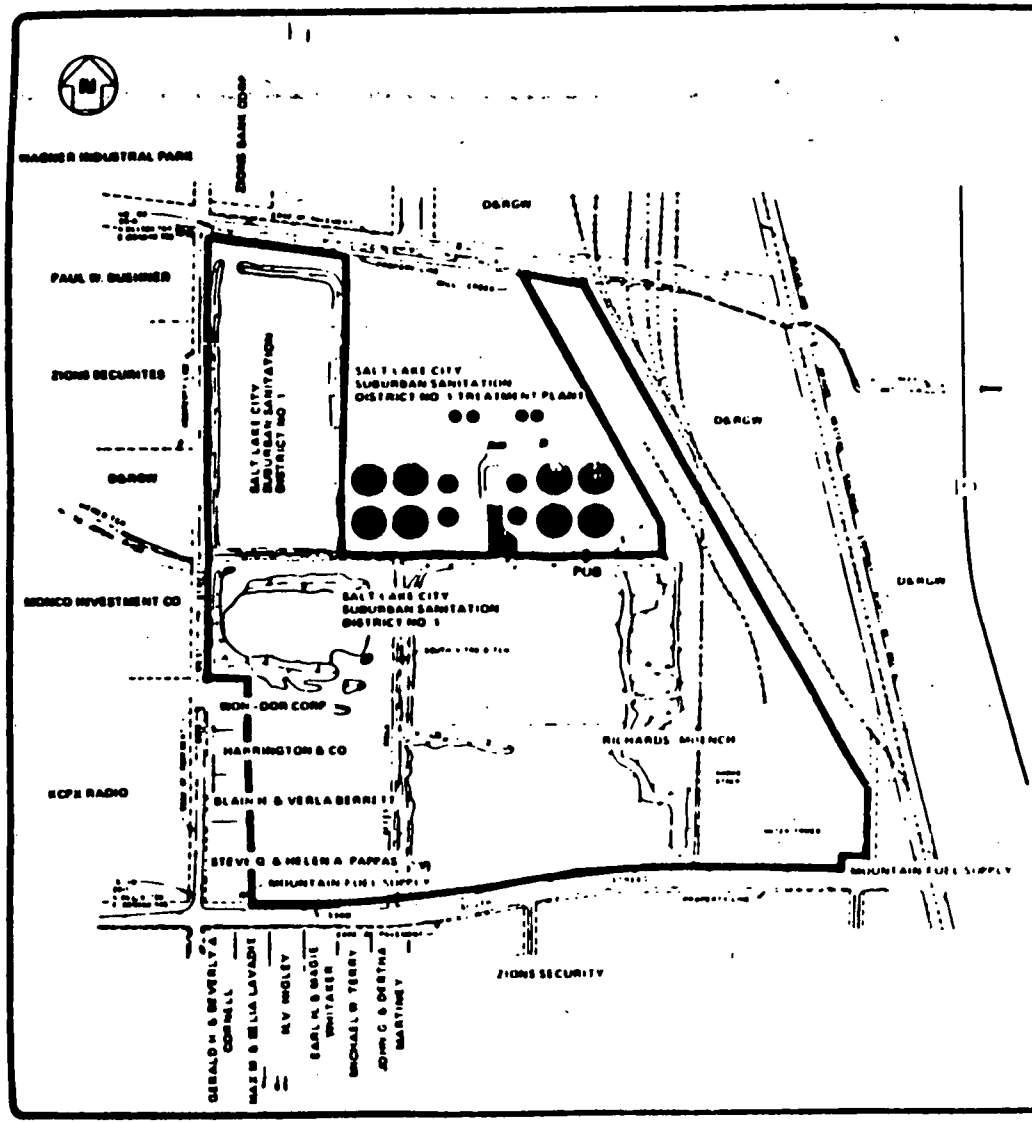
Any comments about the designation of the sites and/or the priorities, as detailed in the Federal Register notice, should be submitted to Dr. William E. Mott, Director, Environmental Control Technology Division, Office of The Assistant Secretary for Environment, Department of Energy, Mail Station E-201, Washington, D.C. 20545, telephone (301) 353-3016.

- DOE-

News Media Contact: Carl Eifert, 202/252-4705

R-79-415

APPENDIX D
TWENTY-TWO PROCESSING SITE DESCRIPTIONS



SALT LAKE VITRO SITE

BEGINNING AT THE EAST QUARTER CORNER OF SECTION 20 T1S R1W, SALT LAKE BASE AND MERIDIAN, AND RUNNING, THENCE WEST 1350.0 FT, THENCE N 0°18' 1440.70 FT, THENCE N 62°16' W 881.04 FT, THENCE S 89°30' W 2010.50 FT, THENCE S 89°58' 1705.0 FT, THENCE S 1°57' 0, 1057.07 FT, THENCE N 89°43'47" E 668.82 FT, THENCE N 89°58'27" E, 1917.77 FT, THENCE N 89°46' E 673.05 FT, THENCE N 01°32'37" E 100 FT, THENCE N 89°46' E 600.21 FT, THENCE N 89°58'10" E 900.0 FT, THENCE N 75 FT, THENCE E 100 FT, THENCE N 0°01' E 302.00 FT, THENCE N 20°58' W, 1731.01 FT, THENCE N 89°40' W, 200.00 FT, THENCE S 20°58'30" E, 1366.31 FT, THENCE S 130.76 FEET, THENCE W 390.36 FT TO THE POINT OF BEGINNING.

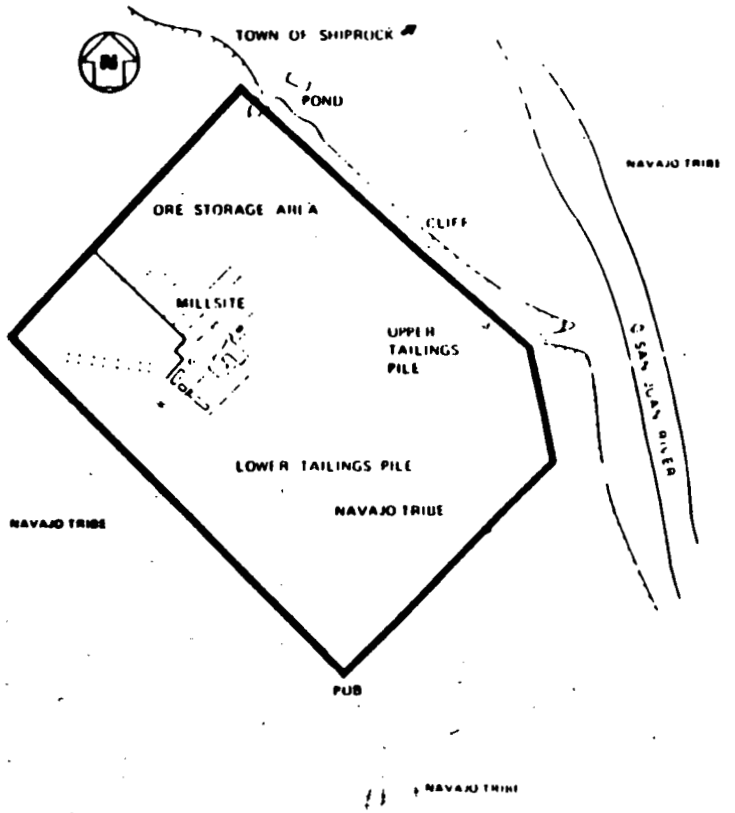
CONTAINS 127.8 ACRES MORE OR LESS

Prepared For
United States Department of Energy

SITE DESCRIPTION & OWNERSHIPS
Inactive Mill Tailing Sites

SALT LAKE CITY, UTAH

6 15 79



SHIPROCK SITE

BEGINNING AT A POINT WHICH LIES N43°52'30"W 1358.3 FT FROM THE SE CORNER OF SECTION 36 T32N R18W, NMPM AND RUNNING THENCE N45°00'W 2975 FT, THENCE N45°00'E, 1083 FT, FT, THENCE S52°30'E, 2376.3 FT, THENCE S7°07'53"E, 716 FT, THENCE S45°00'W, 1870 FT TO THE POINT OF BEGINNING

CONTAINS 103.8 ACRES (MORE OR LESS)

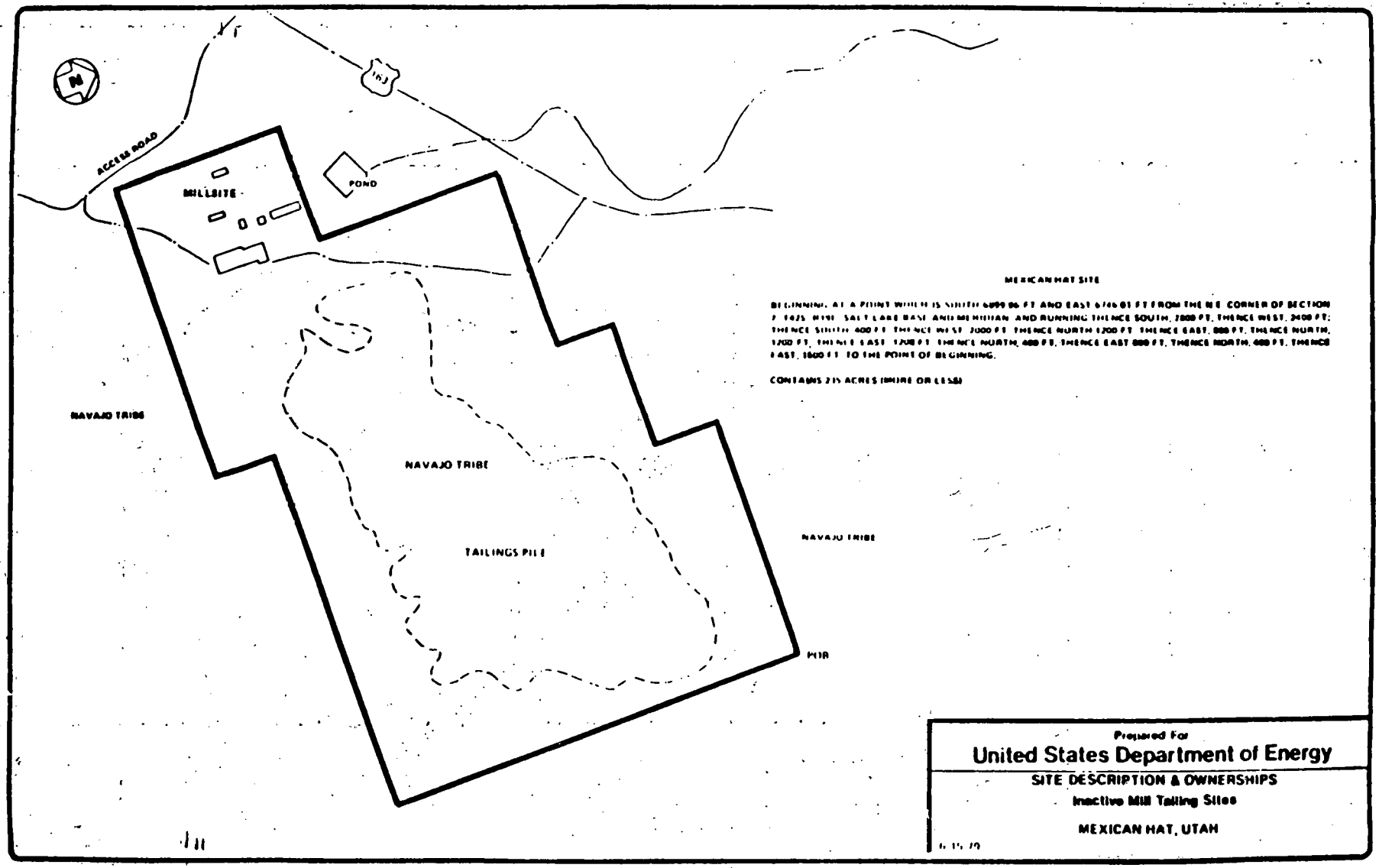
Prepared For

United States Department of Energy

SITE DESCRIPTION & OWNERSHIPS

Inactive Mill Tailing Sites

SHIPROCK, NEW MEXICO



MEXICAN HAT SITE

BEGINNING AT A POINT WHICH IS SOUTH 6899.96 FT AND EAST 6746.81 FT FROM THE NE CORNER OF SECTION 7, T40S, R19E, SALT LAKE BASE AND MERIDIAN AND RUNNING THENCE SOUTH, 2800 FT, THENCE WEST, 2400 FT; THENCE SOUTH 400 FT, THENCE WEST 2000 FT, THENCE NORTH 1200 FT, THENCE EAST, 800 FT, THENCE NORTH, 1200 FT, THENCE EAST 1200 FT, THENCE NORTH, 400 FT, THENCE EAST 800 FT, THENCE NORTH, 400 FT, THENCE EAST, 1600 FT TO THE POINT OF BEGINNING.

CONTAINS 215 ACRES (MORE OR LESS)

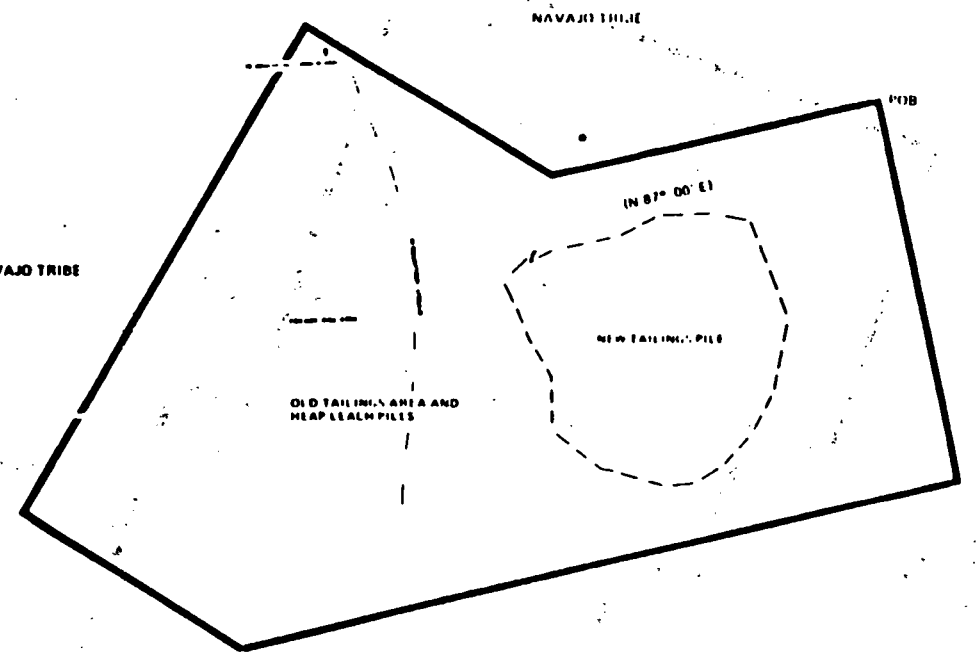
Prepared For

United States Department of Energy

SITE DESCRIPTION & OWNERSHIPS

Inactive Mill Tailing Sites

MEXICAN HAT, UTAH



MONUMENT VALLEY SITE

BEGINNING AT A POINT WHICH IS N 89°, 1035 FT FROM AN ARIZONA STATE PLANE COORDINATE GRID LOCATION IN THE CENTER OF THE "NEW TAILINGS PILE" AS N = 2 158 780 & E = 587 800 AND RUNNING THENCE S 3°, 1300 FT; THENCE S 87°W, 2641.86 FT; THENCE N 58°W, 888.87 FT; THENCE N 40°E, 1980 FT; THENCE S 50°E, 1980 FT; THENCE N 87°E, 1650 FT TO THE POINT OF BEGINNING.

CONTAINS 101 ACRES (MORE OR LESS)

NOTE

*CENTER OF TAILINGS PILE LOCATED BY ARIZONA DEPARTMENT OF HIGHWAYS FROM CONTROLLED AERIAL PHOTOGRAPHY SAID POINT LYING S 88°58'W, 14 130 FT (MORE OR LESS) FROM THE COMBS RIDGE CONTROL MONUMENT.

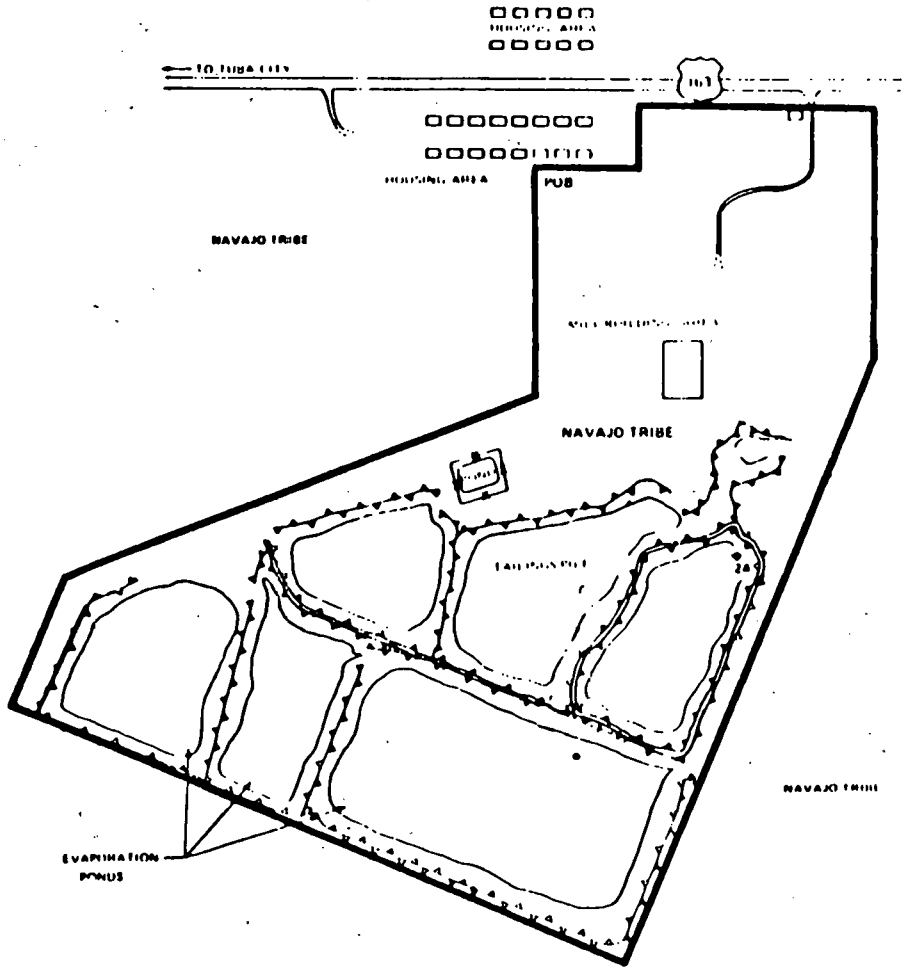
Prepared For

United States Department of Energy

SITE DESCRIPTION & OWNERSHIPS

Inactive Mill Tailing Sites

MONUMENT VALLEY, ARIZONA



TUBA CITY SITE

BEGINNING AT A POINT WHICH IS SOUTH 168.87 FT AND N 64°43'E 1295.76 FT FROM THE N.W. CORNER OF SECTION 30 T32N, R12E SALT RIVER MERIDIAN AND RUNNING THENCE N 64°43'E 332 FT, THENCE N 25°17'W 726 FT (MORE OR LESS) TO THE SOUTHERLY R/W LINE OF U.S. HIGHWAY 163 THENCE N 64°43'E ALONG SAID R/W LINE 887.9 FT, THENCE S 24°15'27"E 808 FT THENCE SOUTH 2320 FT THENCE WEST 2295.35 FT THENCE NORTH 652.6 FT THENCE N 64°30'30"E 1708.61 FT, THENCE N 25°17'W 888 FT, TO THE POINT OF BEGINNING

CONTAINS 108 ACRES (MORE OR LESS)

Prepared For

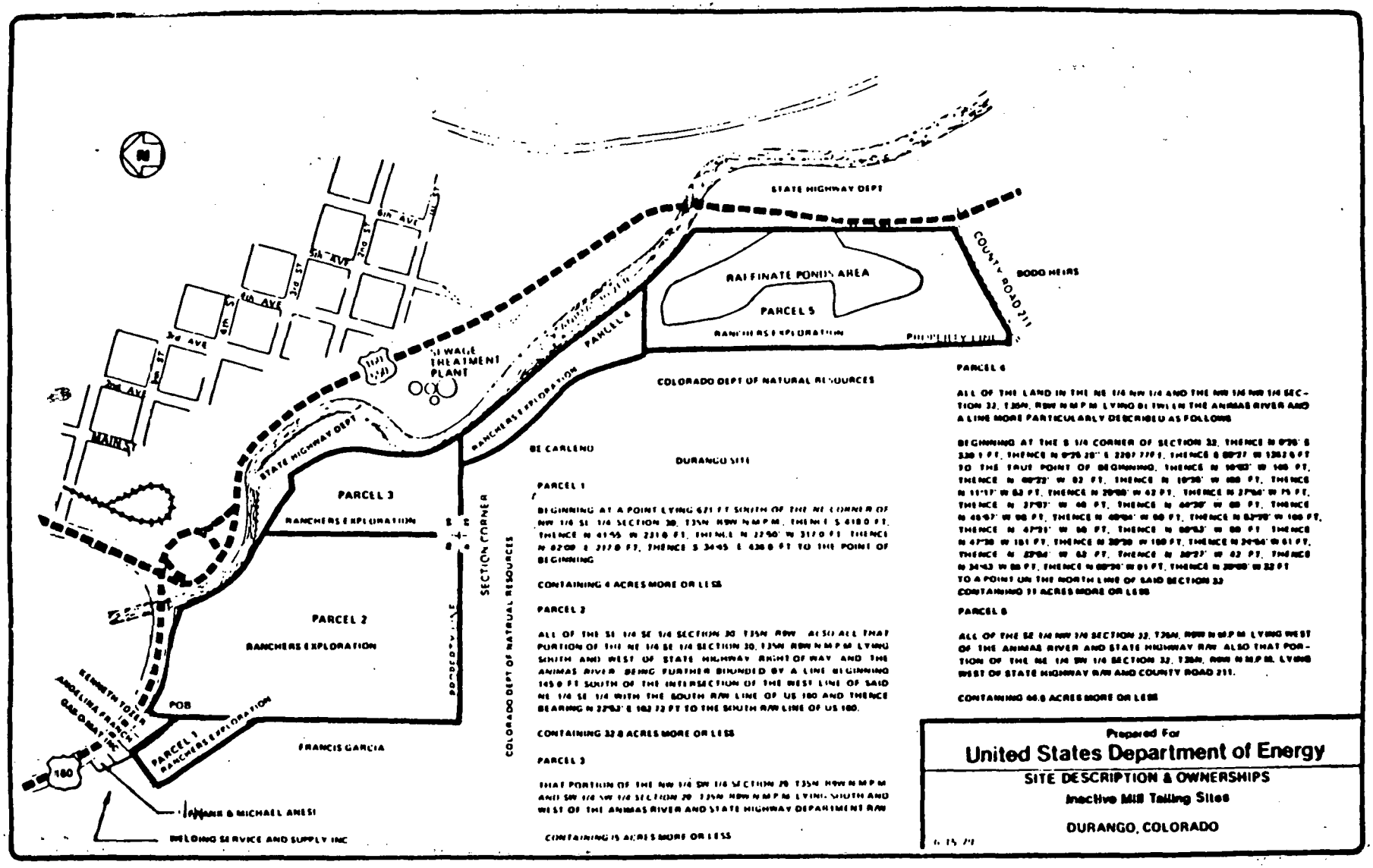
United States Department of Energy

SITE DESCRIPTION & OWNERSHIPS

Inactive Mill Tailing Sites

TUBA CITY, ARIZONA

15/79



BE CARLENO

DURANGO SITE

PARCEL 1

BEGINNING AT A POINT LYING 621 FT SOUTH OF THE NE CORNER OF NW 1/4 SE 1/4 SECTION 30, T35N, R9W N.M.P.M., THENCE S 418.0 FT, THENCE N 41°55' W 231.0 FT, THENCE N 22°50' W 317.0 FT, THENCE N 67°09' E 317.0 FT, THENCE S 34°45' E 436.0 FT TO THE POINT OF BEGINNING

CONTAINING 4 ACRES MORE OR LESS

PARCEL 2

ALL OF THE SE 1/4 SE 1/4 SECTION 30 T35N R9W ALSO ALL THAT PORTION OF THE NE 1/4 SE 1/4 SECTION 30, T35N R9W N.M.P.M. LYING SOUTH AND WEST OF STATE HIGHWAY RIGHT OF WAY AND THE ANIMAS RIVER BEING FURTHER BOUNDED BY A LINE BEGINNING 1450 FT SOUTH OF THE INTERSECTION OF THE WEST LINE OF SAID NE 1/4 SE 1/4 WITH THE SOUTH R/W LINE OF US 160 AND THENCE BEARING N 22°53' E 162.72 FT TO THE SOUTH R/W LINE OF US 160.

CONTAINING 32.8 ACRES MORE OR LESS

PARCEL 3

THAT PORTION OF THE NW 1/4 SW 1/4 SECTION 29 T35N R9W N.M.P.M. AND SW 1/4 NW 1/4 SECTION 29 T35N R9W N.M.P.M. LYING SOUTH AND WEST OF THE ANIMAS RIVER AND STATE HIGHWAY DEPARTMENT R/W

CONTAINING 15 ACRES MORE OR LESS

PARCEL 4

ALL OF THE LAND IN THE NE 1/4 NW 1/4 AND THE NW 1/4 NW 1/4 SECTION 32, T35N, R9W N.M.P.M. LYING BETWEEN THE ANIMAS RIVER AND A LINE MORE PARTICULARLY DESCRIBED AS FOLLOWS

BEGINNING AT THE S 1/4 CORNER OF SECTION 32, THENCE N 0°36' E 330.1 FT, THENCE N 0°35'20" E 2207.77 FT, THENCE S 89°27' W 1362.6 FT TO THE TRUE POINT OF BEGINNING, THENCE N 10°03' W 100 FT, THENCE N 69°22' W 83 FT, THENCE N 10°36' W 100 FT, THENCE N 11°17' W 83 FT, THENCE N 20°00' W 42 FT, THENCE N 27°04' W 75 FT, THENCE N 37°03' W 46 FT, THENCE N 44°30' W 69 FT, THENCE N 46°47' W 98 FT, THENCE N 48°04' W 80 FT, THENCE N 53°58' W 100 FT, THENCE N 47°31' W 86 FT, THENCE N 68°53' W 80 FT, THENCE N 47°38' W 181 FT, THENCE N 39°30' W 100 FT, THENCE N 24°04' W 61 FT, THENCE N 22°04' W 83 FT, THENCE N 30°27' W 42 FT, THENCE N 34°43' W 88 FT, THENCE N 69°20' W 81 FT, THENCE N 39°00' W 32 FT TO A POINT ON THE NORTH LINE OF SAID SECTION 32

CONTAINING 11 ACRES MORE OR LESS

PARCEL 6

ALL OF THE SE 1/4 NW 1/4 SECTION 32, T35N, R9W N.M.P.M. LYING WEST OF THE ANIMAS RIVER AND STATE HIGHWAY R/W ALSO THAT PORTION OF THE NE 1/4 SW 1/4 SECTION 32, T35N, R9W N.M.P.M. LYING WEST OF STATE HIGHWAY R/W AND COUNTY ROAD 211.

CONTAINING 46.6 ACRES MORE OR LESS

Prepared For

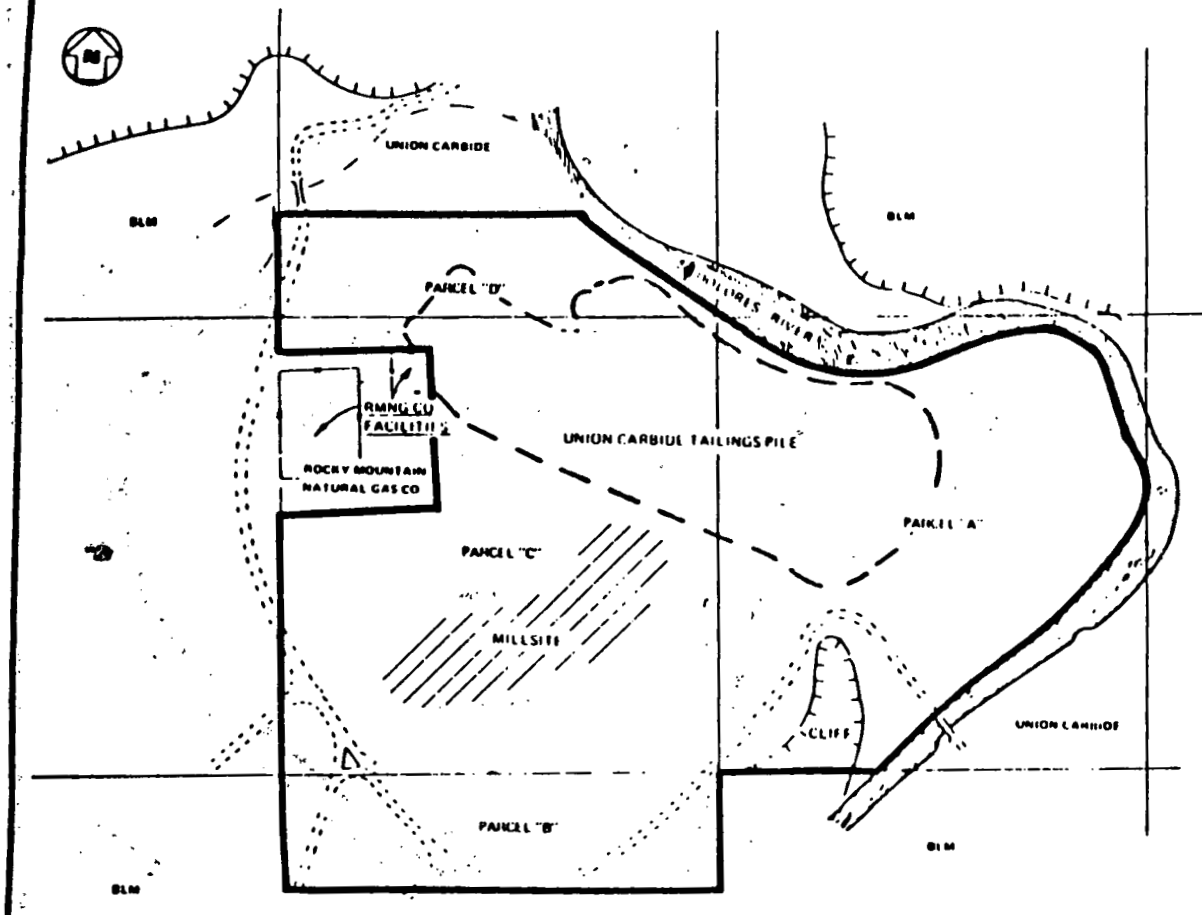
United States Department of Energy

SITE DESCRIPTION & OWNERSHIPS

Inactive Mill Tailing Sites

DURANGO, COLORADO

6-15-79



SLICKROCK SITE
(UNION CARBIDE LOCATION)
PARCELS "A" THRU "D"

PARCEL "A"

THAT PORTION OF LAND LOCATED IN THE NE 1/4 OF THE SE 1/4 OF SECTION 25, T44N, R19W, N.M.P.M., LYING WEST OF AND ADJACENT TO THE MEANDER LINE OF THE DOLORES RIVER.

PARCEL "B"

THAT PORTION OF LAND LOCATED IN THE NORTH 1/2 OF THE NORTH 1/2 OF THE S.W. 1/4 OF THE S.E. 1/4 OF SECTION 25, T44N, R19W, N.M.P.M.

PARCEL "C"

THAT PORTION OF LAND LOCATED IN THE N.W. 1/4 OF THE S.E. 1/4 OF SECTION 25, T44N, R19W, N.M.P.M., EXCEPTING THE FOLLOWING DESCRIBED 5.0 ACRE TRACT

BEGINNING AT A POINT ON THE WEST LINE OF THE EAST 1/2 OF SECTION 25, T44N, R19W, N.M.P.M., WHICH BEARS SOUTH 2787.3 FT FROM THE NORTH 1/4 CORNER OF SAID SECTION 25, THENCE SOUTH 466.7 FT, THENCE N 89°58'30" E, 466.7 FT, THENCE NORTH 466.7 FT, THENCE S 89°58'30" W, 466.7 FT TO THE POINT OF BEGINNING

PARCEL "D"

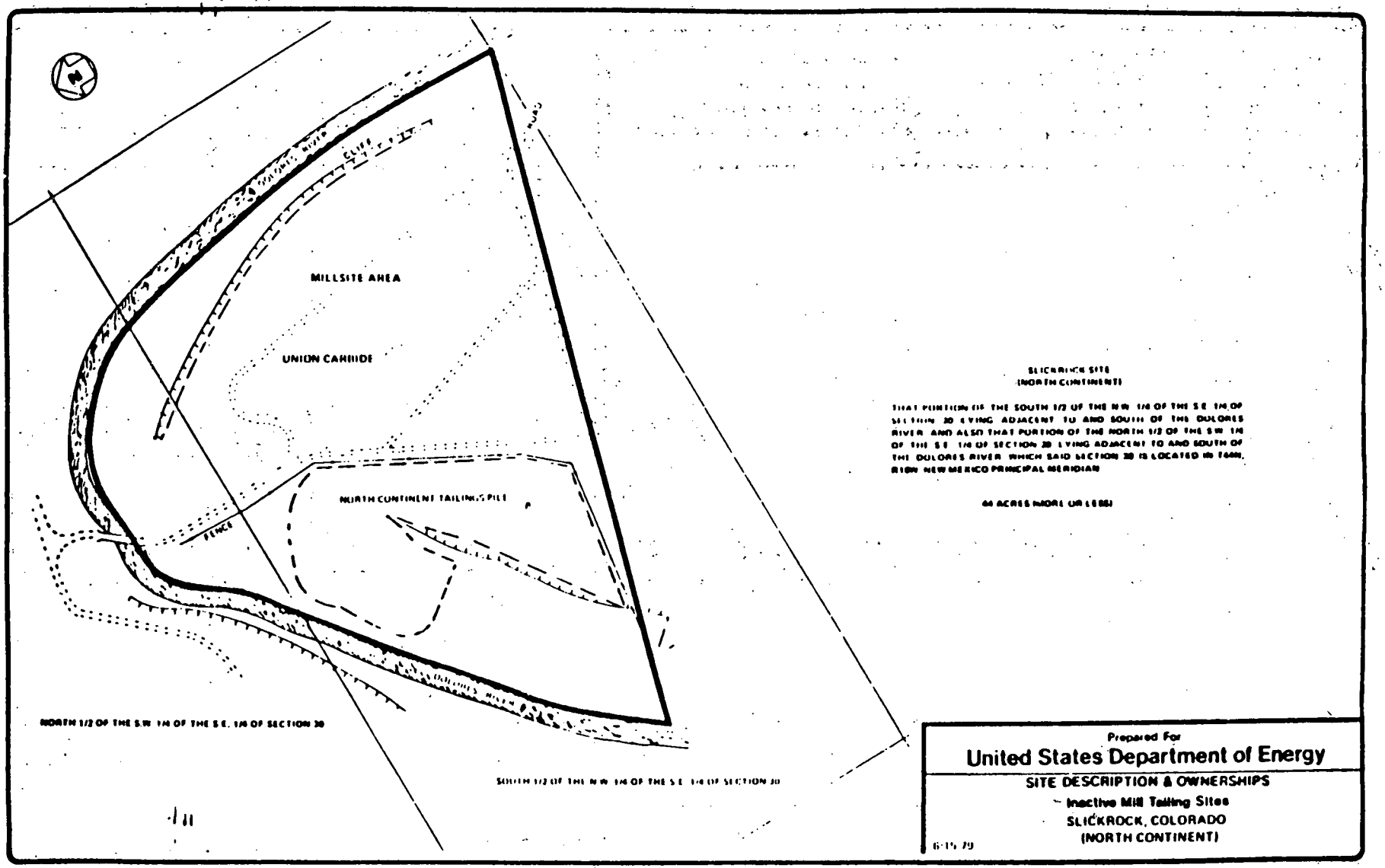
THAT PORTION OF LAND LOCATED IN THE SOUTH 1/2 OF THE SOUTH 1/2 OF THE S.W. 1/4 OF THE N.E. 1/4 OF SECTION 25, T44N, R19W, N.M.P.M., LYING WEST OF AND ADJACENT TO THE DOLORES RIVER

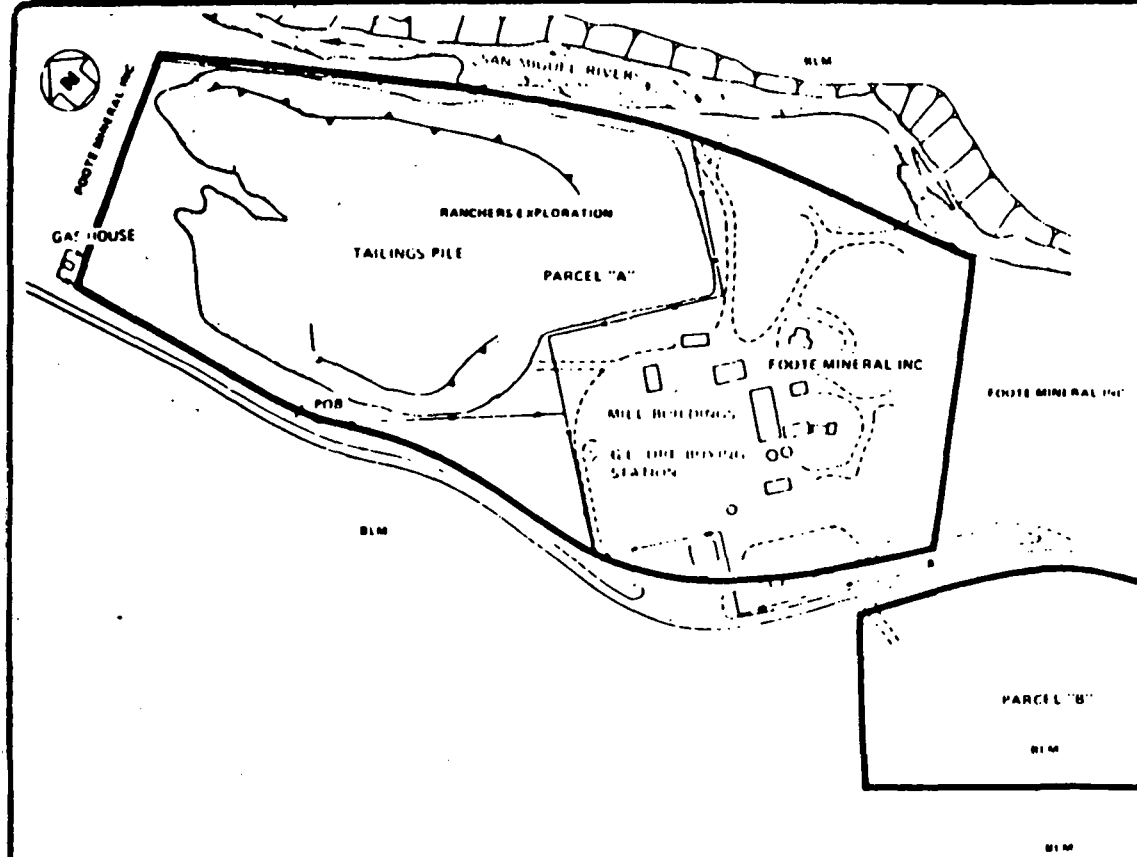
TOTAL ACRES - 80 (MORE OR LESS)

Prepared For
United States Department of Energy

SITE DESCRIPTION & OWNERSHIPS
Inactive Mill Tailing Sites
SLICKROCK, COLORADO
(UNION CARBIDE LOCATION)

6-15-79


MILLSITE AREA
UNION CARBIDE
NORTH CONTINENT TAILINGS PILE
FENCE
NORTH 1/2 OF THE S.W. 1/4 OF THE S.E. 1/4 OF SECTION 30
SOUTH 1/2 OF THE N.W. 1/4 OF THE S.E. 1/4 OF SECTION 30
SLICKROCK SITE
(NORTH CONTINENT)
THAT PORTION OF THE SOUTH 1/2 OF THE NW 1/4 OF THE SE 1/4 OF SECTION 30 LYING ADJACENT TO AND SOUTH OF THE DOLORES RIVER AND ALSO THAT PORTION OF THE NORTH 1/2 OF THE SW 1/4 OF THE SE 1/4 OF SECTION 30 LYING ADJACENT TO AND SOUTH OF THE DOLORES RIVER WHICH SAID SECTION 30 IS LOCATED IN T44N, R19W NEW MEXICO PRINCIPAL MERIDIAN
44 ACRES MORE OR LESS
Prepared For
United States Department of Energy
SITE DESCRIPTION & OWNERSHIPS
- Inactive Mill Tailing Sites
SLICKROCK, COLORADO
(NORTH CONTINENT)
6-15-79



NATURITA SITE

PARCEL "A"

BEGINNING AT THE NO 3 CORNER OF THE KENTUCKY PLACER MINING CLAIM NO 2534, SAID POINT BEING N 3°23'49"E 2528.26 FT (MORE OR LESS) FROM THE SW CORNER OF SECTION 14, T46N, R16W, N.M.P.M., SAID POINT ALSO BEING APPROXIMATELY ON THE EASTERLY R/W LINE OF COLORADO STATE HIGHWAY NO 141, AND RUNNING THENCE NORTHERLY ALONG SAID COLORADO STATE HIGHWAY NO 141 R/W LINE 883 FT (MORE OR LESS); THENCE N 87°00'00"E, 627.8 FT (MORE OR LESS) TO THE WESTERLY BANK OF THE SAN MIGUEL RIVER; THENCE CONTINUING ALONG SAID WESTERLY BANK THE FOLLOWING COURSES AND DISTANCES: S 00°10'10"E, 388.91 FT; S 47°34'E, 644.3 FT; S 40°48'E, 500 FT; S 30°30'10"E, 700 FT; THENCE LEAVING SAID BANK OF THE SAN MIGUEL RIVER S 56°04'W, 960 FT (MORE OR LESS) TO THE SAID EASTERLY R/W LINE OF COLORADO STATE HIGHWAY NO 141; THENCE NORTHERLY ALONG SAID R/W LINE 1280 FT (MORE OR LESS) TO THE POINT OF BEGINNING.

CONTAINS 37 ACRES (MORE OR LESS)

PARCEL "B"

BEGINNING AT A POINT WHICH IS S 47°30'W, 86 FT (MORE OR LESS) FROM THE CORNER NO 1 OF THE "KENTUCKY PLACER MINING CLAIM NO. 2534", SAID POINT BEING ON THE WESTERLY R/W LINE OF COLORADO STATE HIGHWAY 141, SAID CORNER NO 1 OF THE "KENTUCKY PLACER MINING CLAIM NO 2534" BEING N 56°53'20"E, 1080 FT (MORE OR LESS) FROM THE SW CORNER OF SECTION 14, T46N, R16W, N.M.P.M. AND RUNNING THENCE S 47°30'W 600 FT (MORE OR LESS); THENCE N 42°32'W, 1080 FT (MORE OR LESS); THENCE N 47°30'E 426 FT (MORE OR LESS) TO THE WESTERLY R/W LINE OF COLORADO STATE HIGHWAY 141; THENCE SOUTHERLY ALONG SAID HIGHWAY R/W LINE 1080 FT (MORE OR LESS) TO THE POINT OF BEGINNING.

CONTAINS 13 ACRES (MORE OR LESS)

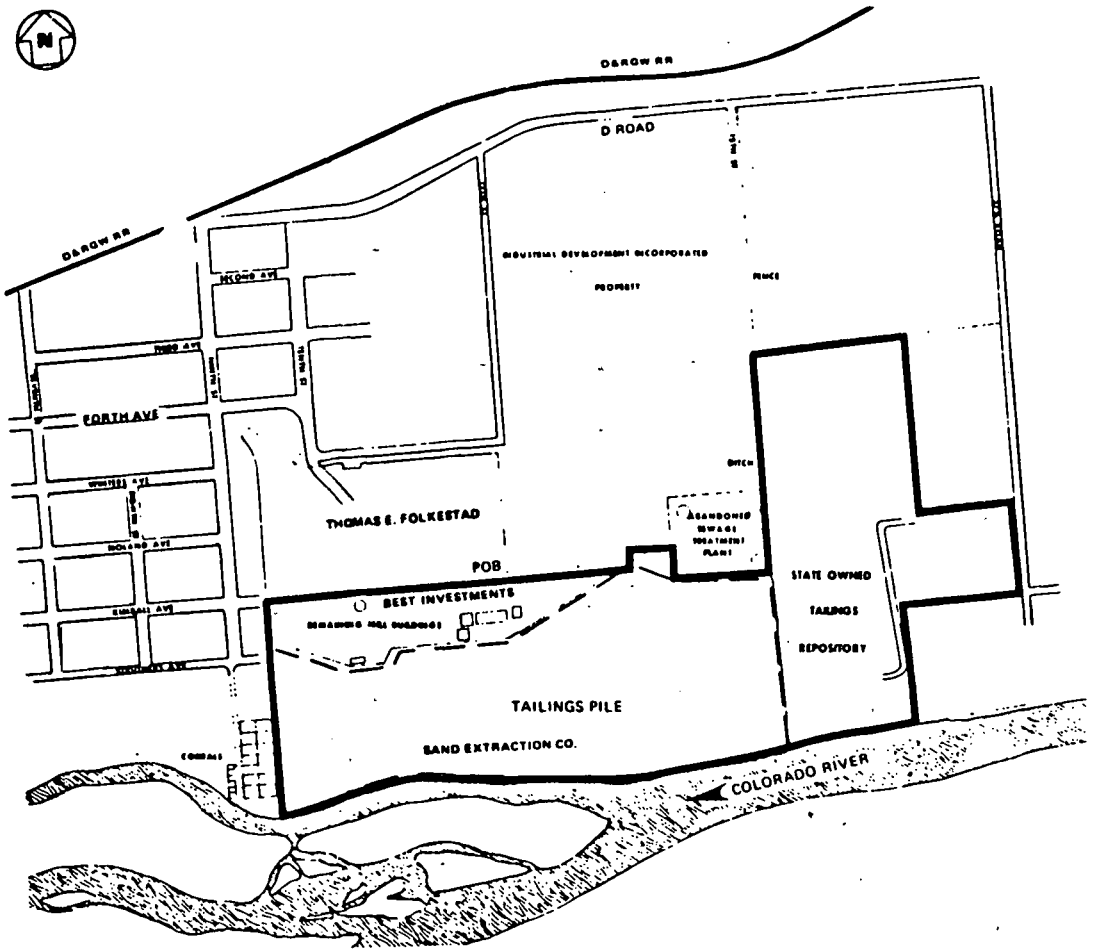
Prepared For

United States Department of Energy

SITE DESCRIPTION & OWNERSHIPS

Inactive Mill Tailing Sites

NATURITA, COLORADO



GRAND JUNCTION SITE

BEGINNING AT A POINT WHICH IS S 0°16'54"E, 1981.92 FROM A CITY MONUMENT MARKING THE N.E. CORNER OF SECTION 23, T1S, R1W, UTE MERIDIAN, CITY OF GRAND JUNCTION, STATE OF COLORADO AND RUNNING THENCE N 89°56'27"E, 864.48 FT; THENCE NORTH 67 FT, THENCE EAST 253 FT, THENCE SOUTH 144 FT, THENCE EAST 412 FT, THENCE NORTH ALONG THE EAST LINE OF 15TH STREET 1087 FT, THENCE EAST 770 FT (MORE OR LESS) TO THE WEST LINE OF "PLEASANT VIEW SUBDIVISION", THENCE SOUTH ALONG SAID WEST LINE 830 FT, THENCE EAST ALONG THE SOUTH BOUNDARY OF SAID SUBDIVISION, 830 FT TO THE WEST R/W LINE OF 27 1/2 ROAD, THENCE SOUTH ALONG SAID R/W LINE 480 FT (MORE OR LESS), THENCE WEST 640 FT, THENCE SOUTH 650 FT (MORE OR LESS), TO THE NORTH BANK OF THE COLORADO RIVER THENCE WESTERLY ALONG SAID NORTH BANK 3350 FT (MORE OR LESS) TO THE EXISTING CITY LIMITS LINE OF GRAND JUNCTION, THENCE N 0°03'30"E, ALONG SAID CITY LIMITS 1113.16 FT, THENCE S 89°14'53"E, 1318.19 FT TO THE POINT OF BEGINNING.

CONTAINS 108 ACRES (MORE OR LESS)

Prepared For

United States Department of Energy

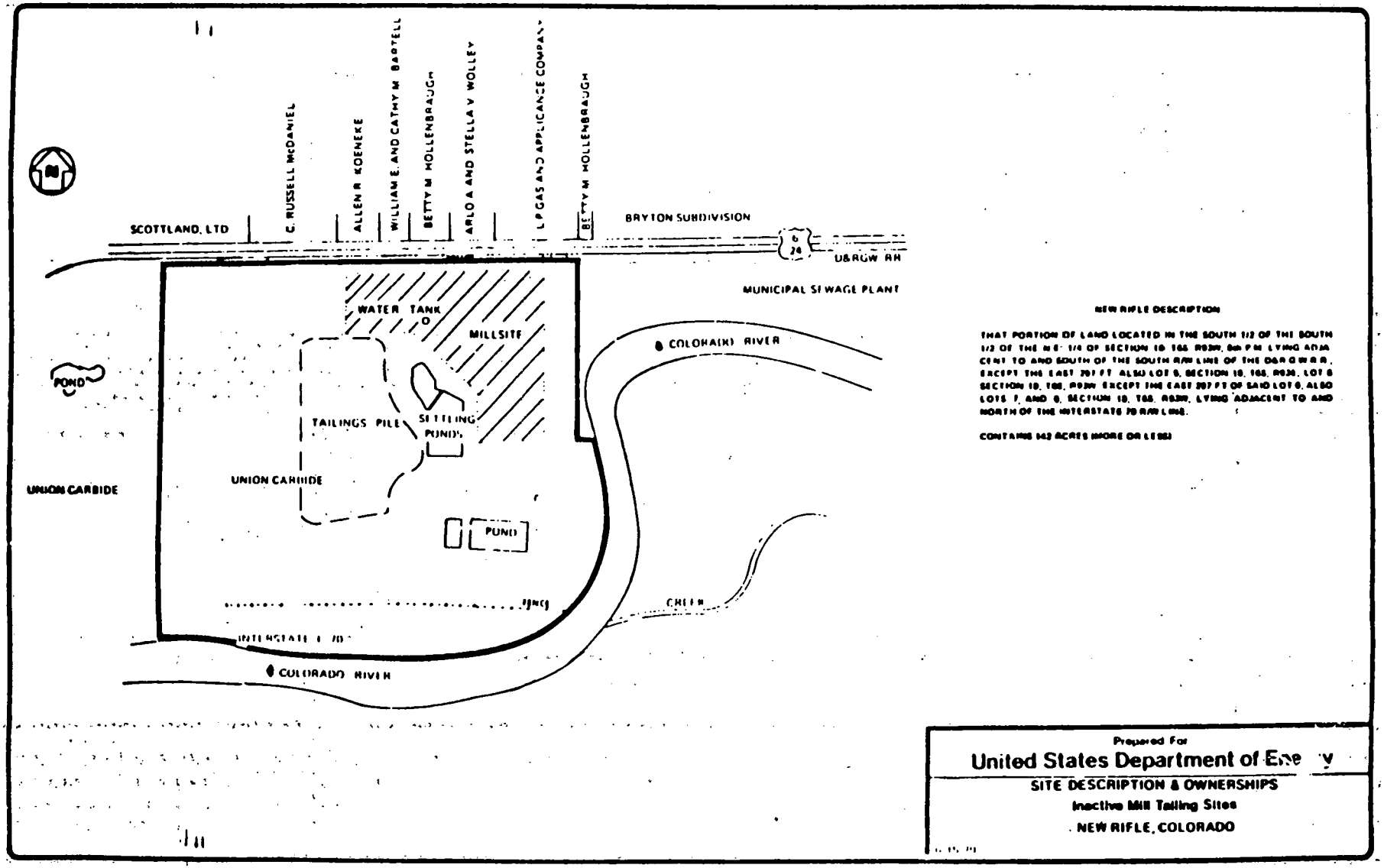
SITE DESCRIPTION & OWNERSHIPS

Inactive Mill Tailing Sites

GRAND JUNCTION, COLORADO

6/15/79

REVISED 10-12 79

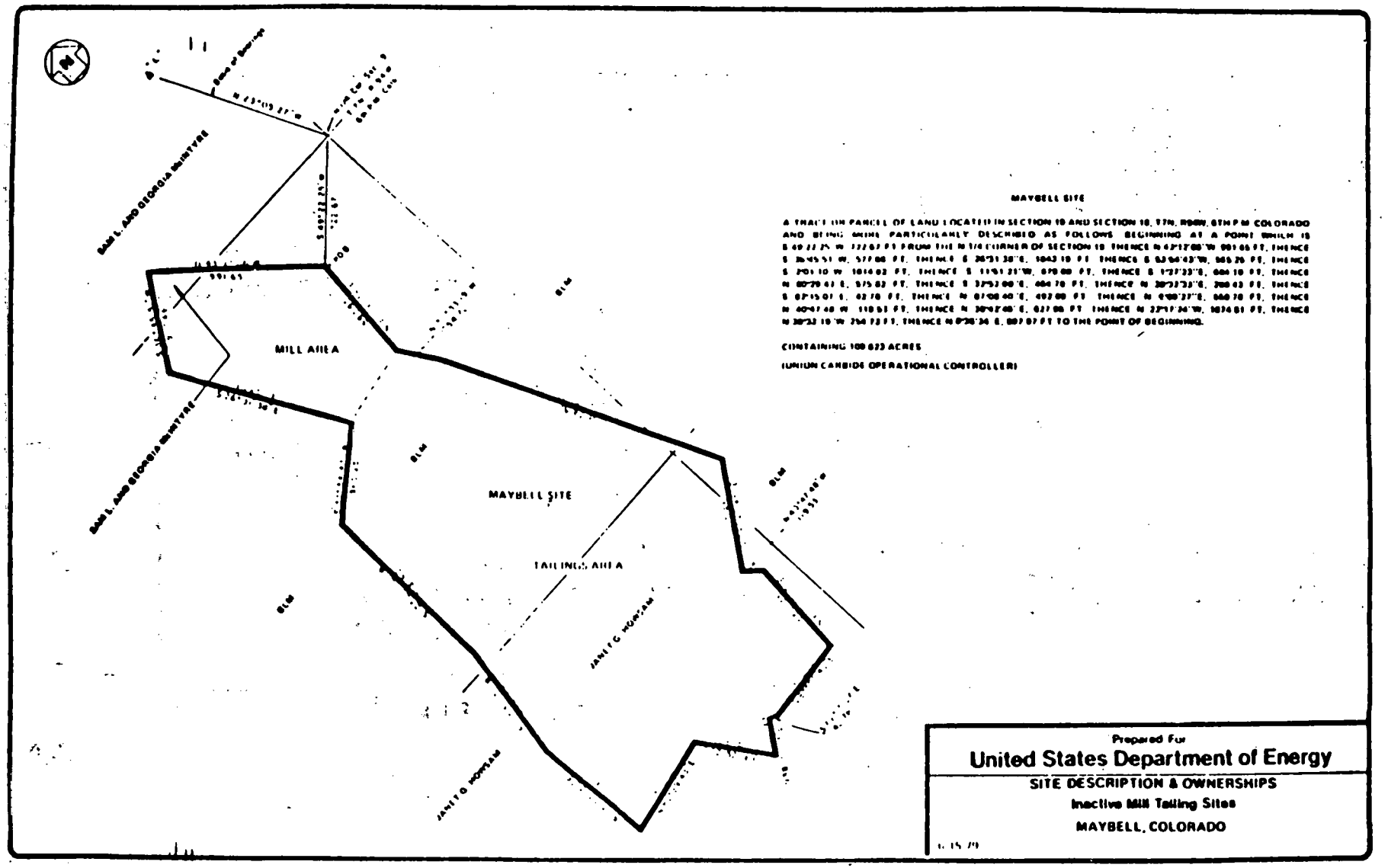


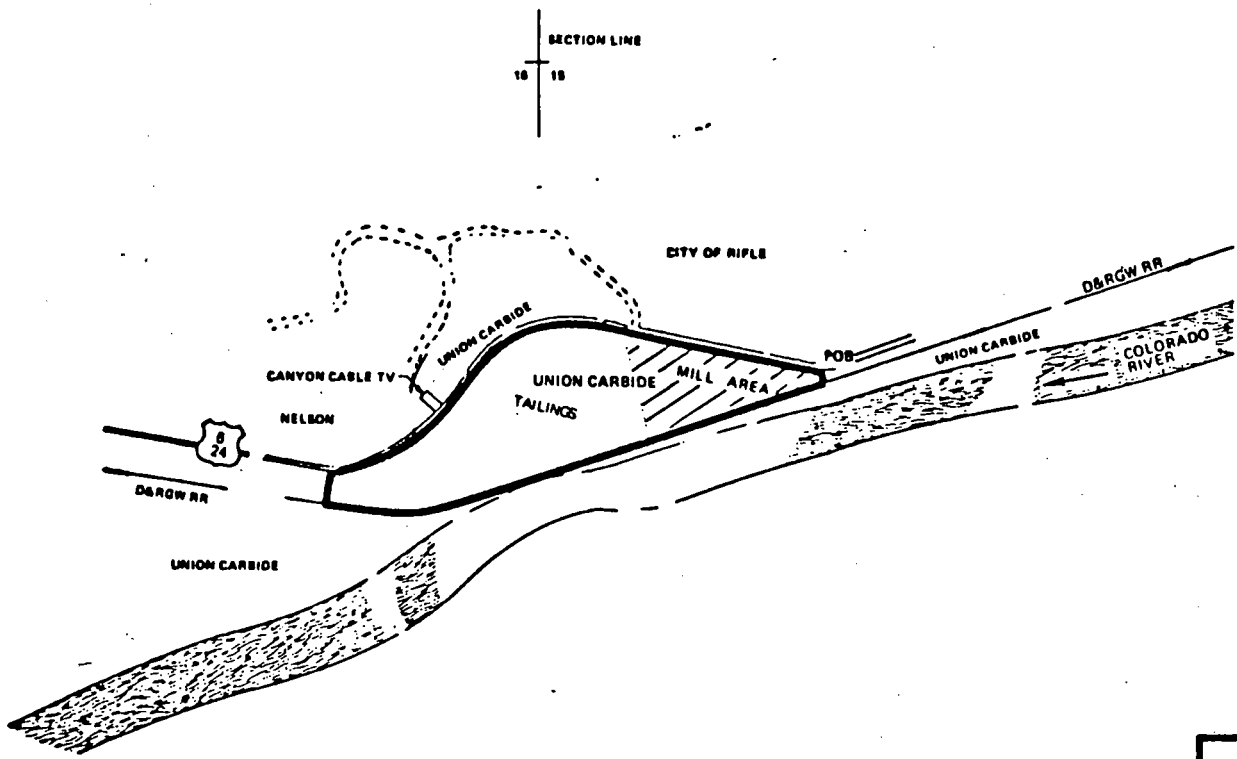
NEW RIFLE DESCRIPTION

THAT PORTION OF LAND LOCATED IN THE SOUTH 1/2 OF THE SOUTH 1/2 OF THE N E 1/4 OF SECTION 10, T6S, R93W, 6th P M LYING ADJACENT TO AND SOUTH OF THE SOUTH R/W LINE OF THE D&R G W R R, EXCEPT THE EAST 207 FT ALSO LOT 5, SECTION 10, T6S, R93W, LOT 6 SECTION 10, T6S, R93W EXCEPT THE EAST 207 FT OF SAID LOT 6, ALSO LOTS 7, AND 8, SECTION 10, T6S, R93W, LYING ADJACENT TO AND NORTH OF THE INTERSTATE 70 R/W LINE.

CONTAINS 142 ACRES MORE OR LESS

Prepared For
United States Department of Energy
SITE DESCRIPTION & OWNERSHIPS
Inactive Mill Tailing Sites
NEW RIFLE, COLORADO


MAYBELL SITE
A TRACT OR PARCEL OF LAND LOCATED IN SECTION 18 AND SECTION 19, T7N, R88W, 6TH P M COLORADO AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS BEGINNING AT A POINT WHICH IS S 69°22'24" W 7727.87 FT FROM THE N 1/4 CORNER OF SECTION 18 THENCE N 47°12'00" W 991.65 FT, THENCE S 36°45'51" W, 577.00 FT, THENCE S 26°21'30" E, 1043.19 FT THENCE S 53°04'43" W, 565.29 FT, THENCE S 2°01'10" W 1014.02 FT, THENCE S 11°51'21" W, 670.00 FT, THENCE S 1°27'33" E, 666.10 FT, THENCE N 80°29'41" E, 575.62 FT, THENCE S 32°52'00" E, 484.70 FT, THENCE N 39°32'30" E, 288.63 FT, THENCE S 67°15'01" E, 42.70 FT, THENCE N 61°00'40" E, 492.00 FT THENCE N 0°00'27" E, 660.70 FT, THENCE N 40°47'48" W 118.51 FT, THENCE N 39°47'00" E, 827.00 FT THENCE N 22°17'30" W, 1074.81 FT, THENCE N 39°33'19" W 256.72 FT, THENCE N 0°36'36" E, 887.07 FT TO THE POINT OF BEGINNING.
CONTAINING 100.823 ACRES
(UNION CARBIDE OPERATIONAL CONTROLLER)
MILL AREA
MAYBELL SITE
TAILINGS AREA
BLM
JANET G. HORTAN
Prepared For
United States Department of Energy
SITE DESCRIPTION & OWNERSHIPS
Inactive Mill Tailing Sites
MAYBELL, COLORADO



OLD RIFLE SITE

BEGINNING AT A POINT ON THE SOUTH R/W LINE OF U.S. HIGHWAY 6 & 24, SAID POINT MORE PARTICULARLY DESCRIBED AS BEING S 0°18'W 1418 FT, MORE OR LESS, FROM THE N.E. CORNER OF THE N.W. 1/4, OF THE N.W. 1/4 OF SECTION 15, T6S, R93W, 6TH P.M. AND RUNNING THENCE S 0°18'W 36.8 FT TO THE NORTH R/W LINE OF THE D.&R.G.W.R.R., THENCE S 78°36'W 1851.8 FT ALONG SAID R/W LINE, THENCE CONTINUING ALONG SAID R/W LINE THE FOLLOWING COURSES AND DISTANCES S 79°2'W, 184.8 FT; S 85°35'W 184.1 FT; N 87°20'W, 183.9 FT; N 80°23'W, 194.0 FT; N 79°32'W, 26.7 FT; THENCE NORTH 74.5 FT. TO THE SAID SOUTH R/W LINE OF U.S. HIGHWAY 6 & 24, AND A POINT ON A 673 FT RADIUS CURVE TO THE LEFT, THENCE NORTHEASTERLY ALONG SAID CURVE AND ARC DISTANCE OF 653.5 FT (CHORD BEARS N 69°26'30"E, 445 FT), THENCE N 50°07'E, 655.7 FT. TO A POINT ON A 472.98 FT RADIUS CURVE TO THE RIGHT, THENCE NORTHEASTERLY ALONG SAID CURVE AN ARC DISTANCE OF 223.16 FT (CHORD BEARS N 63°38'E, 221.1 FT), THENCE N 80°51'30"E, 293.8 FT, THENCE S 79°33'E, 157.7 FT; TO A POINT ON A 2825 FT RADIUS CURVE TO THE RIGHT, THENCE SOUTHEASTERLY ALONG SAID CURVE AN ARC DISTANCE OF 460.21 FT (CHORD BEARS S 74°53'E, 459.7 FT), THENCE S 70°13'E, 306.5 FT TO A POINT ON A 1081.8 FT RADIUS CURVE TO THE LEFT, THENCE EASTERLY ALONG SAID CURVE AN ARC DISTANCE OF 348.81 FT (CHORD BEARS S 79°24'E, 347.3 FT) TO THE POINT OF BEGINNING.

CONTAINS 24 ACRES (MORE OR LESS)

REVISED 10 12 79

Prepared For

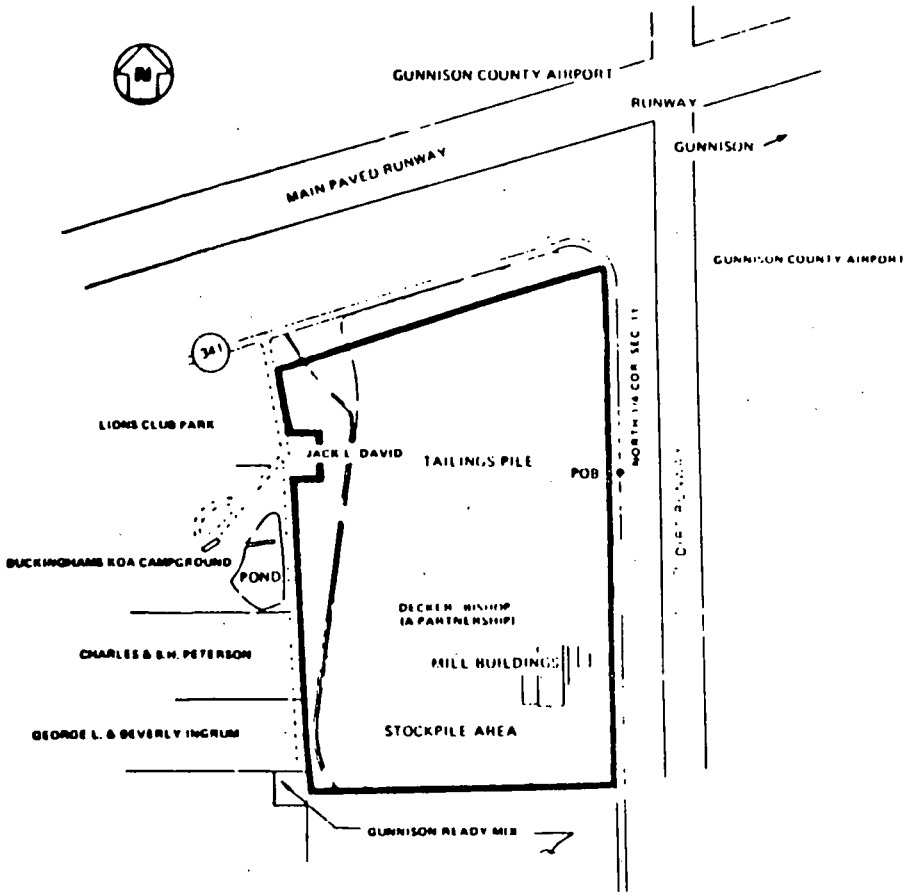
United States Department of Energy

SITE DESCRIPTION & OWNERSHIPS

Inactive Mill Tailing Sites

OLD RIFLE, COLORADO

6/15/79



GUNNISON SITE

BEGINNING AT A POINT WHICH IS S 89°34'W 30.81 FT. FROM THE NORTH 1/4 CORNER OF SECTION 11, T49N, R8W NEW MEXICO PRINCIPAL MERIDIAN AND RUNNING THENCE ALONG THE WEST SIDE OF STATE HIGHWAY NO. 301, S 0°08'E 1321.6 FT. TO THE SUBDIVISION LINE THENCE S 89°41'W 1271.73 FT. ALONG THE SUBDIVISION LINE THENCE N 1°06'W 1320.03 FT. THENCE N 86°14'E 112 FT. THENCE N 0°31'E 219.42 FT. THENCE N 89°04'W 166.32 FT. THENCE N 12°56'W 99.16 FT. THENCE N 0°16'W 218.18 FT. THENCE N 73°33'E 1452.10 FT. THENCE S 0°07'E 840.30 FT TO THE POINT OF BEGINNING

CONTAINS 61 ACRES (MORE OR LESS)

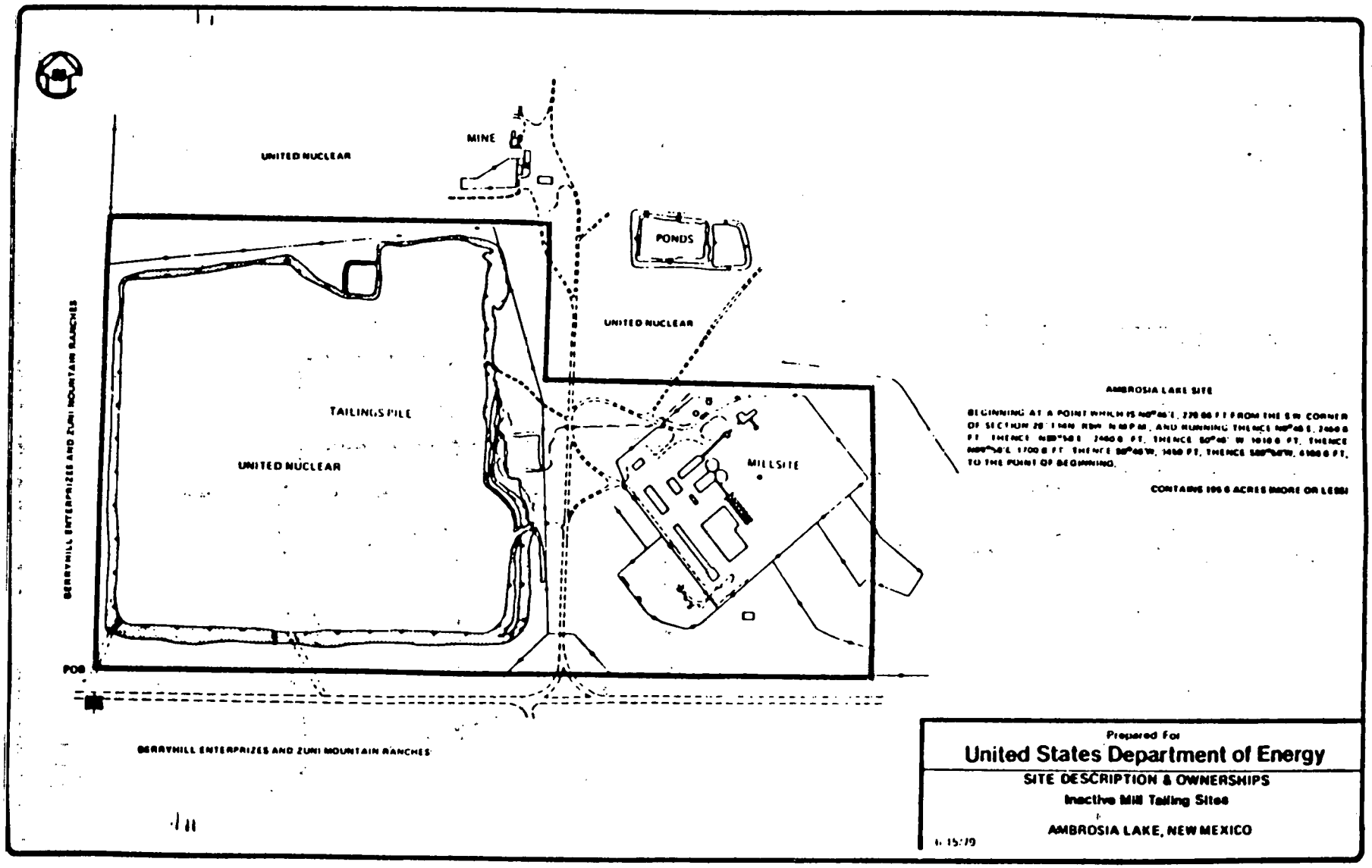
Prepared For

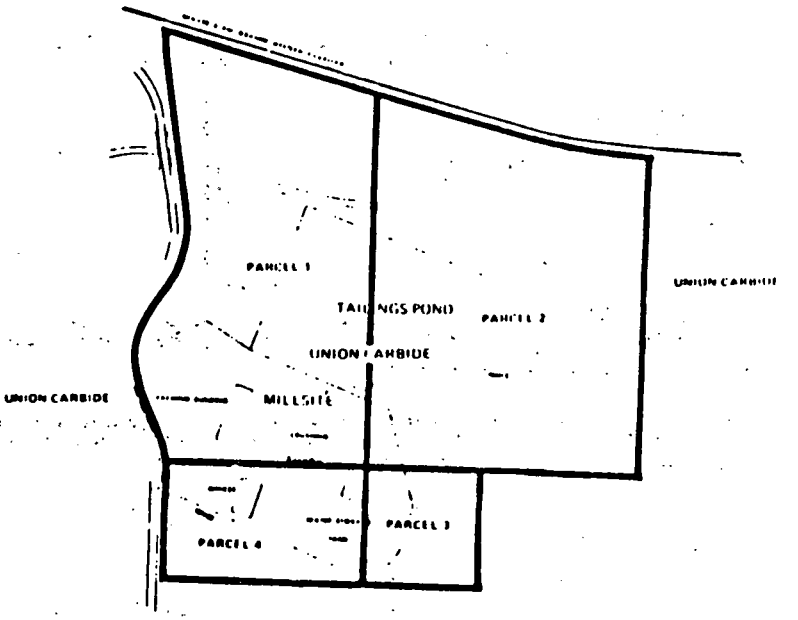
United States Department of Energy

SITE DESCRIPTION & OWNERSHIPS

Inactive Mill Tailing Sites

GUNNISON, COLORADO


MINE
UNITED NUCLEAR
PONDS
UNITED NUCLEAR
TAILINGS PILE
UNITED NUCLEAR
MILLSITE
BERRYHILL ENTERPRIZES AND ZUNI MOUNTAIN RANCHES
POB
BERRYHILL ENTERPRIZES AND ZUNI MOUNTAIN RANCHES
AMBROSIA LAKE SITE
BEGINNING AT A POINT WHICH IS
FROM THE
CORNER
AND RUNNING THENCE
FT. THENCE
FT. THENCE
FT. THENCE
FT. THENCE
TO THE POINT OF BEGINNING.
CONTAINS
ACRES MORE OR LESS!
Prepared For
United States Department of Energy
SITE DESCRIPTION & OWNERSHIPS
Inactive Mill Tailing Sites
AMBROSIA LAKE, NEW MEXICO



GREEN RIVER SITE
(PARCELS 1 THRU 4)

PARCEL 1

THAT PORTION OF LAND LOCATED IN THE SW 1/4 OF THE SE 1/4 SECTION 15, T21S, R16E, SALT LAKE MERIDIAN LYING ADJACENT TO AND EAST OF A COUNTY ROAD FROM ELGIN TO THE GREEN RIVER MISSILE SITE AND SOUTH OF THE D&RGW RAILROAD R/W

PARCEL 2

THAT PORTION OF LAND LOCATED IN THE WEST 800 FT OF THE SE 1/4 OF THE SE 1/4 OF SECTION 15, T21S, R16E, SALT LAKE MERIDIAN LYING SOUTH OF AND ADJACENT TO THE D&RGW RAILROAD R/W

PARCEL 3

THAT PORTION OF LAND LOCATED IN THE WEST 300 FT OF THE NORTH 1/2 OF THE NORTH 1/2 OF THE NE 1/4 OF THE NE 1/4 OF SECTION 22, T21S, R16E, SALT LAKE MERIDIAN

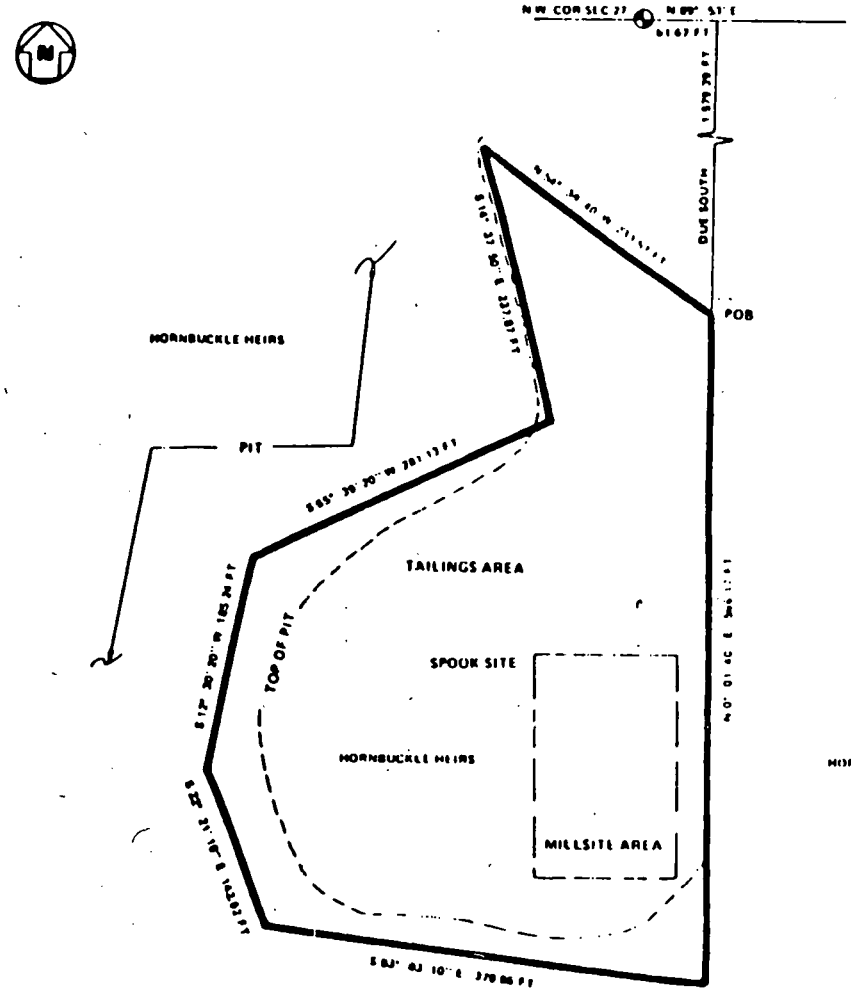
PARCEL 4

THAT PORTION OF LAND LOCATED IN THE NORTH 1/2 OF THE NORTH 1/2 OF THE NW 1/4 OF THE NE 1/4 OF SECTION 22, T21S, R16E, SALT LAKE MERIDIAN, LYING EAST OF AND ADJACENT TO A COUNTY ROAD FROM ELGIN TO THE GREEN RIVER MISSILE SITE

CONTAINS 39 ACRES (MORE OR LESS)

Prepared For
United States Department of Energy

SITE DESCRIPTION & OWNERSHIPS
Inactive Mill Tailing Sites
GREEN RIVER, UTAH



CONVERSE COUNTY, SPOOK SITE

BEGINNING AT A POINT N 89°53'E 1567 FT ALONG THE SECTION LINE AND DUE SOUTH 1570.30 FT FROM THE N.W. CORNER OF SECTION 27, 13ON, R73W 6TH PRINCIPAL MERIDIAN CONVERSE COUNTY, WYOMING, AND RUNNING THENCE N 84°38'40"W, 238.07 FT THENCE S 14°29'50"E, 337.07 FT, THENCE S 65°30'20"W, 201.13 FT, THENCE S 12°30'20"W, 185.24 FT, THENCE S 22°21'10"E, 162.62 FT, THENCE S 83°43'10"E, 370.88 FT THENCE N 0° 01' 40" E, 566.17 FT TO POINT OF BEGINNING

CONTAINING 4.30 ACRES.

(WESTERN NUCLEAR OPERATIONAL CONTROLLER)

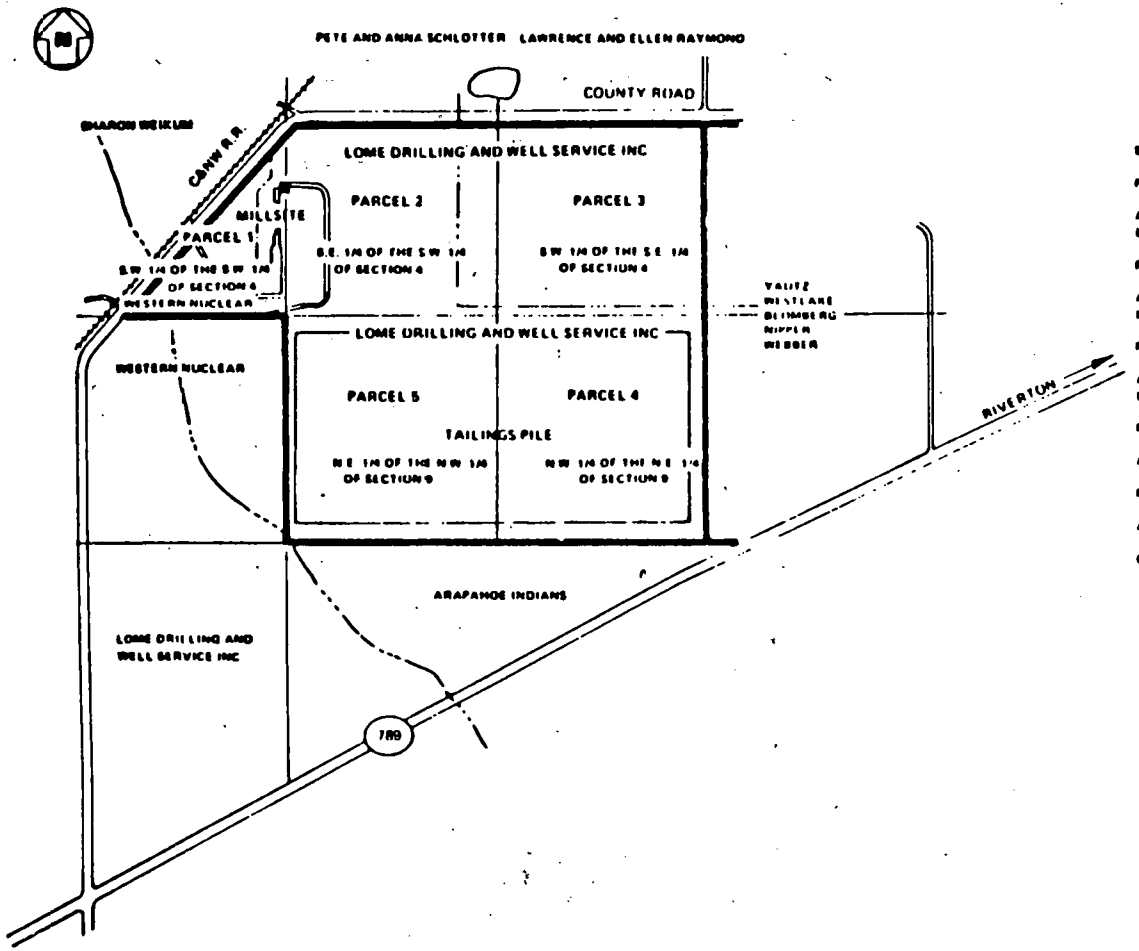
Prepared For

United States Department of Energy

SITE DESCRIPTION & OWNERSHIPS

Inactive Mill Tailing Sites

CONVERSE COUNTY, WYOMING



RIVERTON SITE

SITE CONSISTING OF THE FOLLOWING PARCELS:

PARCEL 1

ALL LAND LOCATED IN THE S.W. 1/4 OF THE S.W. 1/4 OF SECTION 4, T1S, R4E, W.R.M. LYING EASTERLY OF THE EXISTING COUNTY ROAD.

PARCEL 2

ALL LAND LOCATED IN THE S.E. 1/4 OF THE S.W. 1/4 OF SECTION 4, T1S, R4E, W.R.M. LYING SOUTH OF THE EXISTING COUNTY ROAD.

PARCEL 3

ALL LAND LOCATED IN THE S.W. 1/4 OF THE S.E. 1/4 OF SECTION 4, T1S, R4E, W.R.M. LYING SOUTH OF THE EXISTING COUNTY ROAD.

PARCEL 4

ALL LAND LOCATED IN THE N.W. 1/4 OF THE N.E. 1/4 OF SECTION 9, T1S, R4E, W.R.M.

PARCEL 5

ALL LAND LOCATED IN THE N.E. 1/4 OF THE N.W. 1/4 OF SECTION 9, T1S, R4E, W.R.M.

CONTAINS 17.3 ACRES (MORE OR LESS)

Prepared For

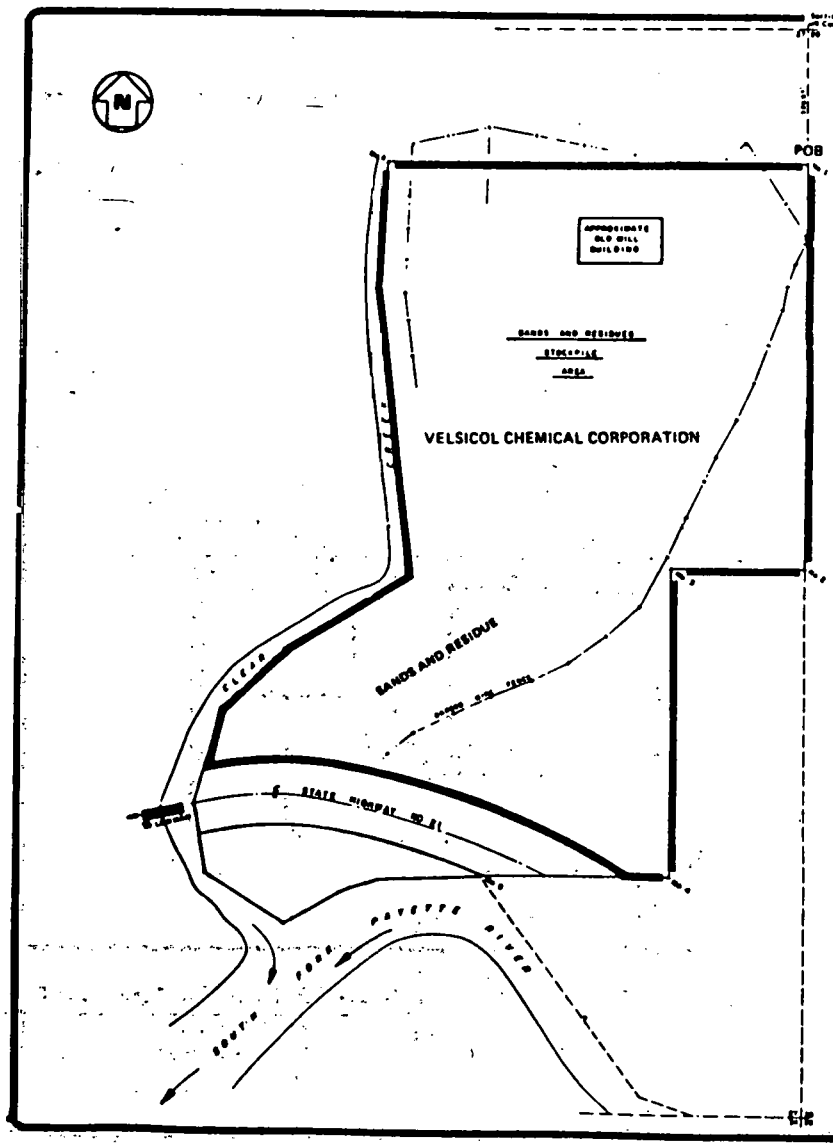
United States Department of Energy

SITE DESCRIPTION & OWNERSHIPS

Inactive Mill Tailing Sites

RIVERTON, WYOMING

1/5/79



LOWMAN, IDAHO SITE

BEGINNING AT A POINT WHICH IS S 0°01'W, 326.7 FT FROM THE N.E. 1/4 CORNER OF SECTION 27, T8N, R7E, SAID POINT BEING THE NO. 1 POINT ON THE HOMESTEAD ENTRY SURVEY NO. 490 (H.E.S.), AND RUNNING THENCE S 0°01'W, 993.3 FT TO H.E.S. 490 CORNER NO. 2, THENCE WEST 330 FT TO H.E.S. 490 CORNER NO. 3, THENCE SOUTH 755.04 FT TO H.E.S. 490 CORNER NO. 4 THENCE WEST 112 FT TO THE NORTH R/W LINE OF IDAHO STATE HIGHWAY NO. 21, THENCE NORTHWESTERLY ALONG SAID R/W LINE TO THE EAST MEANDER LINE OF CLEAR CREEK, THENCE NORTHERLY ALONG SAID MEANDER 1700 FT (MORE OR LESS) TO H.E.S. 490 CORNER NO. 6, THENCE EAST 1045.44 FT TO THE POINT OF BEGINNING.

CONTAINS 38 ACRES (MORE OR LESS)

Prepared For

United States Department of Energy

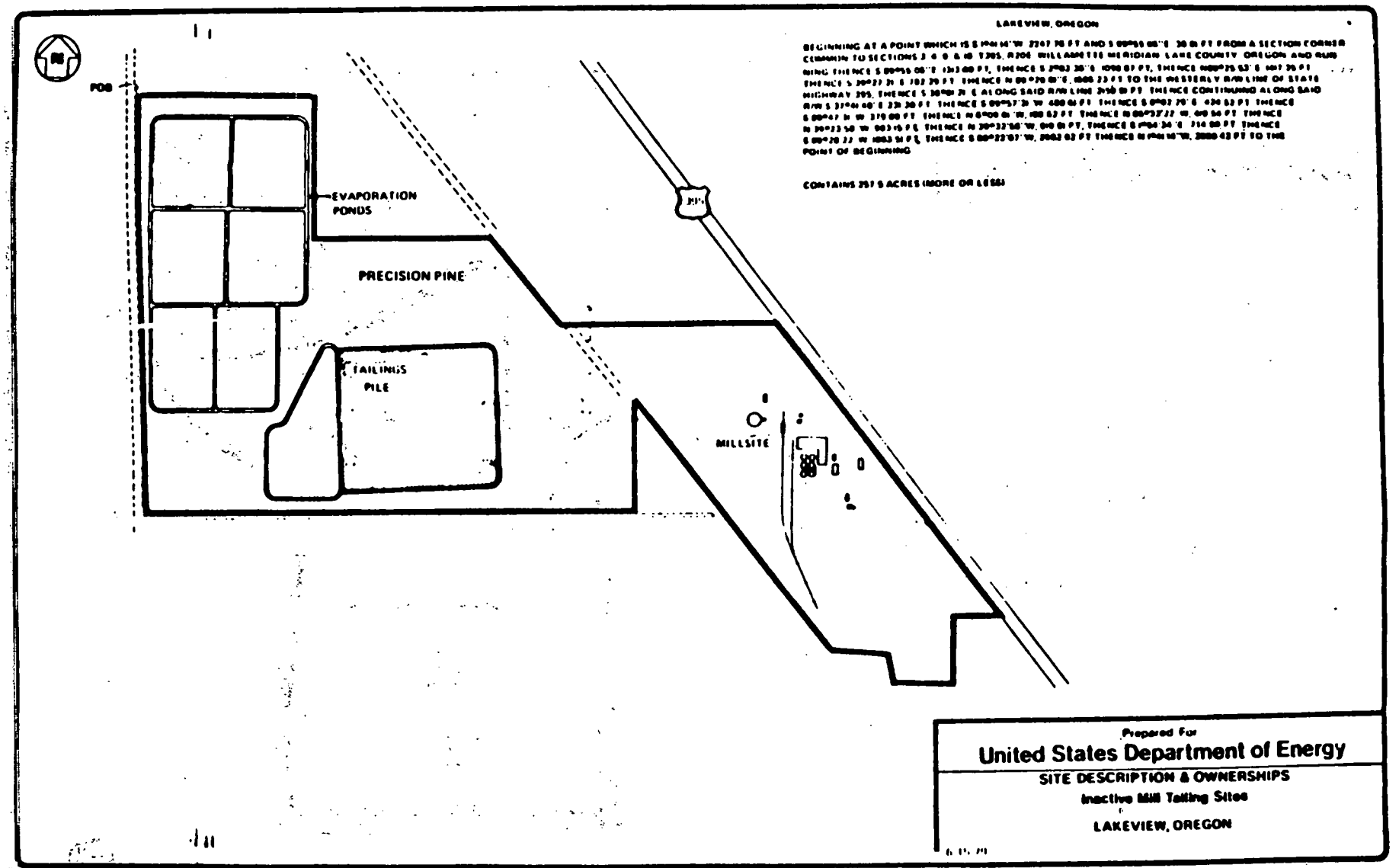
SITE DESCRIPTION & OWNERSHIPS

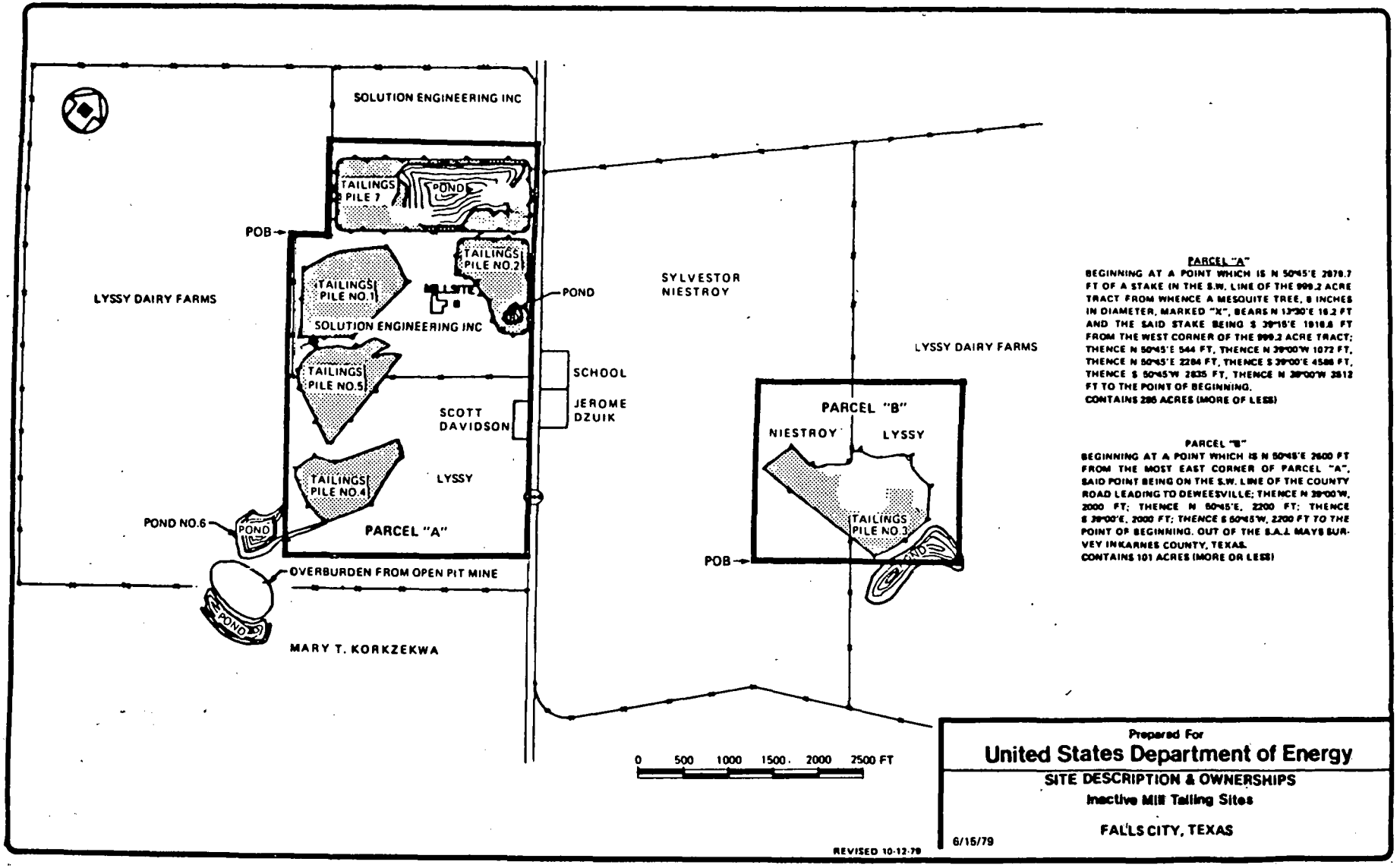
Inactive Mill Tailing Sites

LOWMAN, IDAHO

REVISED 10-12-79

6/15/79


LAKEVIEW, OREGON
POB
EVAPORATION PONDS
PRECISION PINE
TAILINGS PILE
MILLSITE
CONTAINS 257.9 ACRES (MORE OR LESS)
Prepared For
United States Department of Energy
SITE DESCRIPTION & OWNERSHIPS
Inactive Mill Tailing Sites
LAKEVIEW, OREGON



PARCEL "A"

BEGINNING AT A POINT WHICH IS N 50°45'E 2878.7 FT OF A STAKE IN THE S.W. LINE OF THE 999.2 ACRE TRACT FROM WHENCE A MESQUITE TREE, 8 INCHES IN DIAMETER, MARKED "X", BEARS N 13°30'E 16.2 FT AND THE SAID STAKE BEING S 39°15'E 1918.8 FT FROM THE WEST CORNER OF THE 999.2 ACRE TRACT; THENCE N 50°45'E 544 FT, THENCE N 39°00'W 1072 FT, THENCE N 50°45'E 2284 FT, THENCE S 39°00'E 4588 FT, THENCE S 50°45'W 2835 FT, THENCE N 39°00'W 3512 FT TO THE POINT OF BEGINNING.
CONTAINS 286 ACRES (MORE OF LESS)

PARCEL "B"

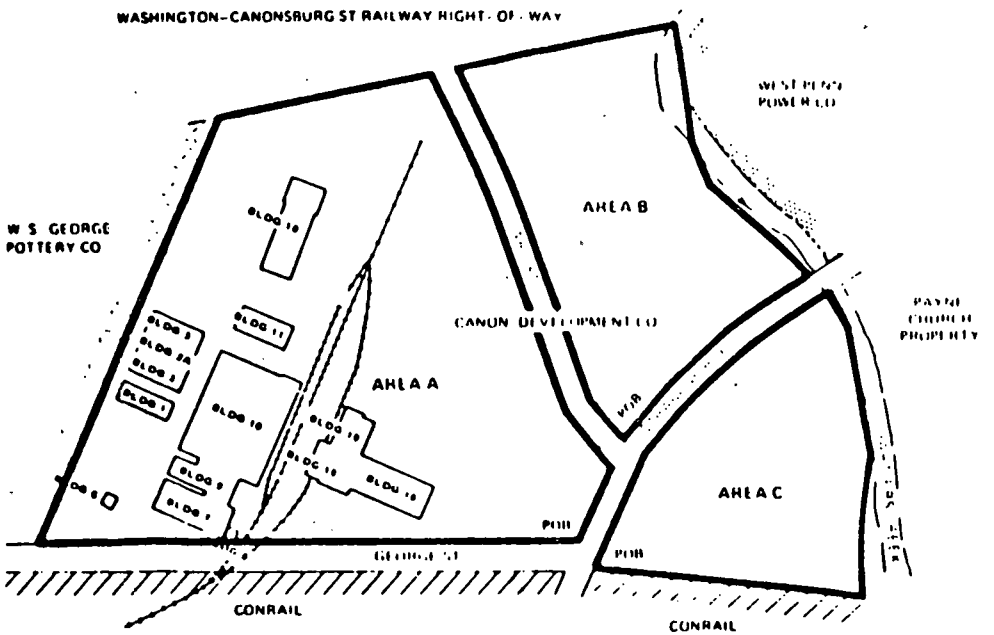
BEGINNING AT A POINT WHICH IS N 50°45'E 2600 FT FROM THE MOST EAST CORNER OF PARCEL "A", SAID POINT BEING ON THE S.W. LINE OF THE COUNTY ROAD LEADING TO DEWEESVILLE; THENCE N 39°00'W, 2000 FT; THENCE N 50°45'E, 2200 FT; THENCE S 39°00'E, 2000 FT; THENCE S 50°45'W, 2200 FT TO THE POINT OF BEGINNING. OUT OF THE S.A.& M.G.R.R. SURVEY IN KARNES COUNTY, TEXAS.
CONTAINS 101 ACRES (MORE OR LESS)

Prepared For
United States Department of Energy

SITE DESCRIPTION & OWNERSHIPS
Inactive Mill Tailing Sites

FALLS CITY, TEXAS

6/15/79



PARCEL "A"

BEGINNING AT A MONUMENT AT THE INTERSECTION OF THE NORTH LINE OF GEORGE STREET AND THE WEST LINE OF STRABANE AVENUE IN THE BOROUGH OF CANONSBURG PENNSYLVANIA, THENCE ALONG THE NORTH LINE OF GEORGE STREET S 71°15'W, 882.87 FT, THENCE N 5°00'E, 740.22 FT TO A MONUMENT AT THE SOUTH R/W LINE OF THE WASHINGTON CANONSBURG STREET RAILWAY, THENCE ALONG SAID R/W LINE N 69°30'E, 361.00 FT TO THE WEST LINE OF WARD STREET, THENCE ALONG THE WEST LINE OF WARD STREET S 44°10'E, 222.63 FT, S 38°56'E, 350.00 FT, S 44°53'E, 111.73 FT TO THE WEST LINE OF STRABANE AVENUE, THENCE ALONG THE WEST LINE OF STRABANE AVENUE S 5°00'W, 130.00 FT TO THE POINT OF BEGINNING.

CONTAINS 10.8 ACRES (MORE OR LESS)

PARCEL "B"

BEGINNING AT A POINT AT THE INTERSECTION OF THE EAST LINE OF WARD STREET AND THE WEST LINE OF STRABANE AVENUE IN THE BOROUGH OF CANONSBURG, WASHINGTON COUNTY, PENNSYLVANIA, THENCE ALONG THE EAST LINE OF WARD STREET N 44°52'W, 65.00 FT, N 38°56'W, 353.63 FT, N 44°10'W, 213.78 FT TO A MONUMENT ON THE SOUTH R/W LINE OF THE WASHINGTON-CANONSBURG STREET RAILWAY THENCE ALONG SAID R/W LINE N 69°30'E, 382.00 FT, THENCE S 31°58'E, 20.82 FT, THENCE S 27°42'E, 100.00 FT, THENCE S 43°25'E, 88.10 FT, THENCE S 69°30'E, 314.70 FT TO THE WEST LINE OF STRABANE AVENUE, THENCE ALONG STRABANE AVENUE S 39°00'W, 184.30 FT, S 34°00'W, 140.00 FT, S 31°00'W, 100.07 FT TO THE POINT OF BEGINNING.

CONTAINS 4.2 ACRES (MORE OR LESS)

PARCEL "C"

BEGINNING AT A POINT WHICH IS THE INTERSECTION OF THE EAST LINE OF STRABANE AVENUE AND THE NORTH R/W LINE OF CONRAIL, THENCE ALONG THE EAST LINE OF STRABANE AVENUE N 5°00'E, 195.00 FT, N 21°00'E, 81.70 FT, N 39°00'E, 130.33 FT N 39°05'E, 100.00 FT TO CHARTIERS CREEK, THENCE S 37°24'13"E, 81.17 FT, THENCE S 29°39'31"E, 100.71 FT, THENCE S 19°48'17"E, 107.79 FT, THENCE S 10°10'20"E, 127.23 FT TO A POINT ON THE NORTH R/W LINE OF CONRAIL, THENCE ALONG SAID R/W LINE S 70°31'W, 430.00 FT TO THE POINT OF BEGINNING.

CONTAINS 3.1 ACRES (MORE OR LESS)

Prepared For

United States Department of Energy

SITE DESCRIPTION & OWNERSHIPS

Inactive Mill Tailing Sites

CANONSBURG, PENNSYLVANIA

APPENDIX E
NOTIFICATION OF CONGRESS

Department of Energy
Washington, D.C. 20585

November 8, 1979

Honorable Henry M. Jackson
Chairman, Committee on Energy
and Natural Resources
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

Under the provisions of the Uranium Mill Tailings Radiation Control Act of 1978 (Public Law 95-604), I have designated uranium mill tailings processing sites at or near the locations listed in Section 102(a)(1) of the Law. Accordingly, I have established as candidates for remedial action the properties inside the boundaries specified in Enclosure 1. At these sites, which contain residual radioactive materials, all or substantially all of the uranium produced was for sale under contracts with Federal agencies prior to January 1, 1971.

As additional information is received from the affected states and local governments, Indian Tribes, property owners, and the general public, the Department of Energy (DOE) is developing radiological assessment data on specific properties outside of these processing site boundaries. As these properties are identified and evaluated, they will be incorporated into the overall remedial program under the provisions of Section 102(e)(2) of the Law.

As specified by Section 102(b) of the Law, the DOE has assessed the potential health effects to the public from the residual radioactive material on or near processing sites. With advice from the Environmental Protection Agency, the DOE has established the priorities listed in Enclosure 2 for performing remedial actions. Estimates of the near-term rates at which radon would affect the local populations' health were the primary basis for establishing these priorities. The ranking of high, medium, and low categories is more meaningful than an ordinal ranking because the estimates of radon-associated health effects are uncertain. Of importance to the priority issue is the EPA advice that the priority ranking of

sites should not be implemented so strictly that work on lower priority sites could not be initiated before completion of work at higher priority sites.

Based on recent information received as the result of a Federal Register Notice and of communications with the Governors of uranium-producing states, we have identified three additional sites that require remedial action. These sites, located at Bowman and Belfield, North Dakota, and Baggs, Wyoming, have been designated as processing sites (Enclosure 3). Although detailed assessments of these sites have not been made, the amounts of residual radioactive materials involved place them in the low priority category.

Should you and your staff have any questions concerning the designation of these processing sites and the establishment of site priorities, I will be happy to provide additional information.

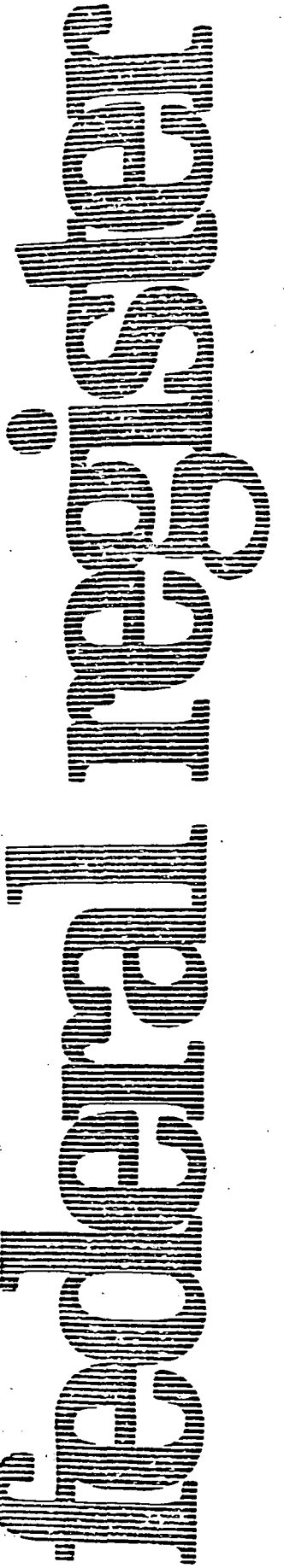
Sincerely,

Charles W. Duncan, Jr
Secretary

APPENDIX F

FEDERAL REGISTER NOTICE ON DESIGNATION OF OTHER INACTIVE URANIUM MILL TAILINGS SITES FOR REMEDIAL ACTION

8-17-79
Vol. 44—No. 161
BOOK 1:
PAGES
48141-48486
BOOK 2:
PAGES
48487-48642



Book 1 of 2 Books
Friday, August 17, 1979

Highlights

CONTINUED INSIDE

Applications, 202/633-9482, prior to the meeting and reasonable provision will be made for their appearance on the agenda.

Summary minutes of the meeting will be available for public review at the Freedom of Information Public Reading Room, Room GA 152, DOE, Forrestal Building, 1000 Independence Avenue, SW, Washington, D.C., between the hours of 8:00 a.m. and 4:30 p.m., Monday through Friday, except Federal holidays.

Issued at Washington, D.C. on August 2, 1979.

R. Dobie Langenkamp,

Deputy Assistant Secretary, Oil, Natural Gas and Shale Resources, Resource Applications.

August 2, 1979.

[FR Doc. 79-25425 Filed 8-16-79; 8:45 am]

BILLING CODE 6450-01-M

Designation of Inactive Uranium Mill Tailings Sites for Remedial Action

AGENCY: Department of Energy.

ACTION: Requests for information on inactive uranium mill tailings processing sites and properties contaminated with uranium mill tailings in response to the requirements of Pub. L. 95-604, "Uranium Mill Tailings Radiation Control Act of 1978," enacted November 8, 1978.

SUMMARY: This information is requested as a result of the passage by Congress of Pub. L. 95-604, entitled "Uranium Mill Tailings Radiation Control Act of 1978" enacted November 8, 1978. The Act authorizes the Secretary of Energy to enter into cooperative agreements with certain states respecting residual radioactive material at existing sites.

Section 102(a)(1) of the Act stipulates that by November 8, 1979, the Secretary of Energy shall designate processing sites for remedial action at or near the following locations:

Tuba City, Arizona
Monument Valley, Arizona
Durango, Colorado
Grand Junction, Colorado
Rifle, Colorado (two sites)
Gunnison, Colorado
Naturita, Colorado
Maybell, Colorado
Slick Rock, Colorado (two sites)
Lowman, Idaho
Shiprock, New Mexico
Ambrosia Lake, New Mexico
Lakeview, Oregon
Falls City, Texas
Cannonsburg, Pennsylvania
Salt Lake City, Utah
Green River, Utah
Mexican Hat, Utah
Riverton, Wyoming
Converse County, Wyoming

In addition, Section 102(a)(1) provides that the Secretary shall, by November 8, 1979, designate all other processing sites within the United States which he determines require remedial action to carry out the purposes of the law. Section 102(e)(1) of the Act requires the designation of processing sites shall include as far as practicable, any other real property or improvement thereon that is in the vicinity of such site, and is determined by the Secretary to be contaminated with residual radioactive materials derived from such site.

This notice requests from the public any information they may have regarding the existence of any sites in addition to those listed herein that may qualify under the Act, or of any property adjacent to any processing site believed to contain radioactive material from such site.

Sites that do qualify for clean up under the Act are those that:

1. Were owned or controlled by the Federal Government as of January 1, 1978;

2. Are now owned or controlled by the Federal Government;

3. Were licensed for production of any uranium or thorium product derived from ores on January 1, 1978, or have had a license renewed or issued since that date.

DATE: Request information and additional potential processing sites and contaminated properties in the vicinity of such sites as well as in the vicinity of the locations listed in Sec. 102(a)(1) of Pub. L. 95-604 be received on or before September 15, 1979.

ADDRESS FOR INFORMATION: Individuals with information about such sites should notify Dr. William E. Mott, Director, Environmental Control Technology Division, Office of the Assistant Secretary for Environment, Department of Energy, Mail Station E-201, Washington, D.C. 20545, telephone (301) 353-3016.

Issued at Washington, D.C. this 9th day of August 1979.

Ruth C. Clusen,

Assistant Secretary for Environment.

[FR Doc. 79-25431 Filed 8-16-79; 8:45 am]

BILLING CODE 6450-01-M

Intergovernmental and Institutional Relations; Approval of Designated Energy Impact Areas Under Section 601 of the Powerplant and Industrial Fuel Use Act

AGENCY: Intergovernmental and Institutional Relations, DOE.

ACTION: Notice of Acceptance.

SUMMARY: Title VI, Section 601 of the Powerplant and Industrial Fuel Use Act provides financial assistance to areas impacted by increased coal or uranium development activities. The Secretary of Energy must approve a Governor's designation of an energy impact area based on the following three criteria:

(1) During the most recent calendar year, the eligible employment in coal or uranium development activities within the area has increased by eight percent or more from the preceding year, or such employment will increase by eight percent or more per year during each of the next three calendar years.

(2) Because of increased employment in coal or uranium development activities, a shortage of housing, inadequate public facilities, or services exists or will exist in the area.

(3) Available State and local financial resources are inadequate to meet the public need for housing or public facilities and services at present or in the next three years.

The following areas have been approved as energy impact areas, and, as such, are eligible to apply for planning, land acquisition and site development grants through the Farmers Home Administration, USDA:

Alabama: Bibb, Blount, DeKalb, Jefferson, Marion and Tuscaloosa Counties.

South Dakota: Fall River County.

Louisiana: One area consisting of DeSoto, Natchitoches, Red River and Sabine Parishes.

Colorado: Jackson, Routt, Moffat, Rio Blanco, Garfield, Mesa, Delta, Montrose, Gunnison, Fremont and Las Animas Counties.

Texas: Jim Hogg, Webb, Grimes and Coleman Counties; the City of Childress; the Ark-Tex Region consisting of Titus, Franklin, Morris and Hopkins Counties; the Coastal Bend Region consisting of Bee, Duval, Jim Wells and Live Oak Counties.

Utah: An area consisting of Carbon, Emery, Grand and San Juan Counties; an area consisting of Sevier and Wayne Counties; and Garfield County.

Virginia: One area consisting of Lee, Wise, Scott, Buchanan, Dickenson, Russell and Tazewell Counties, and the City Norton.

North Dakota: Grant, McLean, Mercer, Morton and Oliver Counties; and an area consisting of Adams and Bowman Counties.

Montana: Musselshell, Treasure, Rosebud, Custer and Powder River Counties.

Wyoming: An area consisting of Campbell, Crook and Weston Counties; an area consisting of Lincoln, Uinta and

APPENDIX G

PRESS RELEASE ON THE DESIGNATION OF OTHER INACTIVE URANIUM MILL TAILINGS SITES FOR REMEDIAL ACTION

DOE NEWS:

FOR IMMEDIATE RELEASE
AUGUST 17, 1979

DOE REQUESTS ADDITIONAL INFORMATION ON URANIUM MILL TAILINGS PILES AT FORMER PROCESSING SITES

The Department of Energy (DOE) is asking persons who have information about uranium mill tailings located at inactive processing sites, or about properties adjacent to those sites which may contain radioactive materials, to notify the department by Sept. 15, 1979.

A detailed explanation of this request for information is scheduled to be published in the Aug. 17 issue of the Federal Register.

Mill tailings are the solid waste left after uranium is removed from ore. The tailings produce low-level radiation which, if left uncontrolled for long periods of time, could pose environmental or health hazards.

Information reported to DOE will be used to determine any additional sites which may require remedial action under terms of the Uranium Mill Tailings Radiation Control Act of 1978 (Public Law 95-604). The Act allows DOE, in cooperation with individual states, Indian tribes, and persons who own or control inactive mill tailings sites, to develop a program of assessment and remedial action at the sites.

The legislation identifies 22 inactive uranium tailings sites which are candidates for remedial action. These sites are located at: Salt Lake City, Utah; Green River, Utah; Mexican Hat, Utah; Durango, Colorado; Grand Junction, Colorado; Rifle, Colorado (2 sites); Gunnison, Colorado; Naturita, Colorado; Maybell, Colorado; Slick Rock, Colorado (2 sites); Shiprock, New Mexico; Ambrosia Lake, New Mexico; Riverton, Wyoming; Converse County, Wyoming; Lake View, Oregon; Falls City, Texas; Tuba City, Arizona; Monument Valley, Arizona; Lowman, Idaho; and Canonsburg, Pennsylvania.

(MORE)

R-79-375

In addition to these 22 sites, other sites where uranium was processed for sale to the federal government prior to Jan. 1, 1971, could be subject to the clean-up provisions identified in the Act. Any adjacent property found to contain radioactive materials from the 22 specified sites or from any additional sites may also be eligible for clean-up under the Act.

Sites not included are those owned by the federal government or operated under license issued by the Nuclear Regulatory Commission; its predecessor agency, the Atomic Energy Commission; or by a state as of Jan. 1, 1978, or thereafter.

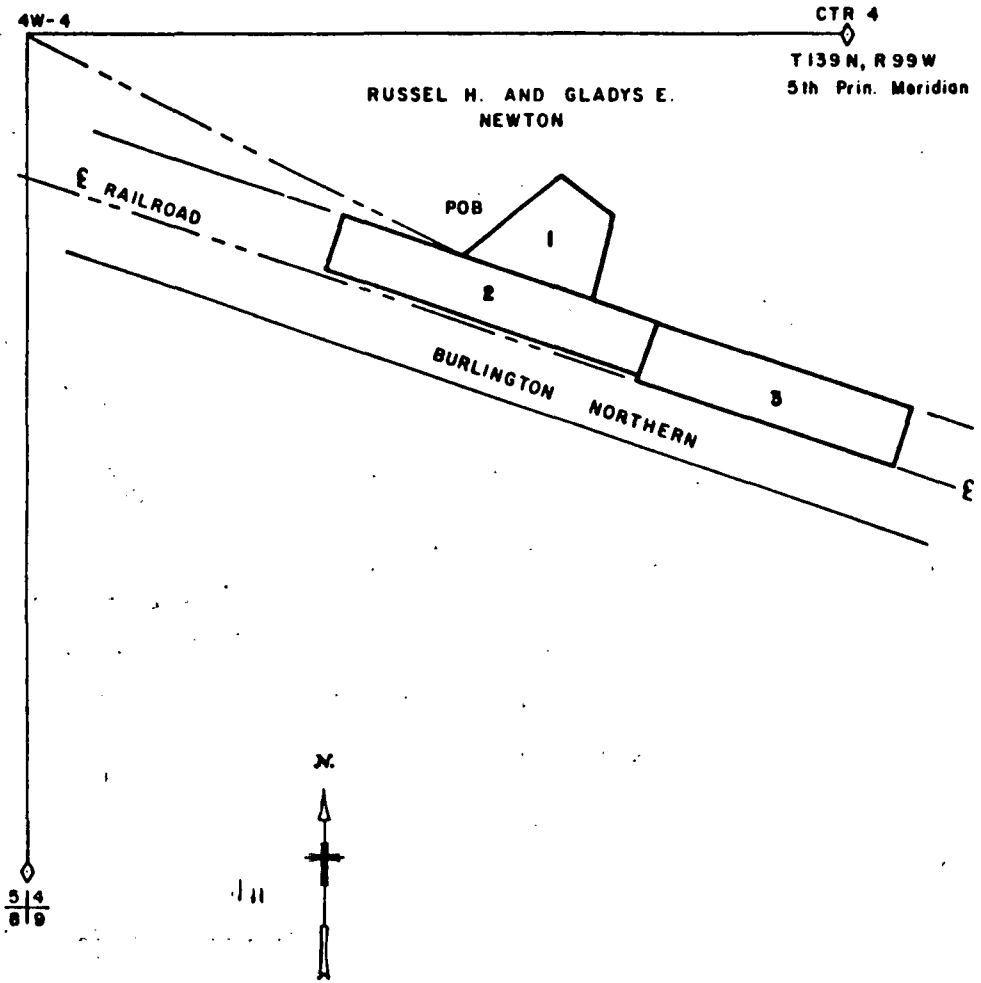
Persons with information about such sites or adjacent contaminated properties, whose location may be unknown to the federal government, should notify Dr. William E. Mott, Director, Environmental Control Technology Division, U.S. Department of Energy, Mail Station E-201, Washington, D.C. 20545.

- DOE -

News Media Contact: Carl Eifert, 202/252-4705

R-79-375

APPENDIX H
OTHER PROCESSING SITE DESCRIPTIONS



Tract 1: Beginning at a point 1570.8 feet South 62°54' East of the west quarter corner of Section 4, Township 139 North, Range 99 West, thence 414.6 feet North 50° 55' East, thence 217.1 feet South 51°00' East, thence 282.8 feet South 14°59' West, and thence 443.0 feet North 70°26' West to the point of beginning.

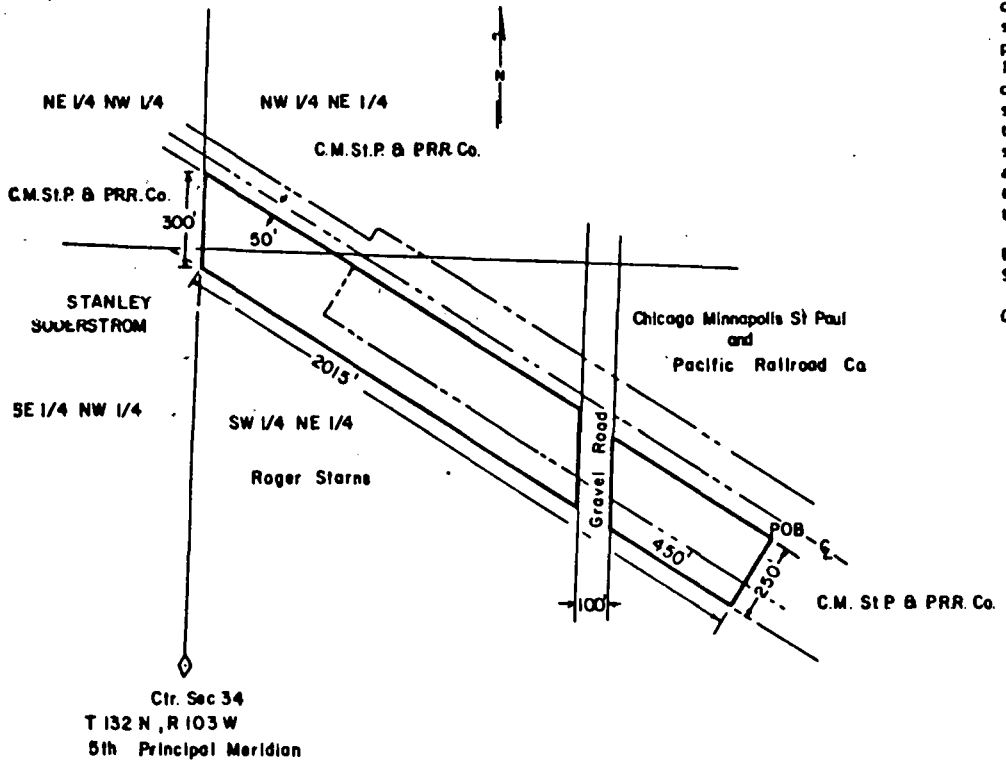
Tract 2: That portion of Railway Company's main line right-of-way in Section 4, Township 139 North, Range 99 West, lying between two lines parallel with and distant respectively 20 feet and 200 feet northeasterly, measured at right angles, from the center line of Railway Company's main line track as now constructed and lying between two lines at right angles to said center line at points therein distant respectively 1000 feet and 2075 feet southeasterly, measured along said center line, from the west line of said section.

Tract 3: That portion of Railway Company's main line right-of-way in Section 4, Township 139 North, Range 99 West, north of the center line of Railway Company's main line tract bounded by Tract 2 on the west and proceeding 860 feet along said center line. Containing approximately 11 acres.

Prepared For
United States Department of Energy

SITE DESCRIPTION & OWNERSHIPS
Inactive Mill Tailing Sites
BELFIELD, NORTH DAKOTA

H-2



Beginning at a point on the easterly line of Industry Lot 59, according to the Railroad Company's subdivision of its station grounds at Griffin, that is 8.5 feet southerly, as measured at right angles, from the center line of the Railroad Company's side track; thence southerly perpendicular to said side track center line approximately 250 feet to the Railroad Company's southerly property line; thence westerly along said southerly property line approximately 2015 feet to the north-south center line of said Section 34; thence northerly along said north-south center line approximately 300 feet to a point that is 50 feet southerly, as measured at right angles, from the center line of the Railroad Company's main track; thence easterly parallel to said main track center line to a point that is 8.5 feet southerly, as measured at right angles, from the said side track center line; thence continuing easterly parallel to said side track center line to the point of beginning;

Excepting therefrom the 100 foot wide southerly extension of Main Street;

Containing approximately 12.2 acres.

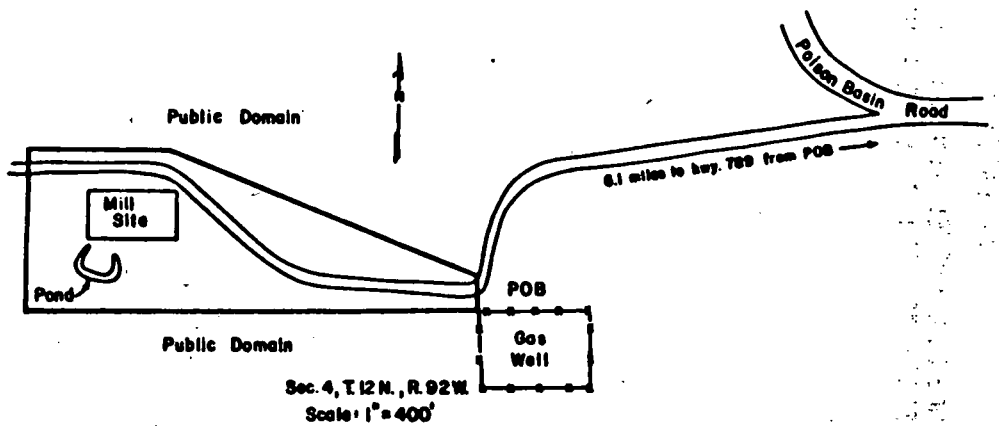
Prepared For

United States Department of Energy

SITE DESCRIPTION & OWNERSHIPS

Inactive Mill Tailing Sites

GRIFFIN, NORTH DAKOTA



Beginning at the northeast corner of the fenced gas well located 6.1 miles west of Highway 789 along Poison Basin Road, thence 1450 feet west, thence 500 feet north, thence 450 feet east, thence 1077 feet south 68°12' east, thence south 100 feet to point of beginning. Containing approximately 11 acres.

Prepared For
United States Department of Energy

SITE DESCRIPTION & OWNERSHIPS
Inactive Mill Tailing Sites
BAGGS, WYOMING

APPENDIX I

ENVIRONMENTAL PROTECTION AGENCY ADVICE ON THE ESTABLISHMENT OF SITE PRIORITIES

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUN 22 1979

OFFICE OF
AIR AND WASTE MANAGEMENT

Honorable James R. Schlesinger
Secretary of the Department of Energy
Washington, D.C. 20555

Dear Mr. Secretary:

Under Section 102(b) of the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA), the Secretary of the Department of Energy (DOE) is required to assess the potential health hazard to the public from tailings at processing sites designated under the Act. With the advice of the Environmental Protection Agency (EPA), DOE is required to establish, by November 8, 1979, priorities for carrying out remedial action at the designated sites. This letter provides such advice by offering a basis for the establishment of a logical order in which to carry out any required actions at the designated processing sites. Neither the identification of a need for remedial actions nor the protection goals of such actions is addressed.

According to Section 112(a) of UMTRCA, the authority of DOE to perform remedial actions under UMTRCA will terminate seven years after EPA promulgates the standards required of it by Section 206(b). EPA assumes that the remedial actions will be completed within this period, and that upon completion of the remedial actions in accordance with EPA standards, public health will be adequately protected. Therefore, the proper basis upon which to establish the order in which individual remediation projects should be undertaken is the detrimental health effects due to each site that would be expected to be committed during this interim period.

EPA has reviewed the available information concerning the specific sites listed under Section 102(a) of UMTRCA, which consists mainly of the "Phase II" studies prepared for DOE by Ford, Bacon & Davis Utah, Inc., and various reports by EPA. EPA has cooperated with DOE in evaluating the potential health problems of the various sites and has expressed some reservations regarding the completeness of the Phase II studies. These studies are, nevertheless, the primary sources of information on the hazards of the sites, and are sufficient for the purpose of establishing an order of priorities for performing remedial actions.

It is clear from the Phase II studies and other information that a major public health concern of these uranium mill tailings sites during the interim period is the emanation of radioactive radon gas. This conclusion is based on both the seriousness of the principal disease associated with exposure to radon and its radioactive decay daughter products, lung cancer, and the potential for human exposure under present conditions at the sites. Estimates of the induction of lung cancer in local populations have been presented in the Phase II reports. While EPA has expressed some disagreement with the method of risk assessment that was used, the method is common to all the sites. It is felt, therefore, that collectively the resulting health effects estimates constitute adequate data for the purpose of determining a relative ranking of the seriousness of the public health problems associated with radon during the interim period.

Other potential hazards of mill tailings at these sites are less well evaluated. Such hazard pathways as inhalation of blown particulates, ingestion of locally grown meats and vegetables, or the use of contaminated groundwater, could be significant. However, some of these pathways are most likely to constitute significant hazards only in situations where radon and its daughters are also significant, and any nonradiological toxic substances would have less serious health impacts than lung cancer. We have concluded that improved evaluation of such potential hazards is not likely to substantially change priority rankings determined solely from the inhalation hazard of radon and its daughters.

RECOMMENDATIONS

1. Estimates of the near-term local rates of induction of health effects associated with radon should be used as the primary basis for establishing priorities for remedial actions at the various processing sites. Because of the uncertainties in such estimates, little significance can be ascribed to small differences, and an ordinal ranking of the sites on this basis would not be as meaningful as ranking according to a small number of categories. Only differences among categories should be considered significant, not rankings within a category.

2. In carrying out remedial actions at a site, the first efforts should be directed to remediating elevated levels of exposure to individuals in occupied structures which is caused by the presence of tailings. This recommendation, in conjunction with Recommendation No. 4, may justify carrying out early remedial action at occupied structures even before remedial action is begun on the major portion of the residual tailings at an inactive processing site.

3. The above recommendations are based on an implicit presumption that the sites and the affected populations will remain relatively stable during the interim period. However, there are potential mechanisms which could alter the status considerably, such as flooding, unusual wind or water erosion, or substantial increases in occupancy or development on or near the site. DOE is urged to be cognizant of any substantial changes in conditions at individual sites, and to make future adjustments in priority as may be appropriate.

4. The priority ranking of sites should not be implemented so strictly that work on lower priority sites could not in any instance be initiated before completion of work at higher priority sites. Remedial actions at certain sites may involve lengthy procedures; at others the work may be done more quickly. It may not be justifiable to delay initiating relatively simple actions at low priority sites in favor of completing actions at higher priority sites.

These recommendations supersede the interim establishment of priorities which we found acceptable earlier (reference our letter to Ms. Clusen, dated May 3, 1979). While we are not aware of any differences in priority that would necessarily result, these recommendations do extend the basis upon which such decisions should be made. The staff of our Office of Radiation Programs will be pleased to discuss with your staff any uncertainties of interpretation which may arise.

Sincerely yours,

David G. Hawkins
Assistant Administrator
for Air, Noise, and Radiation

cc: Mr. Joseph M. Hendrie, NRC

APPENDIX J
PRIORITIES FOR REMEDIAL ACTION

PRIORITIES FOR PERFORMING REMEDIAL ACTION AT DESIGNATED PROCESSING SITES

Section 102 (a)(1) Sites	Priority
Salt Lake City, Utah	High
Canonsburg, Pennsylvania	High
Durango, Colorado	High
Shiprock, New Mexico	High
Grand Junction, Colorado	High
Riverton, Wyoming	High
Gunnison, Colorado	High
Old Rifle, Colorado	High
New Rifle, Colorado	High
Mexican Hat, Utah	Medium
Lakeview, Oregon	Medium
Falls City, Texas	Medium
Tuba City, Arizona	Medium
Naturita, Colorado	Medium
Ambrosia Lake, New Mexico	Medium
Green River, Utah	Low
Slick Rock (NC), Colorado	Low
Slick Rock (UCC, Colorado	Low
Maybell, Colorado	Low
Monument Valley, Arizona	Low
Lowman, Idaho	Low
Converse County, Wyoming	Low

Other Sites	Priority
Baggs, Wyoming	Low
Bellfield, North Dakota	Low
Bowman, North Dakota	Low

APPENDIX K

PROCESSING SITE SUMMARIES AND GEOGRAPHICAL LOCATIONS

Site: Monument Valley, Arizona

Location: The millsite is on the Navajo Indian Reservation in north-east Arizona. It is about 8 miles south of the Utah Border, about 30 miles north-east of Kayenta. The site is actually in Cane Valley which runs generally north-south and forms the Eastern boundary of Monument Valley.

Physical Characteristics:

Site area: 90 acres
Tailings area: 10 acres
Tailings quantity: 1,100,000 tons
Cover: none

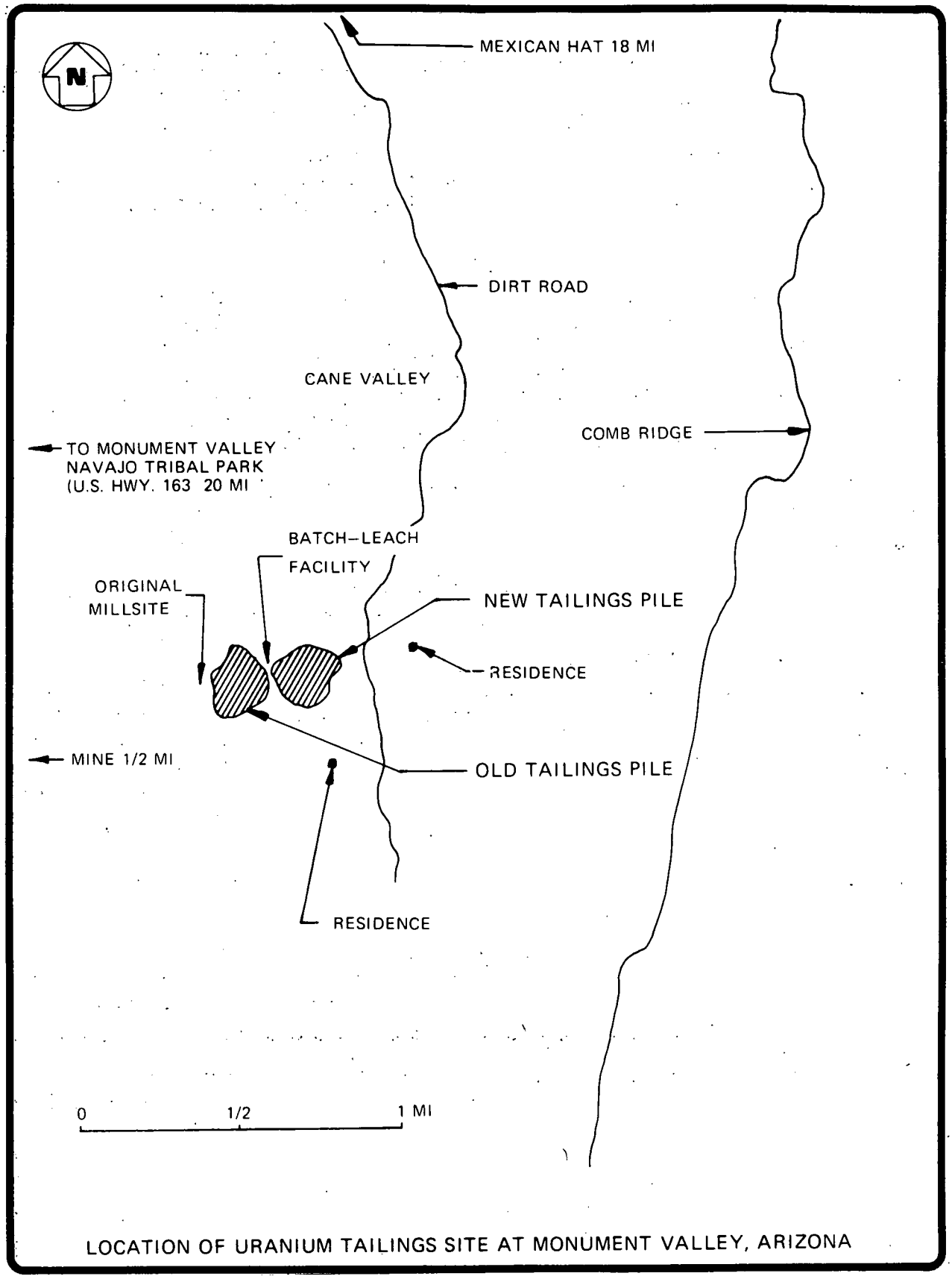
There are two separate tailings piles located close together. The smaller, containing 165,000 tons, resulted from heap leaching operations. The larger is the waste product from an upgrader, the product from which was shipped to Vanadium Corporation of America (VCA) mills at Durando, Colorado, and Shiprock, New Mexico. The sand tailings are coarse grained and consequently are reasonably resistant to wind and water erosion. The estimated uranium content is 0.007% U_3O_8, not of interest for reprocessing. The tailings are not stabilized, and the site is not fenced.

Operational Highlights:

The mill was built in 1955 by VCA, and operated by that company and its successor, Foote Mineral Company until 1968. The upgrading processes used involved a separation of the sands from the fine slimes. The latter product which contained most of the uranium and radium was shipped for reprocessing. The sand fraction was acid leached before being discarded. This material is relatively low in radium content. It is also nearly white in color. A survey of area dwellings by EPA, the Arizona AEC and the Navajo Environmental Protection Commission in 1975 identified 16 houses where tailings had been used under floors and in cement, mortor and stucco. Most of the mill structures have been removed from the site, but foundations and miscellaneous pieces of equipment remain.

Current Site Status:

The site is essentially uncontrolled. It is in a very remote area, many miles from any paved roads or other amenities. There are dwellings widely scattered throughout the valley, and two are close to the millsite. Erosion from the mill tailings areas continues, although at a relatively slow pace. A principal concern at this location is to discourage further removal of tailings from the site for use in construction.



LOCATION OF URANIUM TAILINGS SITE AT MONUMENT VALLEY, ARIZONA

Site: Tuba City, Arizona

Location: The Tuba City millsite is on the Navajo Indian Reservation in north-east Arizona about 6 miles east of the town of Tuba City, on the south side of Highway 160.

Physical Characteristics:

Site area: 88 acres
Tailings area: 22 acres
Tailings quantity: 800,000 tons
Cover: none

Much of the ore treated in this mill came from the Orphan Lode mine in the Grand Canyon and was relatively high grade. The tailings are estimated to contain 0.032% U_3O_8, and are definitely of interest for reprocessing. All the mill equipment and most buildings were removed. The main mill building which was left has been extensively vandalized and is in poor condition. The tailings were never stabilized and have migrated gradually toward the north-east. Most of the millsite housing, which was left on the site, is in disrepair. Out of about 26 units, 10 on the south side of Highway 160 were the only ones occupied at the time of the 1977 engineering survey. Some of the wind-blown contamination extends into the housing area. Several off-site locations were found to have tailings present.

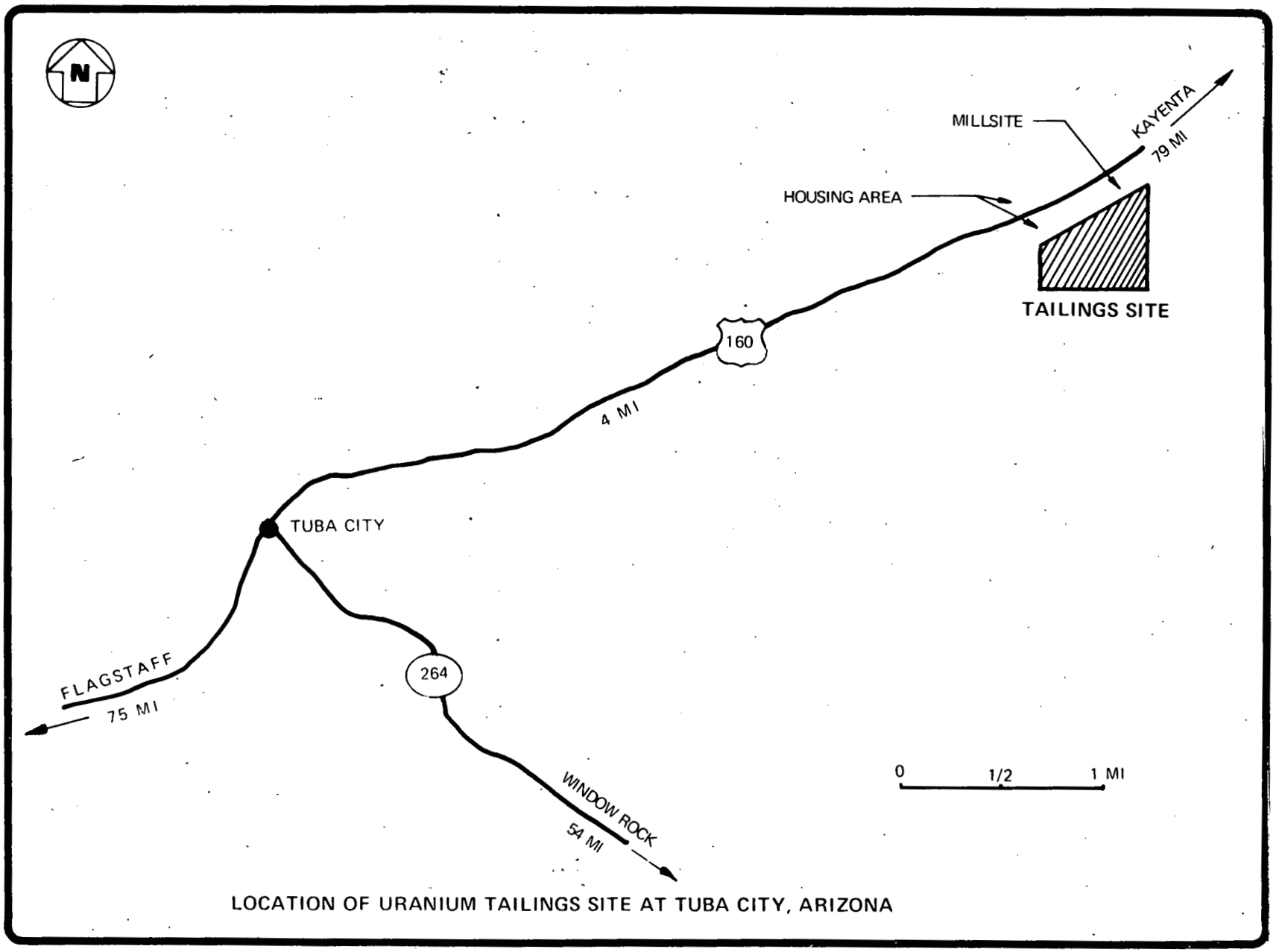
Operational Highlights:

The mill was built by Rare Metals Corporation which was merged into El Paso Natural Gas Company in July, 1962. The mill operated from 1956 to 1966 and treated ore with an average grade of 0.33% U_3O_8. In 1962-63 the plant was converted from acid leach to alkaline leach process which was better suited to the Orphan Lode ore. In 1968, El Paso, in an experiment with the U. S. Bureau of Mines, applied a chemical stabilizer to the tailings. This material lasted only 2 or 3 years before it began to "alligator" and crack up. It would not withstand any surface traffic. The property has now reverted to the Navajo Nation.

Current Site Status:

The tailings area must be considered essentially unstabilized and subject to continued wind erosion. There is an uncovered septic tank west of the mill area, presumably serving the housing area. It drains to the sewage lagoon and thence via a ditch into the tailings area.

Atlas Corporation has an agreement with the Navajo Nation under which it may reprocess the tailings. However, there are no definite plans to start this activity.



LOCATION OF URANIUM TAILINGS SITE AT TUBA CITY, ARIZONA

Site: Durango, Colorado

Location: The millsite is on a narrow bench across the Animas River from downtown Durango. It is in a narrow, steep-sided valley in southwestern Colorado about 18 miles north of the New Mexico border.

Physical Characteristics:

Site area: 107 acres		Tailings quantity:	1,555,000 tons
Tailings area: 21 acres in 2 piles		Other contaminated materials:	469,000
		TOTAL:	2,024,000 tons

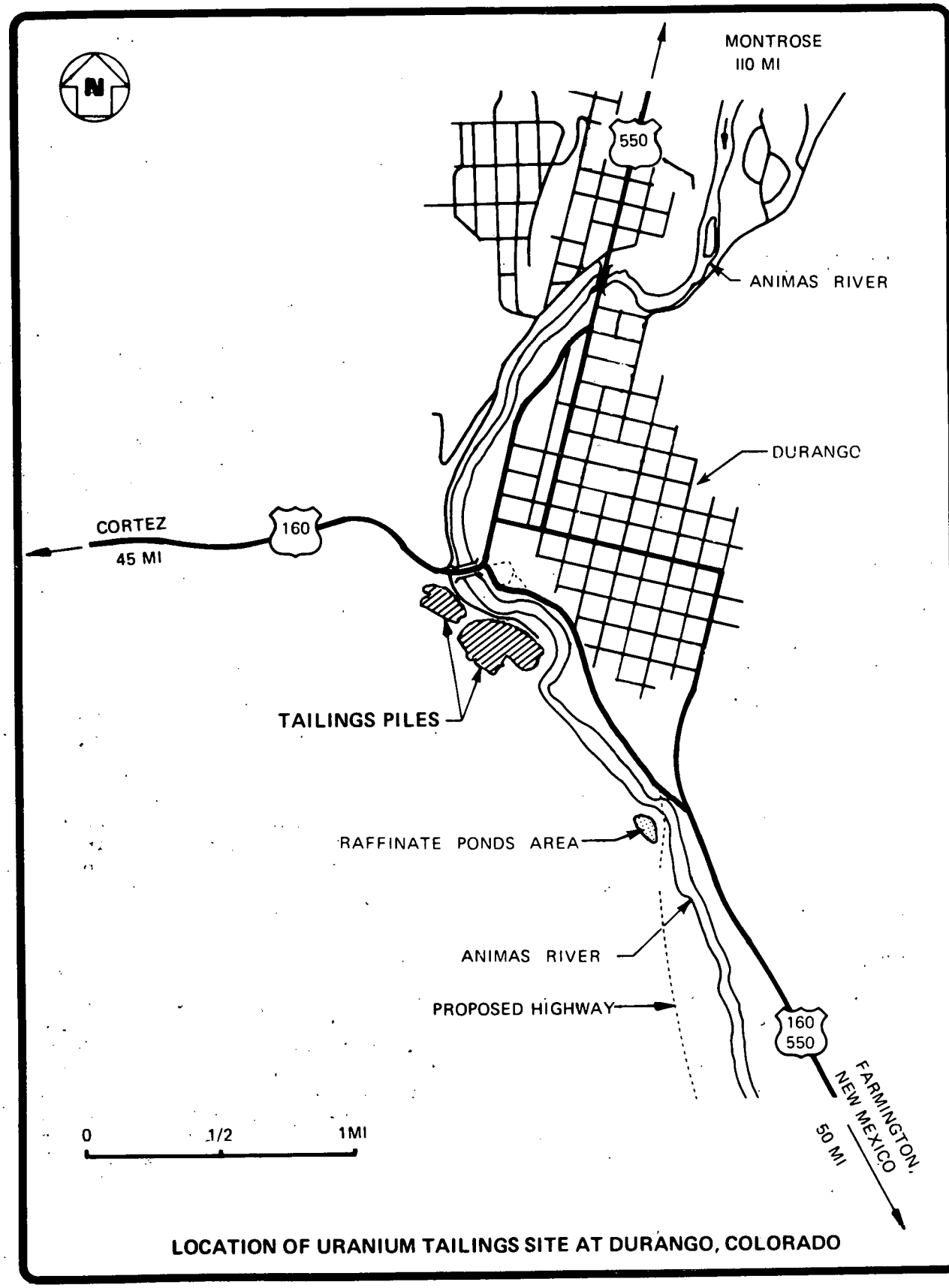
The base of the tailings piles is about 30 feet above the river. The tailings are banked against the steep slope of Smelter Mountain to a height of about 230 feet. While flat on top, the slope of the piles varies from 2-to-1 to about 1.5-to-1. Some vegetation has been established on these slopes and is maintained by watering. South facing slopes are only sparsely covered. With the exception of a few service buildings, the mill has been removed. At 0.04% U_3O_8, the tailings are of interest for reprocessing. Tailings were identified at about 100 off-site locations, some of which will require remedial action.

Operational Highlights:

In 1941, United States Vanadium Corporation built a plant to produce vanadium for the U. S. Government. From 1943 to 1946 this plant also produced uranium for the Manhattan Project. Vanadium Corporation of America bought the idle plant in 1949 and produced uranium for sale to AEC and byproduct vanadium as well. The plant was shut down in 1963. In 1976-77 Ranchers Exploration and Development Corporation purchased the site for the purpose of reprocessing the tailings, but has yet to obtain a license for this activity. During its operating life the plant was subject of numerous complaints from blowing tailings dust and discharge of effluents into the Animas River.

Current Site Status:

The steep slopes of the tailings piles, their location adjacent to a populated area, the high uranium content of the material, and the attractive location for future development all point to the infeasibility of stabilization at the present site. Several potentially suitable locations have been identified, but further studies together with local and state authorities and contact with companies interested in a reprocessing operation are needed. Meanwhile continued site maintenance is required to prevent further wind and water erosion of the tailings.



LOCATION OF URANIUM TAILINGS SITE AT DURANGO, COLORADO

Site: Grand Junction, Colorado

Location: The millsite is located in a largely industrial section of Grand Junction on the banks of the Colorado River near the confluence with the Gunnison River. The town itself is in a broad valley on the western slope of the Rocky Mountains, about 30 miles east of the Utah state line.

Physical Characteristics:

Site area: Originally 200 acres, the site has been sold off in parcels to various entities. Major contaminated areas are:

Tailings pile: 59 acres	Tailings quantity:	1,900,000 tons
Millsite: 6 acres	Other contaminated materials:	900,000
State tailings repository: 40 acres	TOTAL:	2,800,000 tons

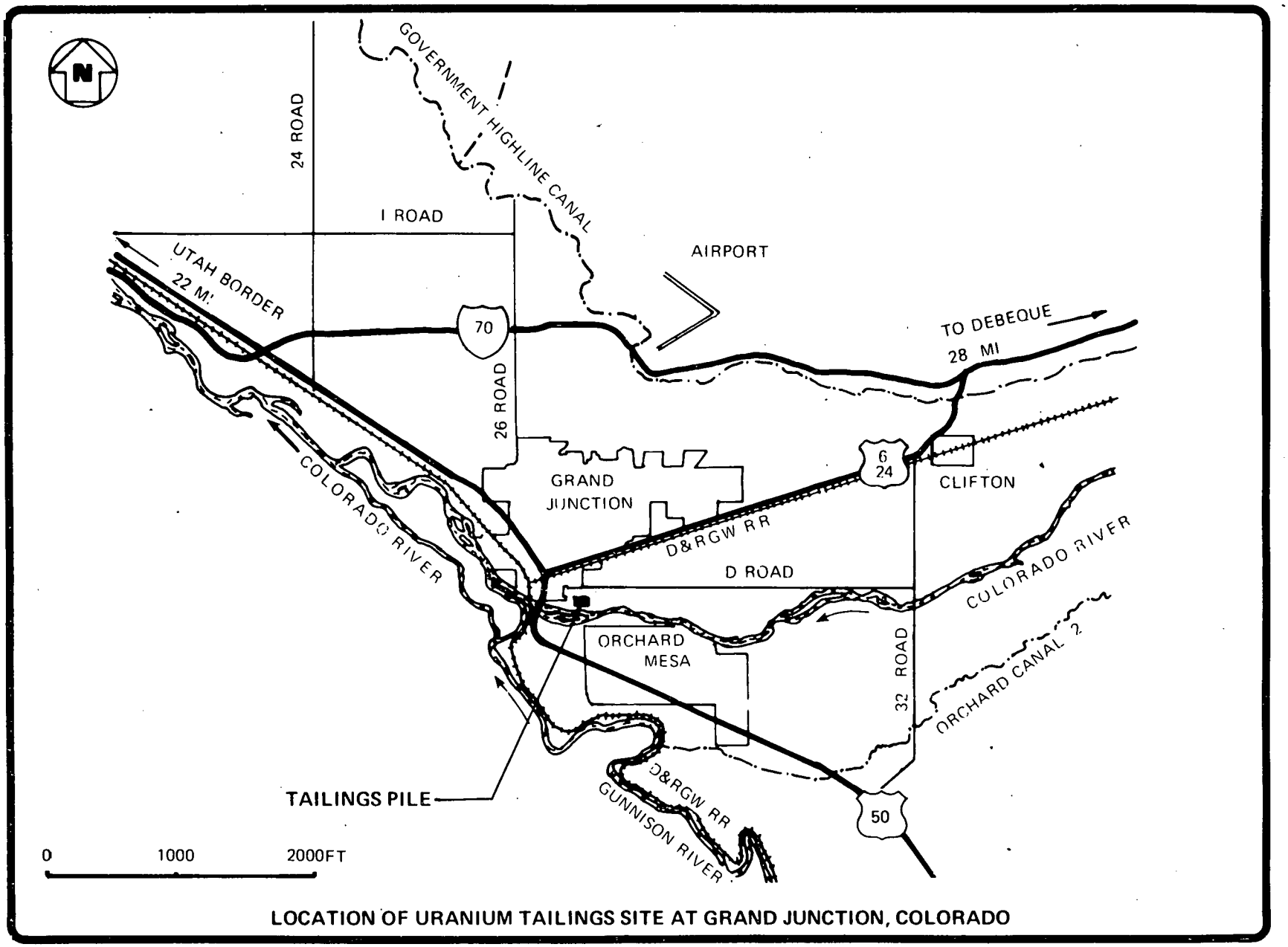
The tailings pile is separated from the Colorado River by a dyke which is heavily rip-rapped to lessen erosion. In times of high water the river surface is above the base of the tailings pile and may cause minor leaching. However, no contamination of ground or surface water has been noted as a result. The Grand Junction situation is unique in that about 300,000 tons of tailings were taken from the site and used for construction purposes in the area up to 1966. At 0.017% U_3O_8, the tailings are of marginal interest for reprocessing.

Operational Highlights:

Climax Uranium Company, later a division of AMAX, Incorporated, converted a former sugar beet processing plant to a uranium mill and commenced production of uranium and vanadium in 1951. The process was unusual in that it involved a separation of the sandy portion of the ore from the fine clays, usually called slimes. The sand tailings after uranium extraction were stored separately on the millsite and were available for the taking. The low level radioactivity in this material was not deemed of consequence until 1966 when it was found that structures built with the sand tailings had significantly elevated radiation levels. Further release of tailings from the site was stopped by the Colorado Department of Health in 1966. The mill shut down in 1970. The tailings were covered with 6 inches of soil and planted in grasses. The area is well fenced, and the cover is holding fairly well.

Current Site Status:

The mill tailings site itself is presently reasonably well controlled. However, radiation levels in the vicinity are slightly elevated as a result of radon emanation from the tailings. Proximity to a heavily populated area and increasing pressure on land use near the pile are significant adverse factors in considering whether the tailings should be stabilized on site or removed. Several favorable alternative disposal sites have been identified. The tailings pile is owned by Sand Extraction Company. The adjacent State owned repository is being used to store tailings removed from structures in the cleanup program going on under PL 92-314. This activity will continue for several years.



LOCATION OF URANIUM TAILINGS SITE AT GRAND JUNCTION, COLORADO

Site: Gunnison, Colorado

Location: The millsite is just outside the city limits of Gunnison in central Colorado. It is south-west of the city and adjacent to the airport.

Physical Characteristics:

Site area: 61 acres		Tailings quantity:	540,000 tons
Tailings area: 39 acres		Other contaminated materials:	88,000
		TOTAL:	628,000 tons

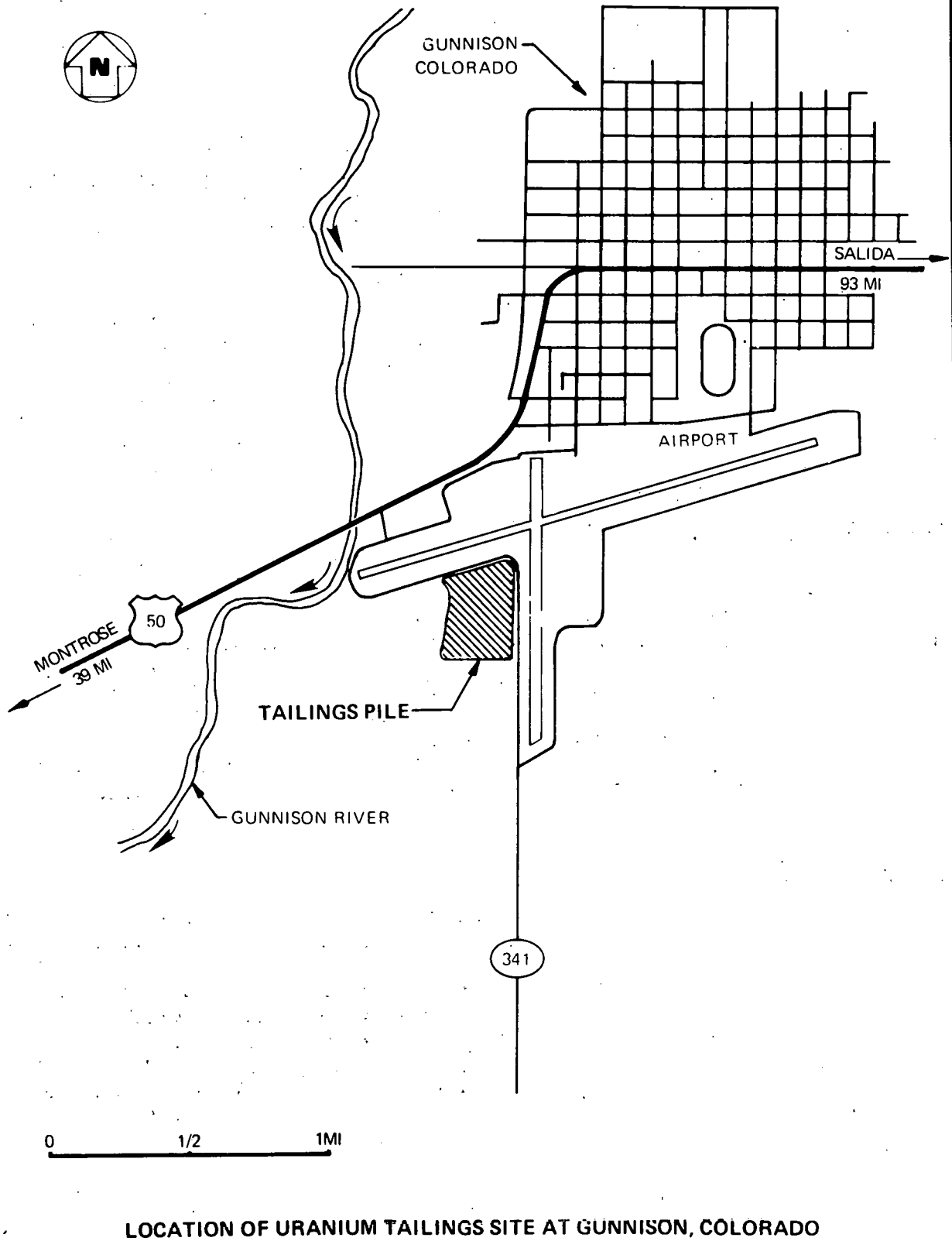
The tailings pile is 0.3 miles from both the Gunnison River and Tomichi Creek. The tailings are located on a thick section of unconsolidated river bed material about 10 feet above the level of the streams. While no contamination of ground water has been observed, hydrologically the site is a poor one. The pile was contoured, covered with 6 inches of material and planted with grasses. The site is fenced with barbed wire. Test pits indicate radium has penetrated the subsoil under the tailings only 2-3 feet. Off-site tailings use was noted for one structure and two vacant lots. Uranium content of the tailings appears sub-marginal for reprocessing.

Operational Highlights:

The mill was built and operated by Gunnison Mining Company from 1958 to 1961, when it was acquired by Kermac Nuclear Fuels Corporation. The mill closed down in 1962. The ore grade averaged 0.15% U_3O_8, and the tailings contain about 0.017%. The site was sold to Colorado Ventures Inc. in 1964. This organization disposed of the mill equipment, leaving the main building intact and stabilized the tailings area. A 3.5 acre strip was sold to Gunnison County for airport expansion. In 1973 the remainder of the property was sold to Decker, Bishop and McEachern of Denver, a limited partnership. The tailings area has been sampled by Solution Engineering Inc. to evaluate reprocessing potential.

Current Site Status:

The mill building is used occasionally as a storage warehouse. There is a resident caretaker on the site. The tailings cover is not fully effective and some areas of surface erosion are evident. The proximity of the site to the City of Gunnison makes it a prime area for light industrial development. Pressure for its utilization will continue to mount. The site location relative to the population center, ground water conditions and other factors warrant serious consideration of tailings removal. A number of suitable disposal locations have been identified.



LOCATION OF URANIUM TAILINGS SITE AT GUNNISON, COLORADO

Site: Maybell, Colorado

Location: In Moffat County, Colorado, about 5 miles north-east of Maybell and 25 miles west of Craig.

Physical Characteristics:

Site area: 84 acres)
Tailings area: 80 acres) The mill and tailings site is adjacent to a much larger area of open pit mines and overburden piles covering several hundred acres.

Tailings quantity:	2,600,000 tons
Stabilization cover:	100,000
TOTAL:	2,700,000 tons

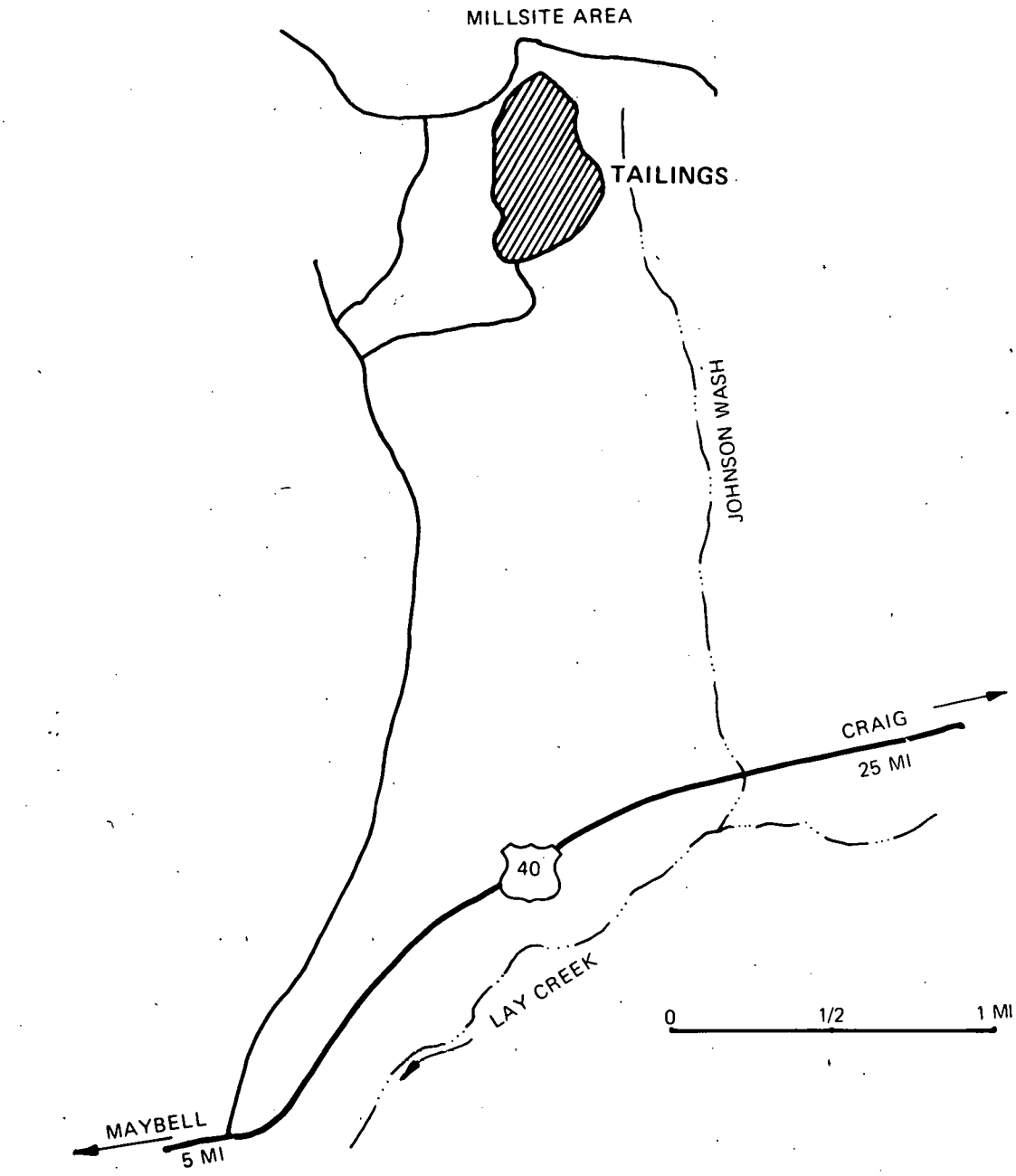
The tailings pile is in an area of rolling hills, well away from any population center. Maybell has about 50 permanent residents, increasing to about 100 in the summer. The millsite is about 4 miles from the Yampa River, the hydrological conditions are favorable and no ground or surface water problems are anticipated. The tailings area has been contoured for drainage control, covered with about 6 inches of soil and seeded. The vegetative cover is fairly well established and the area is fenced. All mill buildings were removed from the site. There is no evidence of off-site use of tailings from this location.

Operational Highlights:

The mill was built by Union Carbide Corporation, which operated it from 1957 through 1964. The ore, which was obtained from adjacent open pit mines, had an average grade of 0.098% U_3O_8, much lower than the industry average at the time. The mill contained an upgrader circuit in which the sand portion of the ore was removed, and only the higher grade fine portion was processed in the main mill circuit. Recently, Union Carbide has started a new uranium recovery operation on the western side of the mining area well away from the former millsite. It consists of a heap leaching operation followed by uranium recovery from the leach solution drained from the heaps.

Current Site Status:

Since the original Phase I visit to this site the company has corrected surface erosion problems noted at that time. The tailings area has an adequate interim stabilization; it presents no measurable radiation exposure to the general public. The site surveillance, as a result of other activities on the property, is good. One adverse factor is the fact that the mining area has been designated as a recreational area for off-road vehicles, particularly motorcycles. Tracks everywhere show the problems of continual surface disturbance by this activity.



LOCATION OF URANIUM TAILINGS SITE AT MAYBELL, COLORADO

Site: Naturita, Colorado

Location: The Naturita site is beside the San Miguel River about 13 miles south of Uravan in Montrose County and near the Utah line.

Physical Characteristics:

Site area: 109 acres Tailings area: 23 acres

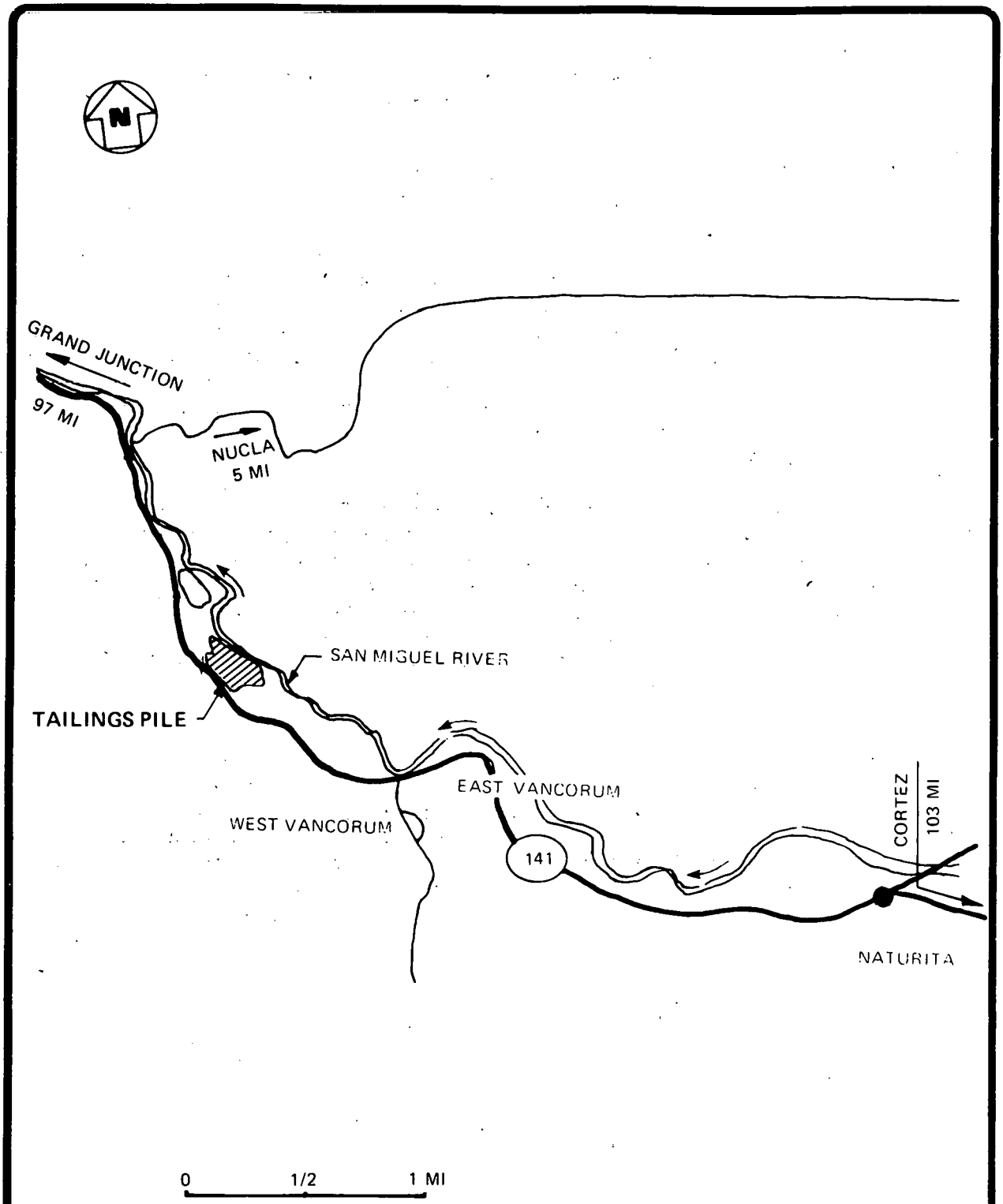
About 700,000 tons of tailings were located on the site. However, essentially all of this material was removed from the site by Ranchers Exploration and Development Company and reprocessed to recover uranium and vanadium at another location about 2 miles away. The tailings area is still contaminated, and part of the millsite is in active use by General Electric as an ore buying station. About 10 off-site locations have been identified where tailings have been used.

Operational Highlights:

The mill was first operated by Vanadium Corporation of America in 1939 for vanadium recovery. In 1947 it was modified to produce both uranium and vanadium, and continued until shut down in 1958. In 1961-63, VCA operated an upgrader on the site, shipping the product to Durango. In 1969 the tailings area was graded, covered with 6 inches of soil and seeded. It was irrigated for one year. The cover did not hold well. The tailings were bought by Ranchers Exploration and Development Company, the successor to VCA.

Current Site Status:

This site has been substantially altered by the removal of the tailings in 1977-78 along with part of the dike along the river. High water in the Spring of 1979 inundated the tailings area. A reexamination will be needed to determine the impact on the radioactive residues on the site.



LOCATION OF URANIUM TAILINGS SITE AT NATURITA, COLORADO

Site: Rifle, Colorado

Location: The town of Rifle is on the western slope of the Rocky Mountains on Route 70, a main east-west highway. Two uranium mill sites adjoin the town, designated the "Old" and "New" mills.

Physical Characteristics:

Old Rifle:	Site area: 22 acres	Tailings area: 13 acres
	Tailings: 350,000 tons	Cover: 10,000 tons
New Rifle:	Site area: 300 acres	Tailings area: 32 acres
	Tailings: 2,700,000 tons	No soil cover

The Old Rifle site is only a few hundred yards south-east of the town between Highways 6 & 24 and the D&RGW Railroad. The New Rifle site is about 2 miles west of Rifle between Routes 6 & 24 and the New I-70. Both tailings piles are on unconsolidated river-run deposits and are close to the Colorado River. There is a potential for leaching and erosion to carry some material to the river, but it is not presently a significant problem. The uranium content of the two piles makes them of probable interest for reprocessing. Surveys showed tailings present at about 74 off-site locations. Much of it was windblown.

Operational Highlights:

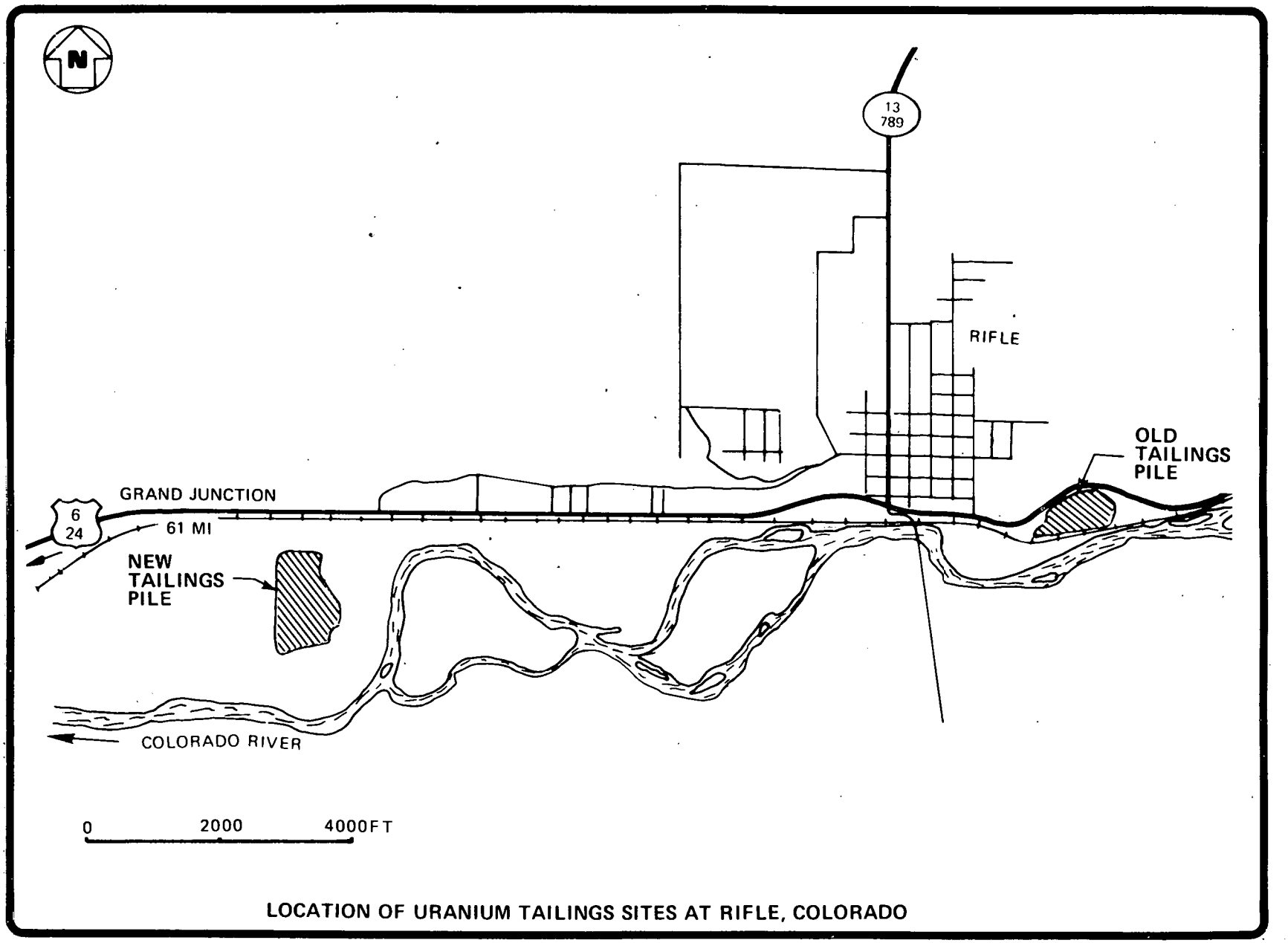
Old Rifle: The plant operated from 1924 to 1932 to process roscoelite ore for production of vanadium. In 1942 it was reactivated, and in 1946 it was altered to permit recovery of uranium along with vanadium. It closed in 1946, but reopened in 1947 under AEC contract. It was permanently closed in 1958 when it was replaced by the New Rifle mill. About half the tailings were moved to the New Rifle mill for reprocessing. All but one building was removed; the remaining tailings were covered and seeded in 1967. The area is fenced.

New Rifle: The plant was completed in 1958 and operated under AEC contract most of its operating period before shutdown in 1972. A small part of the mill is still used to process vanadium concentrates to make refined products for commercial sale. Following shutdown, the New Rifle tailings pile was seeded directly without a soil cover. It has a fairly good vegetative cover with only a few bare spots. The entire site is enclosed by a fence.

Both mills are presently owned and were operated by Union Carbide Corporation.

Current Site Status:

Both sites are fairly well controlled due to the continuing care and maintenance by Union Carbide staff. The piles are located in prime areas for future industrial development. If oil shale development should ever get underway, this area would be a major center for the industry. Because of the potential for growth of the area a number of alternative sites have been identified for relocation of the tailings. Reprocessing for further metal recovery would probably be a part of the operation.



LOCATION OF URANIUM TAILINGS SITES AT RIFLE, COLORADO

Site: Slick Rock, Colorado

Location: Slick Rock is a small community of 50 to 100 people extending along the Dolores River about 9 miles east of the Utah border, and 25 miles north of Dove Creek, Colorado. Two mill tailings sites at Slick Rock are the North Continent (NC) and Union Carbide (UC) sites.

Physical Characteristics:

NC:	Site area: 160 acres Tailings area: 6 acres	Tailings quantity: 37,000 tons Cover: 6,000 tons
UC:	Site area: 355 acres Tailings area: 19 acres	Tailings quantity: 350,000 tons Cover: 20,000 tons

The two millsites and associated tailings piles are only a half mile apart, and both are located on alluvial deposits of the Dolores River. The NC tailings are 15 to 75 feet from the river, and the UC tailings are 35 to 300 feet from the water and protected by a low dike. Both sites were graded, covered with 6 inches of soil and seeded with grasses. In neither case was the vegetation fully successful, and the cover is gradually eroding off, exposing bare tailings. Both sites are fenced with barbed wire. The uranium content of both tailings piles is so low that reprocessing is not of interest.

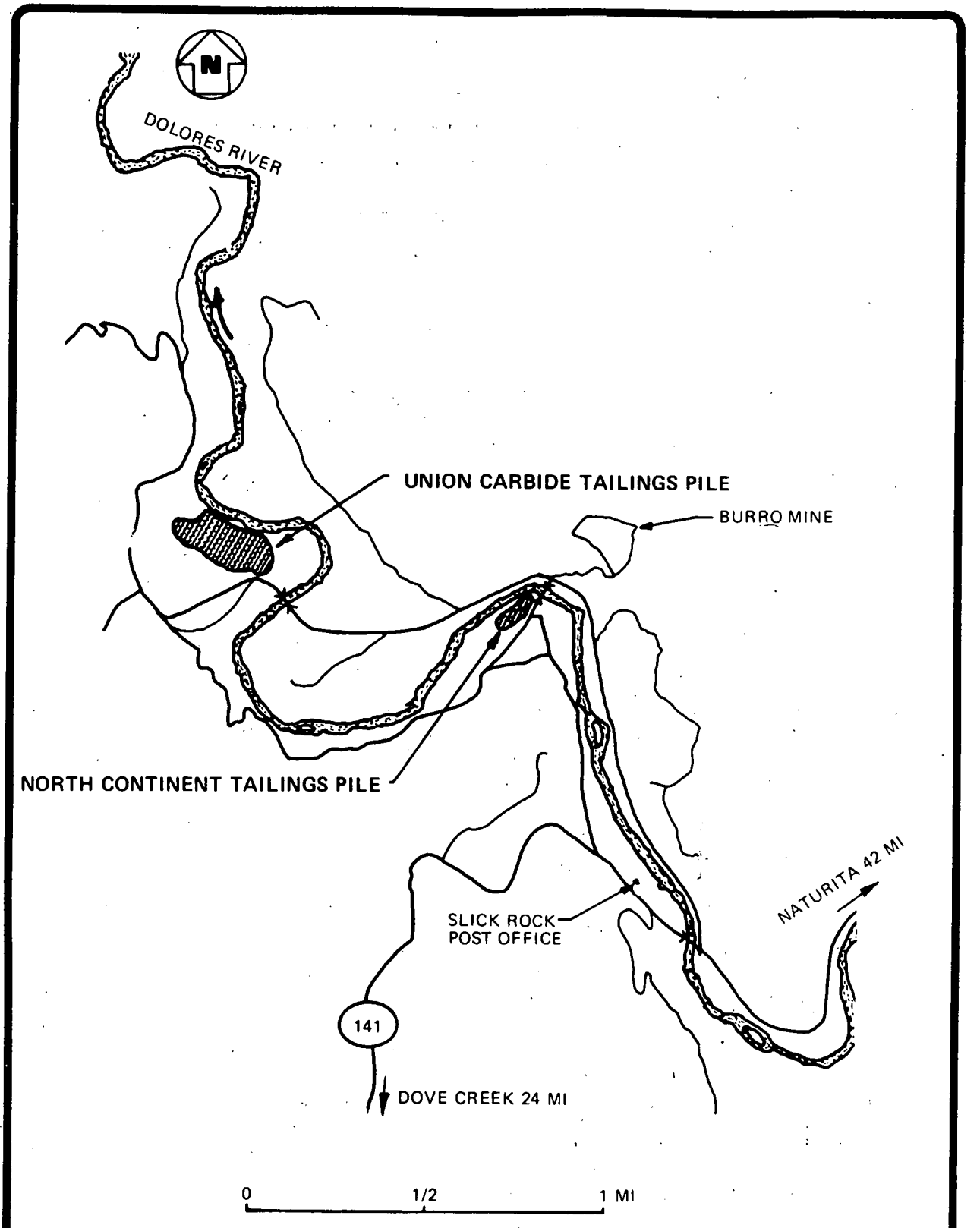
Operational Highlights:

NC: A small mill was operated on the site from 1931 to 1942 to produce radium, uranium and vanadium. The property also included ore deposits which have been mined for many years. There have been several owners, including the U. S. Government, which sold the property to Union Carbide Corporation in 1957. All structures and foundations were removed from the site.

UC: The mill was built by Union Carbide to produce an upgraded product to be finished at the New Rifle mill. The plant operated from 1957 to 1961. The mill buildings were removed, but foundations remain. Five acres were sold to Rocky Mountain Gas Company for a gas sweetener plant. A trailer park, housing and warehouse west of the site remain.

Current Site Status:

The site is a very isolated one, there being little employment except for one operating mine and a small ranch. Population of the area is about 50-100 persons depending on mining activity. Because of the upgrading process used at the UC site, in which the fine slimes carrying most of the radium content of the ore were shipped elsewhere, the tailings have an unusually low radium content, and consequently low radon flux at the surface, only a few times background.



LOCATION OF URANIUM TAILINGS SITES AT SLICK ROCK, COLORADO

Site: Lowman, Idaho

Location: The millsite is in Boise County about 75 miles north-east of Boise, in south-western Idaho. The site is adjacent to Clear Creek just above its confluence with the South Fork Payette River.

Physical Characteristics:

Site area: 37 acres
Tailings area: 18 acres
Tailings quantity: 90,000 tons
Cover: none

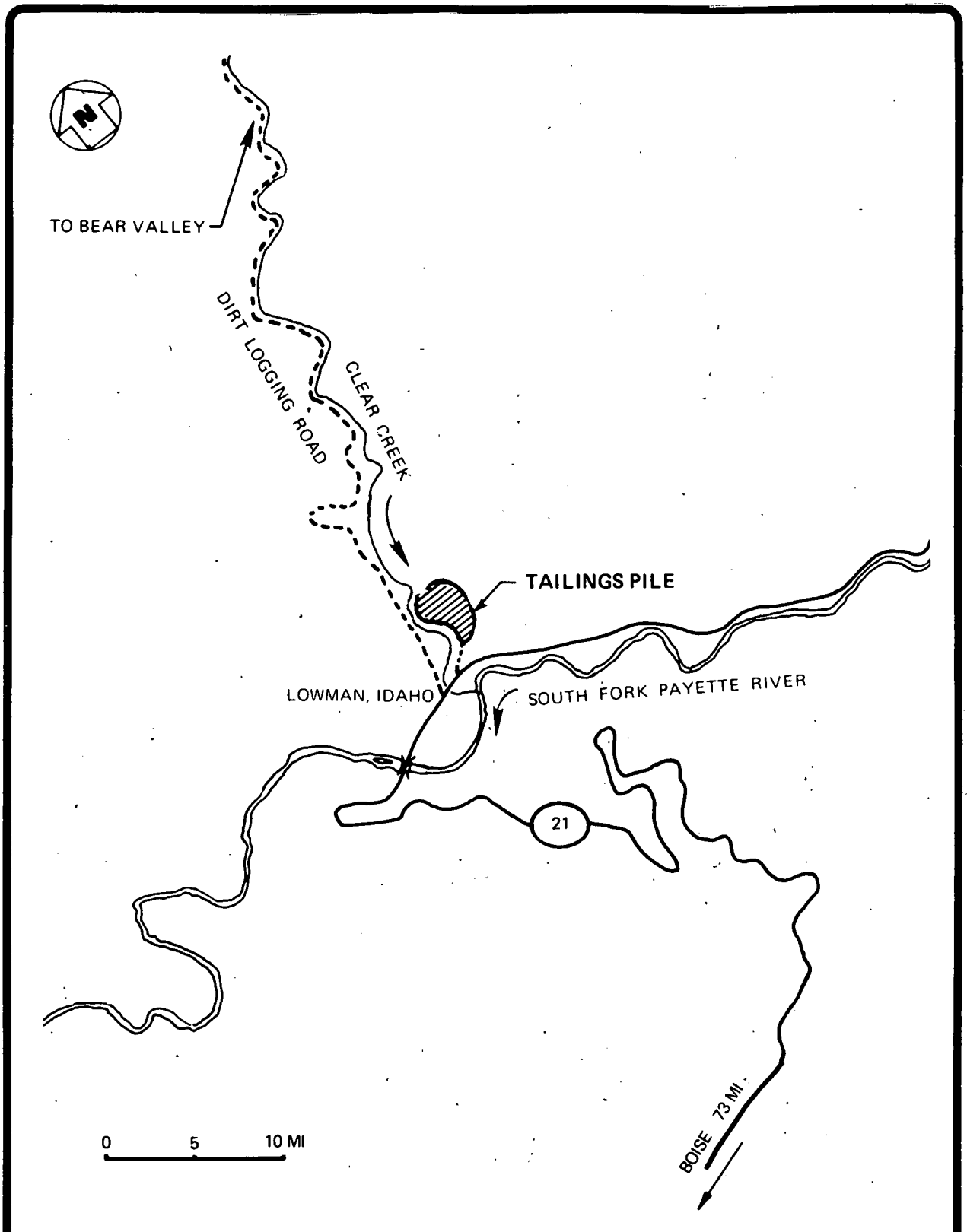
The ore fed to this plant was a product of dredging operations in Bear Valley, 20 miles north of Lowman. The dredge product was a mixture of heavy sands containing a variety of minerals. Rare earths and uranium were the elements of principal interest. The mill used a variety of processes to physically separate out different minerals. Chemical leaching was not used. Consequently, the residues on the site contain little or no soluble constituents. There are 8 off-site locations with possible tailings use.

Operational Highlights:

Porter Brothers Corporation operated the dredge and the mill from 1955 to 1960. The company had a contract to sell uranium to AEC, and another contract to sell a rare earths concentrate to the G. S. A. The product of the mill was refined by Mallinckrodt Chemical Works in a plant at Hematite, Missouri to separate out uranium for sale to AEC. The mill used wet and dry gravity separation methods as well as magnetic methods to produce a variety of products, and the various piles of sands spread over the site represent some of these products which have markedly different uranium content over a range of 0.2 to 0.01% U_3O_8. There is not enough of the higher grade materials to warrant facilities for treatment, and they give poor uranium recovery when treated by conventional methods. Since it was shut down the property has changed hands at least twice, and it is currently owned by Velsicol Chemical Corporation.

Current Site Status:

The original mill buildings were removed from the site, but foundations, concrete storage bunker walls and various scrap materials remain on the site. The piles of different colored sands are scattered over the site. Some are on the steep slope into Clear Creek and have been eroded by water from the site to some extent. No stabilization of the sand piles has been performed. The area has a barbed wire fence which was noted to be in poor condition. The millsite is about one mile from Lowman, a community of about 50 people. The site, a relatively level one, is attractive for future development.



LOCATION OF URANIUM TAILINGS SITE AT LOWMAN, IDAHO

Site: Ambrosia Lake, New Mexico

Location: The Phillips/United Nuclear millsite in the Ambrosia Lake area of McKinley County is about 20 miles north of Grants and 85 miles north-west of Albuquerque.

Physical Characteristics:

Site area: 165 acres
Tailings area: 105 acres
Tailings quantity: 2,600,000 tons
Cover: none

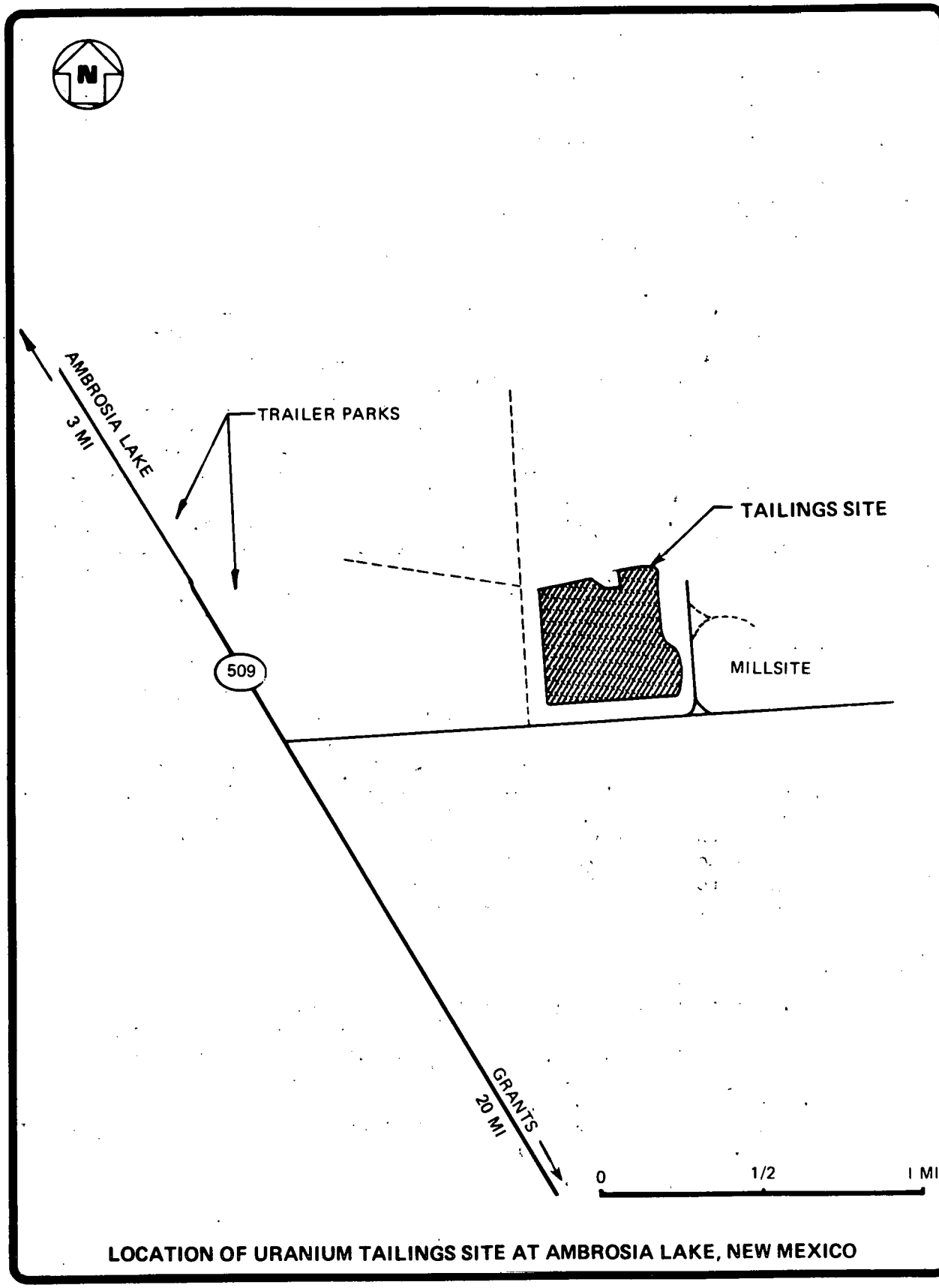
This site is one of four that operated in the Ambrosia Lake area. Two of them, Kermac Nuclear Fuels and United Nuclear-Homestake Partners are still operating. There are numerous underground mines throughout the basin. An operating mine with a shaft very close to the tailings pile has used about 400,000 tons of tailings for underground fill. An alkaline process was used at this mill for which the ore had to be very finely ground. Consequently, dusting from the tailings area was frequently severe. The tailings have never been stabilized, but have become crusted on the surface and somewhat resistant to erosion. The area is partially fenced. There are personnel regularly at the mill operating equipment to recover uranium from mine water. Reprocessing of the tailings, containing about 0.018% U_3O_8, appears marginal, but is worthy of further evaluation.

Operational Highlights:

The mill was built by Phillips Petroleum Company and operated from 1958 to 1963. United Nuclear Corporation acquired Phillips' mines and mill early in 1963, shut down the mill and redirected the ore to the United Nuclear-Homestake Partners mill a few miles away. The mill was left in standby condition. Studies of surface and ground water by EPA and the Los Alamos Scientific Laboratory have indicated some water contamination with non-radioactive elements. However, the source appears to be the operating underground mines which continually pump water to the surface. No tailings are known to have been removed from the site except for underground fill.

Current Site Status:

The site remains under continuing surveillance by reason of the personnel regularly present at the mill. However, the tailings are not stabilized; the area of windblown contamination around the site is extensive. The area around the site has not been graded to direct surface water away from the tailings. Cattle graze in the vicinity. There are about 10 houses and a school about 1 1/4 miles north-west of the site, but none in its immediate vicinity.



LOCATION OF URANIUM TAILINGS SITE AT AMBROSIA LAKE, NEW MEXICO

Site: Shiprock, New Mexico

Location: Town of Shiprock, San Juan County, New Mexico. About 25 miles southeast of the "4-Corners" boundary intersection of New Mexico, Arizona, Utah and Colorado; 30 miles west of Farmington.

Physical Characteristics:

Site area: 230 acres		Tailings quantity:	1,650,000 tons
Tailings area: 72 acres		Other contaminated	
upper: 26 acres		materials:	510,000
lower: 46 acres		TOTAL:	2,160,000 tons

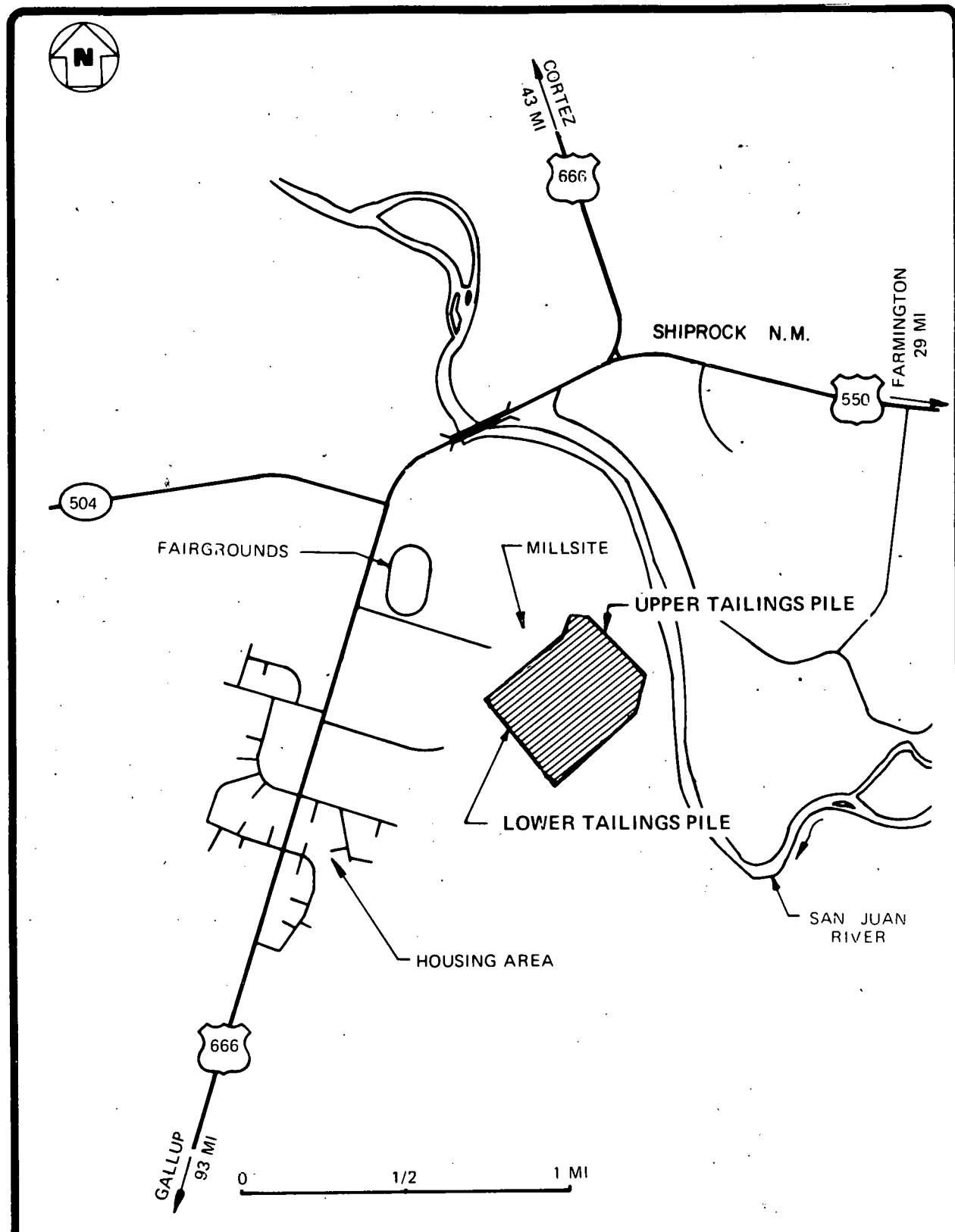
Tailings pile is on a bluff about 300 feet from the San Juan River, and about 75 feet above the river level. Underlying the tailings is about 10 feet of terrace deposits varying from coarse gravel to fine silt. Beneath lies several hundred feet of impermeable Mancos Shale. Site studies showed radium penetration into subsoil of only a few feet. Seeps along the edge of the bluff indicated slightly elevated dissolved metals, but volumes are so small as to have negligible effect on the river water quality. Uranium content of the tailings (about 0.012% U_3O_8) is so low that cost of recovery would exceed $120/lb, about 3 times current market price. Five off-site locations were identified with either tailings or ore residues close to structures.

Operational Highlights:

The mill was built by Kerr McGee Oil Industries, Inc. on land leased from the Navajo Nation close to the town of Shiprock. The company produced uranium for sale to the U. S. Atomic Energy Commission from 1954 to 1963. Vanadium Corporation of America purchased the mill in 1963. This company and Foote Minerals Company, its successor, operated the plant until 1968. In 1973, after the property reverted to the Navajo Nation, a training school for earth-moving machine operators was established on the site by the Navajo Engineering Construction Authority. The lower tailings area was the training ground. At the recommendation of EPA, the tailings area was regraded and covered with contaminated soil from the mill site in 1975-1976.

Current Site Status:

The upper pile has a cover of 6 inches to 2 feet of pit-run soil and gravel. It is holding well against wind and water erosion. The lower pile is regraded but has yet to be covered or fenced pending a decision on remedial action under the UMTRCA. A number of alternative sites have been identified to which the tailings could be moved to eliminate the problems of continuous low-level radiation, chiefly from radon gas and its daughter products in the vicinity of the site. The presence of the tailings inhibits future growth of the area.



LOCATION OF URANIUM TAILINGS SITE AT SHIPROCK, NEW MEXICO

Site: Belfield, North Dakota

Location: Town of Belfield, Stark County, North Dakota. About one mile southeast of the town; about 20 miles west of Dickinson, and about 15 miles east of Theodore Roosevelt National Memorial Park (South Unit).

Physical Characteristics:

Site area: 23.5 acres
Estimated volume of contaminated materials: 37,800 cubic yards

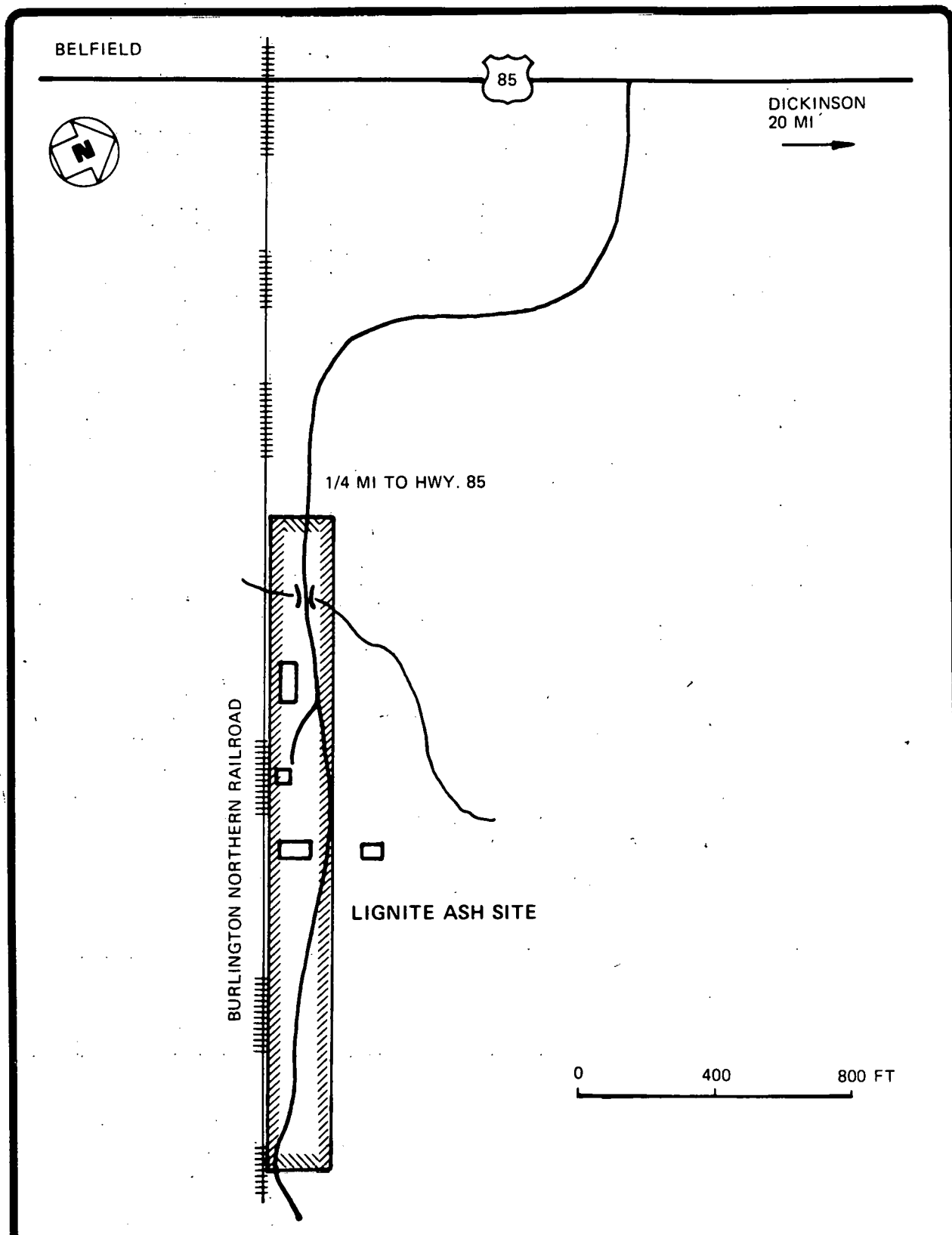
The contaminated area is basically flat, with low rolling hills around the Belfield area. A small stream runs northeast to southwest through the western part of the site. The contaminated area is roughly rectangular in shape. No clearly delineated pile or pond exists.

Operational Highlights:

From 1964 to 1968 Union Carbide Corporation operated a rotary kiln for burning uraniferous lignite at a capacity of 100 tons per day. The site is not what is typically considered mill tailings but rather ash from the kiln processing.

Current Site Status:

The L. P. Anderson Construction Company is based at the site, with its main building about 10 feet east of what appears to be the remnant of a furnace or mill. The area east of the L. P. Anderson building is used by the construction company for equipment storage. Just north of the main site is the yard of the Cenex Company. This is a concrete building with a storage area, and apparently is used for maintenance and filling of LP gas tanks. There are about 30 workers on the site. Portions of the site have been covered with gravel to provide a parking area and vegetation is generally well established. External gamma radiation readings in the area ranged from 130 to 220 uR/hr. The Burlington Northern Railway is the present owner of the site.



LOCATION OF LIGNITE ASH SITE AT BELFIELD, NORTH DAKOTA

Site: Bowman, North Dakota

Location: About 7 miles west of Bowman, Bowman County, North Dakota at the Chicago Minneapolis St. Paul and Pacific Railroad's Griffin siding. About 25 miles east-north-east of the southwest corner of North Dakota.

Physical Characteristics:

Site area: 21 acres
Estimated volume of contaminated materials: 34,100 cubic yards.

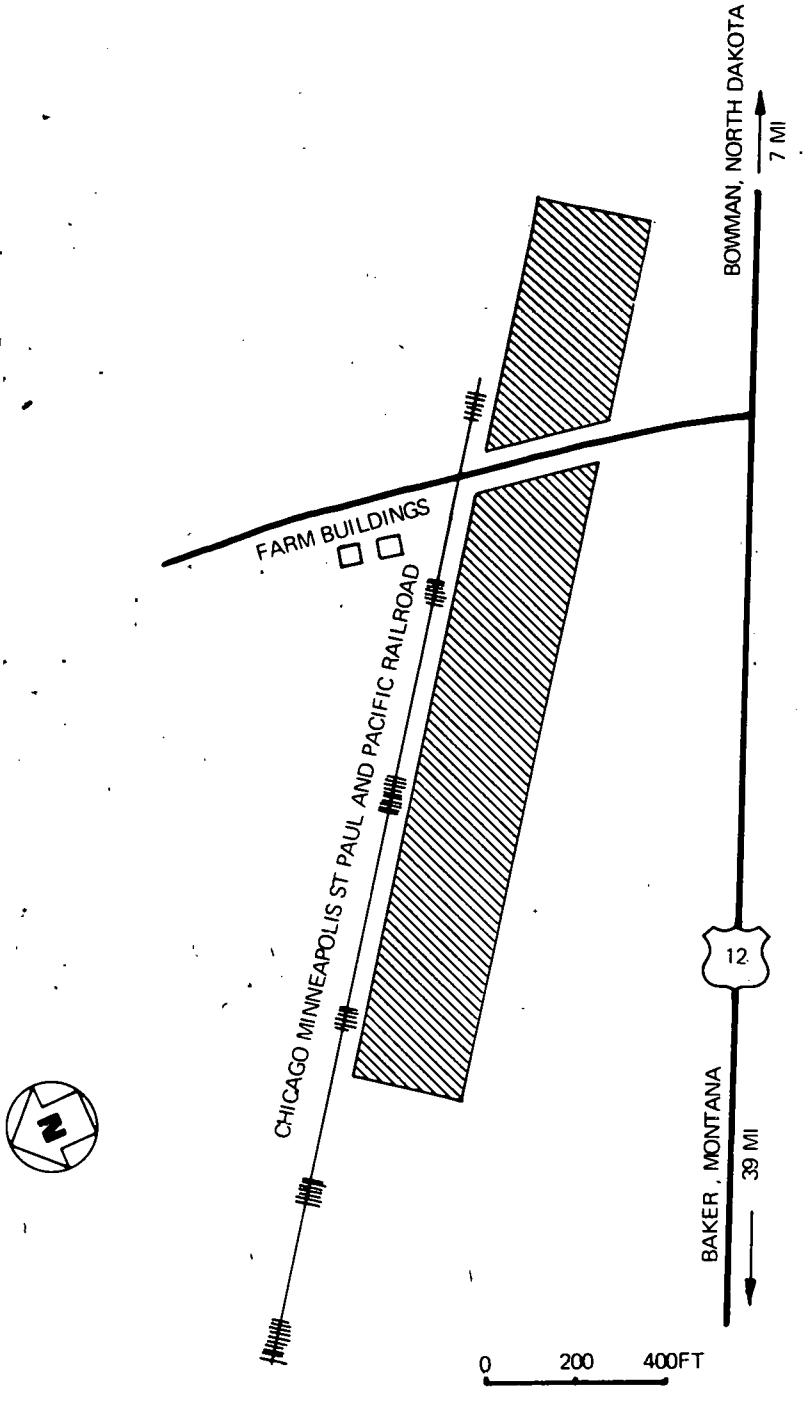
The site location is basically flat, with very little gradient in any direction. The region is a farming area; one farmhouse is about 600 feet north of the site and three other farmhouses are located within about 1 mile of the site. No other permanent population is near the site. No clearly delineated pond or pile exists. It is estimated that contaminated material is all within 1 foot of the surface.

Operational Highlights:

Kerr-McGee operated a rotary kiln at this site for burning uraniferous lignite from 1964 to 1967. Capacity of the operation was 225 wet tons per day. The site is not a typical tailings pile but rather consists of ash from the kiln processing.

Current Site Status:

Except for one small pump building at the dirt road passing through the site area the site is vacant. An area adjacent to the southern boundary of the site area is planted in sunflowers; EGR in the cultivated area ranged from 5 to 80 uR/hr. The noncultivated portion of the site is covered with grass. EGR in this area ranged from 50 to 130 uR/hr. This site is owned by the Chicago Minneapolis St. Paul and Pacific Railroad.



LOCATION OF LIGNITE ASH SITE AT BOWMAN, NORTH DAKOTA

Site: Lakeview, Oregon

Location: The millsite is about 2 miles northwest of the center of Lakeview, Oregon, a town in south-central Oregon about 16 miles north of the California border.

Physical Characteristics:

Site: 228 acres
Tailings area: 30 acres
Tailings quantity: 130,000 tons
Cover: 115,000 tons

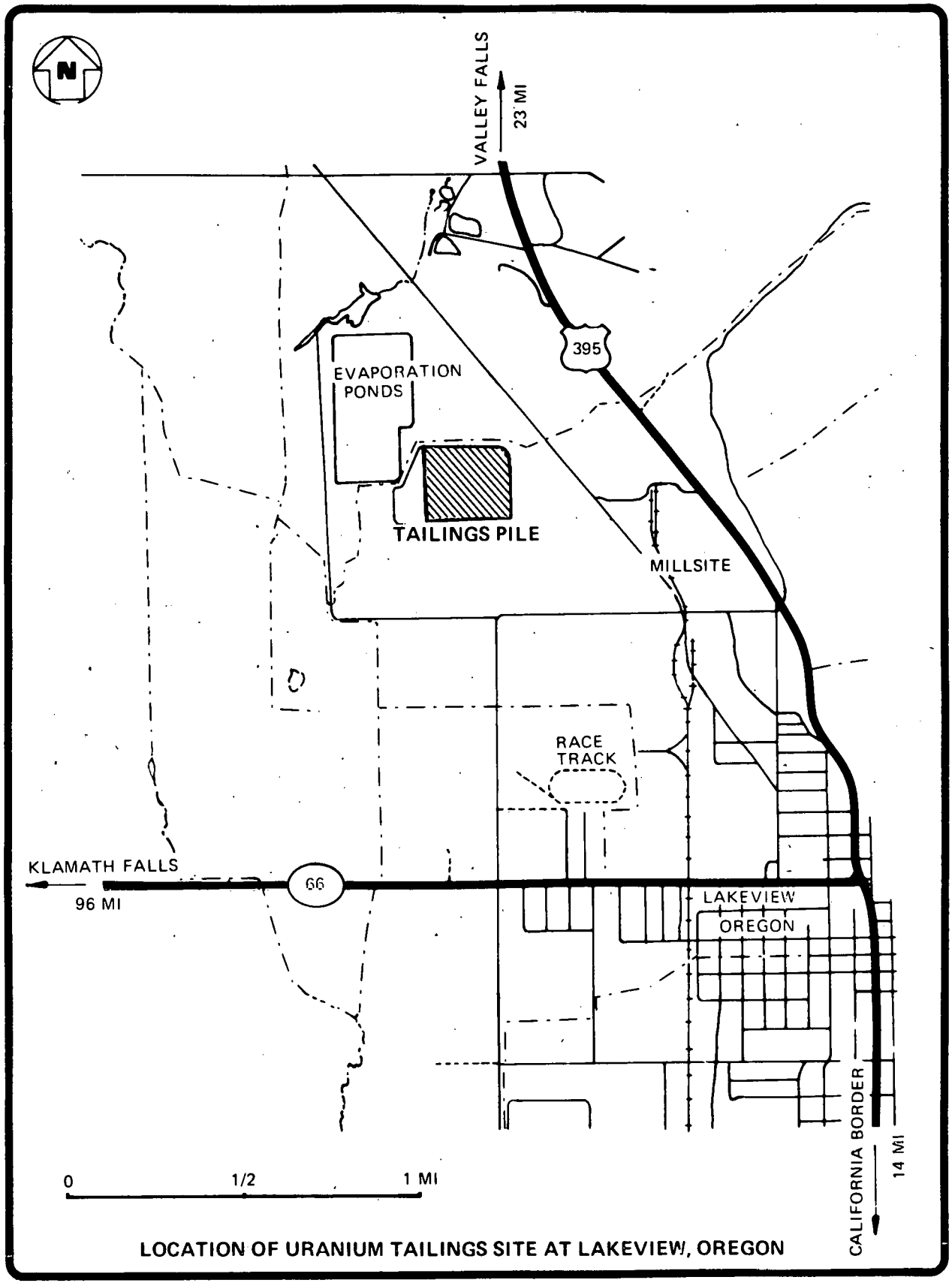
The tailings are thinly spread, only about 2 feet thick over the tailings impoundment area, as a result of the ore supply being exhausted sooner than anticipated. The tailings are covered with 1.5 to 2 feet of earth, and supported by a vigorous growth of vegetation. Gamma radiation levels over most of the tailings area were less than twice background. The quantity of tailings at the site is too small for economic reprocessing.

Operational Highlights:

Lakeview Mining Company built and operated the mill from December, 1958, to December, 1960, during which period it produced 171 tons of U_3O_8 for sale to the AEC. Subsequently, the property has had a succession of owners. Atlantic Richfield Company, which bought the property in 1968, stabilized the tailings. The mill building and other structures were decontaminated, and machinery removed. The site was purchased recently by Precision Pine for use as a lumber mill.

Current Site Status:

The population in the area within a mile of the site is very low. About 3000 people live in Lakeview. The tailings area is well stabilized for the present. There are a few spots near the mill which indicated residual contamination at the time of the 1977 survey. One interesting development in connection with long term stabilization on this site is that the State of Oregon has banned storage of radioactive materials within the state.



LOCATION OF URANIUM TAILINGS SITE AT LAKEVIEW, OREGON

Site: Canonsburg, Pennsylvania

Location: Borough of Canonsburg, North Washington County, Pennsylvania. About 15 miles southwest of Pittsburgh in the Southwest corner of the state.

Physical Characteristics:

Site area: 19 acres
Contaminated area: the entire site is contaminated
Contaminated soil quantity: 185,000 tons
Contaminated rubble quantity: 15,000 tons
TOTAL: 200,000 tons

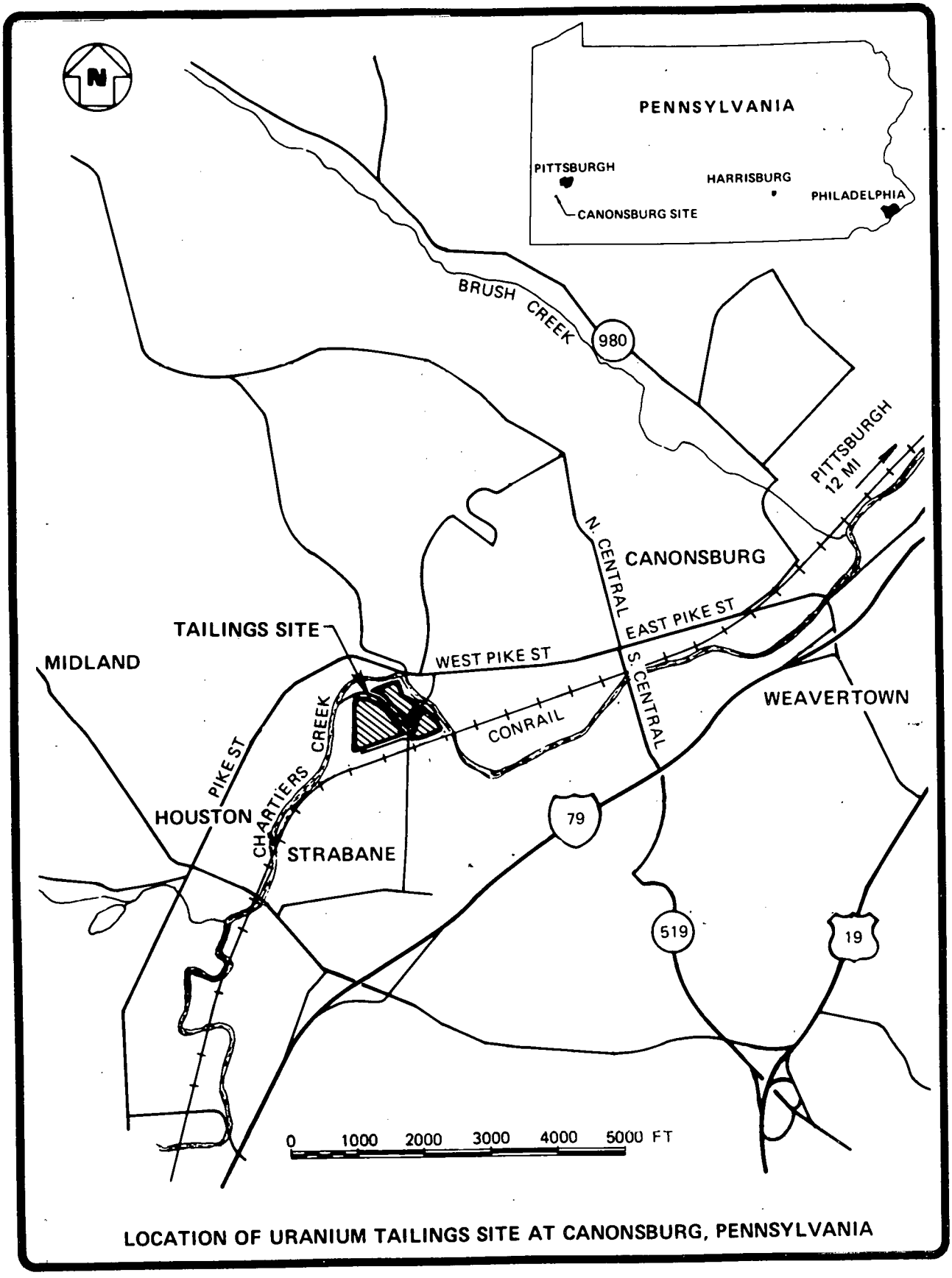
The site borders Chartiers Creek and slopes to the east. Underlying the site is about 60 feet of combined alluvial material and an unconsolidated formation. The underlying bedrock consists of several hundred feet of shale and sandstone. Site studies showed radium penetration into the subsoil generally in a range of 2 to 6 feet. Measurements have shown that river water quality has not been effected by the contamination. Recovery of residual values is not considered to be economical. Off-site contamination has also been found at numerous locations. About 12,000 tons of contaminated materials from the site were moved to a landfill site in Burrell Township, Pennsylvania, in 1956 and 1957.

Operational Highlights:

The Standard Chemical Company was the initial operator of the site during the period from 1911 to 1922, extracting radium from carnotite ore. Operations ceased from 1922 until about 1930 when Vitro Manufacturing Company acquired the plant. Vitro extracted radium and uranium salts from onsite residues and carnotite ore form 1930 to 1942. In 1942, operations funded by federal government contracts were directed to recover uranium from various ores, concentrates, and scrap materials. Since 1966, the property has been owned by the Canon Development Company which leases it to tenent companies for light industrial use.

Current Site Status:

The developed portion of Area A is currently in use as an industrial park and contains 14 buildings. The undeveloped portion is covered with brush and grass. Area B is currently unused and the surface is rough and covered with brush and trees. Area C is flat and has been stabilized with soil and graded smooth. A number of alternative sites have been identified to which the contaminated materials could be removed to eliminate the problems of continuous low radiation and transferable alpha contamination. The presence of the contaminated materials on site inhibits future growth of the area. On the site map Area A is to the west, Area B to the north, and Area C to the east.



LOCATION OF URANIUM TAILINGS SITE AT CANONSBURG, PENNSYLVANIA

Site: Falls City, Texas

Location: The millsite is in southern Texas, about 46 miles southeast of San Antc . It is about 10 miles southwest of Falls City in Karnes County.

Physical Characteristics:

Site area: 386 acres
Tailings area: 146 acres
Tailings quantity: 2,500,000 tons
Cover: 600,000 tons

The ore for this mill was derived mainly from a number of shallow open pit mines near the millsite. Much of the ore was within 25 feet of the surface. Average ore grade was 0.16% U_3O_8. Tailings grade is estimated to be 0.009% U_3O_8, and is considered submarginal for reprocessing at current prices. Tailings areas not occupying open pit mines were clay lined before use. However, 3 of the piles are in former open pit mines. The water table in the area is close to the surface. Consequently, several of the open pits are partially water filled. Shallow ground water in the vicinity of the millsite generally exceeds the EPA standard for radium, but it is difficult to assess how much of this derives from the tailings versus shallow uranium deposits. Six off-site locations have been identified with radioactive contamination warranting consideration for remedial action.

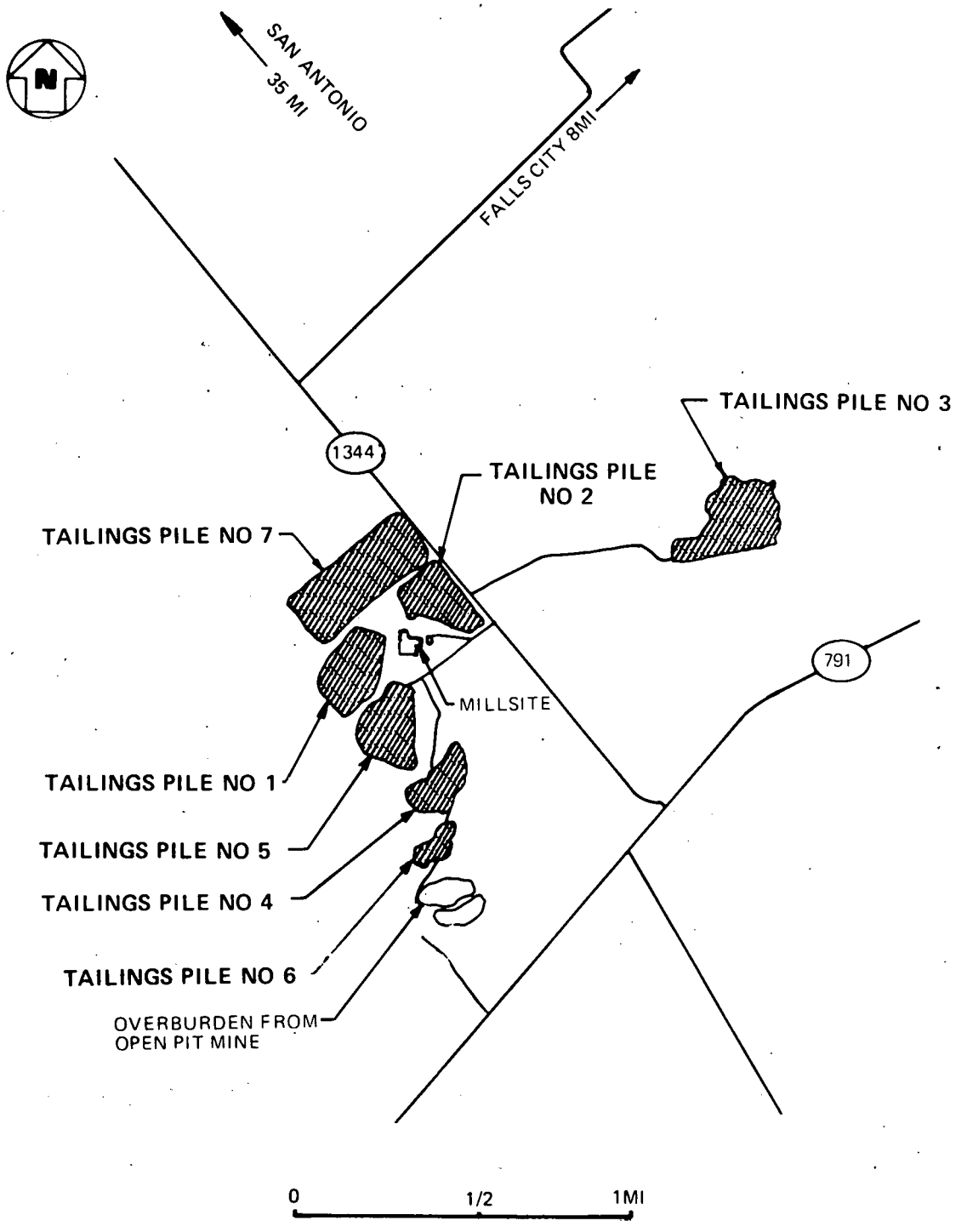
Operational Highlights:

The mill was built by Susquehanna Western, Incorporated, a wholly owned subsidiary of Susquehanna Corporation. The mill operated from April, 1961 to August, 1973. The tailings were impounded in six separate piles. One of the open pits was used for solution impoundment. Several of the piles and the solution pond were on leased land. Molybdenum in the ore was partially water soluble, and at one time cattle grazing near the site became sick, apparently from drinking water draining from an ore storage area. The Texas Department of Health has required that all of the tailings piles be stabilized with a minimum 2 feet of cover. At the time of the 1977 engineering survey all but two of the piles had been covered, and the remaining piles were being worked on.

Recently Solution Engineering has acquired Susquehanna Western's interests in the site.

Current Site Status:

The tailings piles which were covered had a good growth of vegetation at the time of the 1977 visit. A series of pipes and pumps had been installed to pump water draining from the piles back onto Pile 2 for evaporation. Regular pumping is required from some areas. Mean annual precipitation in the mill area is 29 inches. The site received 24 inches of rain in 3 days during hurricane Beulah in 1967, while the mill was operating. Solution Engineering's plans for uranium recovery operations on the site are not known. The 1970 census showed 440 residents in Falls City. However, the population within 0.3 miles of the site is virtually zero.



LOCATION OF URANIUM TAILINGS SITE AT FALLS CITY, TEXAS

Site: Green River, Utah

Location: The Green River millsite is in Grand County, Utah, in the east central part of the state, one mile east of the town.

Physical Characteristics:

Site area: 80 acres
Tailings area: 9 acres
Tailings quantity: 123,000 tons
Cover: 12,000 tons

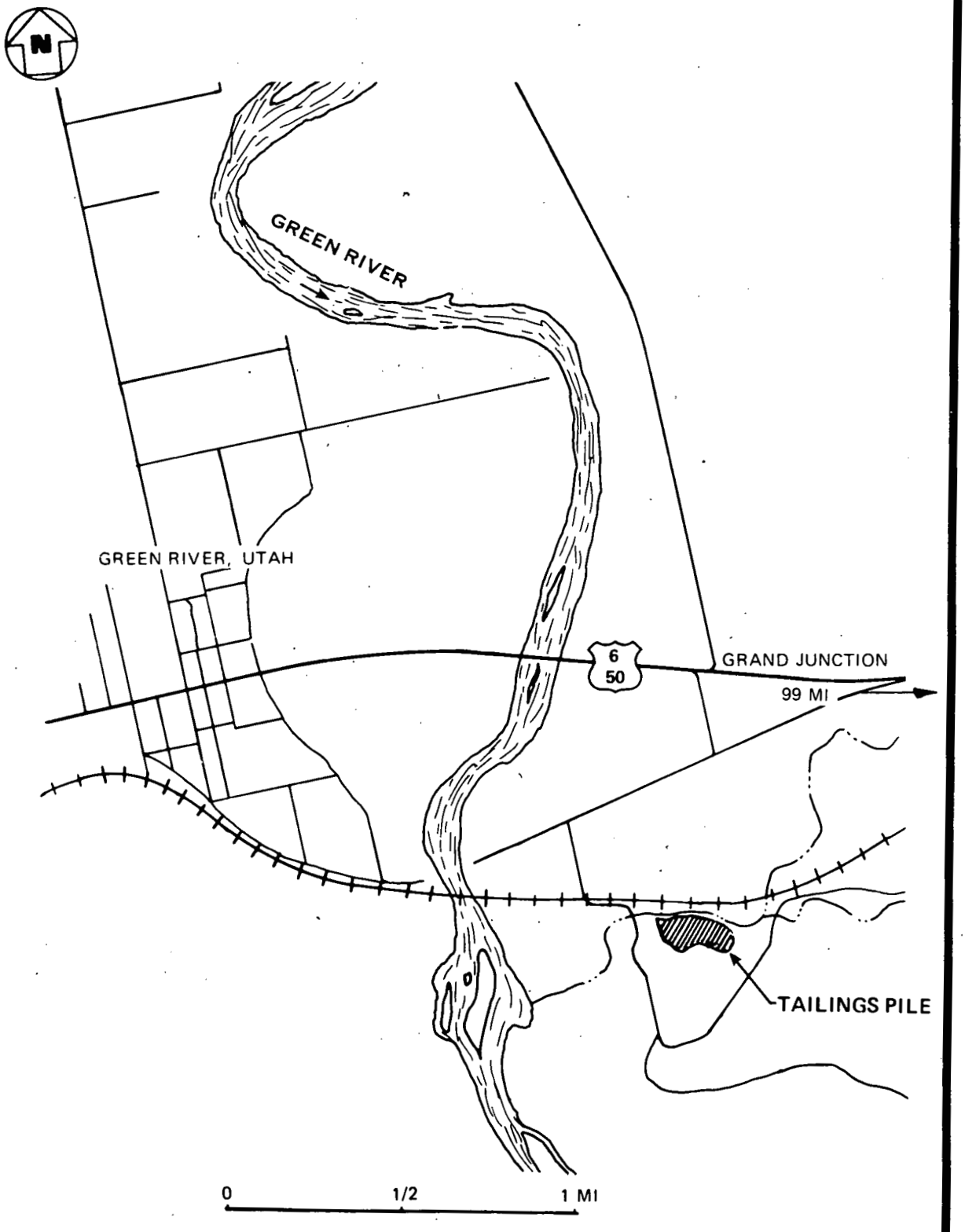
The tailings are the waste sands from an upgrading process in which the fine portion of the ore was separated out and shipped to the New Rifle plant in Colorado for further processing. Consequently, the radium content of the tailings is low. The tailings pile is on the bank of Browns Wash, an intermittent stream that drains an area of over 80 square miles upstream of the site. Over 10,000 tons of the pile were eroded away in flood waters in 1968.

Operational Highlights:

The plant, built and owned by Union Carbide Corporation, operated from March, 1958, to January, 1961. The tailings have been covered with 6 inches of soil, but not contour-graded. It has about 15% cover of natural vegetation, and is subject to continuing erosion. A dike was built along Browns Wash. The millsite has not been decontaminated, and the buildings are leased to others from time to time. There was only one off-site location where tailings have been found. The low grade of the tailings (0.005% U_3O_8) and relatively small quantity would make the cost of reprocessing excessive, ten or more times current prices.

Current Site Status:

It appears that by realignment of Browns Wash and improved diking the present site could be made suitable for long-term stabilization of the tailings. The population within 3 miles of the site, about 1000 people, is relatively stable, and there appears to be little pressure for development in the area. Radiation exposure to the public from the tailings is minimal with the possible exception of people leasing the buildings. Previous sampling to determine the effect of the tailings on ground water was inconclusive, and further tests may be needed.



LOCATION OF URANIUM TAILINGS SITE AT GREEN RIVER, UTAH

Site: Mexican Hat, Utah

Location: The millsite is in southeastern Utah about 10 miles north of the Arizona line. It is about one mile south of the town of Mexican Hat on the Navajo Reservation.

Physical Characteristics:

Site area: 555 acres
Tailings area: 68 acres
Tailings quantity: 2,200,000 tons
Cover: none

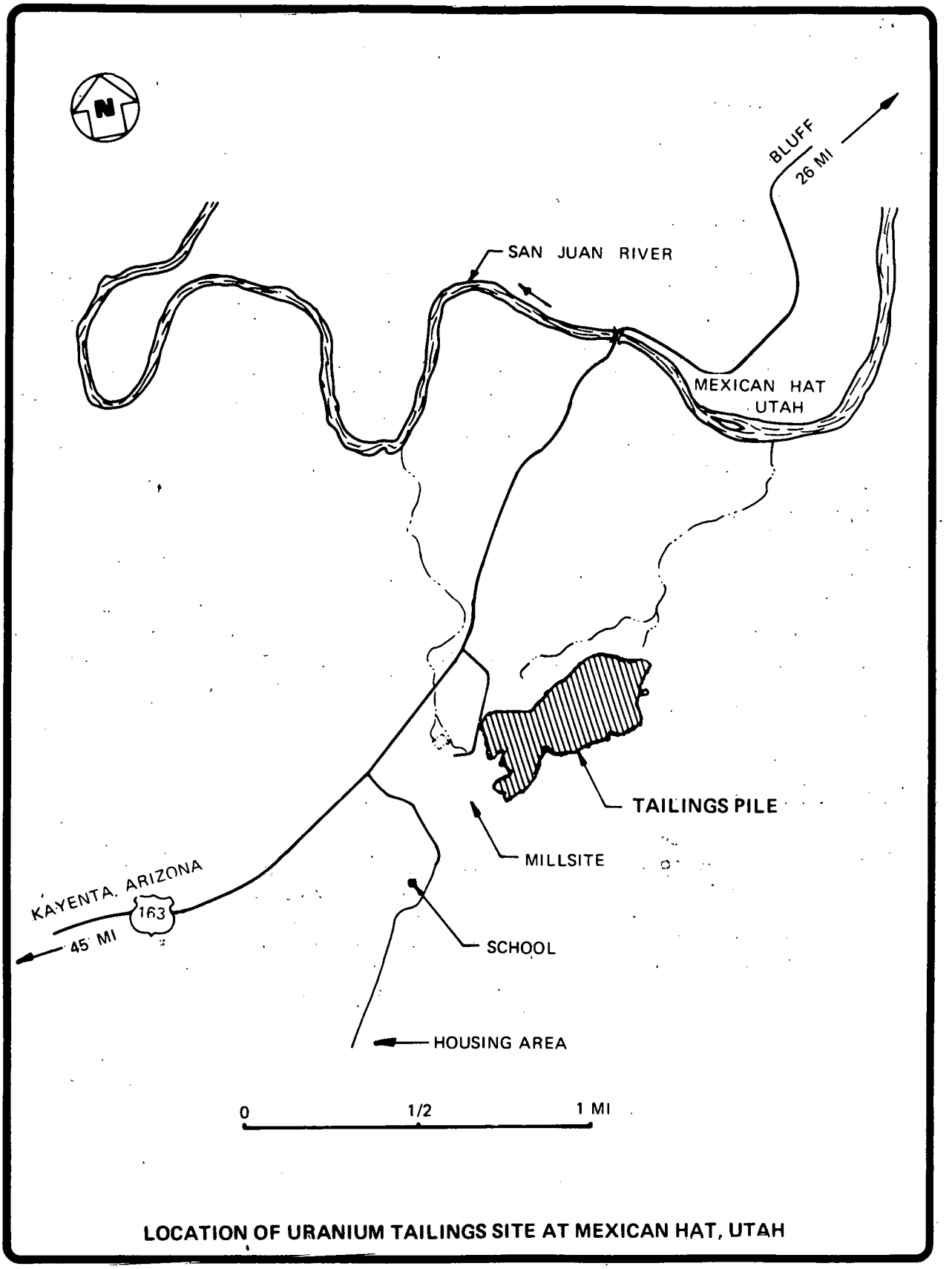
The tailings are in two adjoining piles, referred to as the upper (close to the mill) and lower. The mill equipment was mostly removed but the structures remain including mill buildings, a school and housing. Recently, the main building was removed and relocated elsewhere. It was probably not decontaminated. No effort was made to stabilize the tailings surfaces, and they have been substantially eroded by wind and water. At 0.018% U_3O_8, the tailings are of marginal interest for reprocessing. The cost is estimated to be at least double present market value for uranium.

Operational Highlights:

The mill was built by Texas-Zinc Minerals Corporation, and operated by that company from 1957 to 1963, when it was sold to Atlas Corporation. The mill was closed in 1965. A sulfuric acid plant on the site continued to operate until 1970. Because of the isolated location, a school and housing for mill employees were built on the site. After expiration of the lease the property reverted to the Navajo Nation. About 60% of the housing, now called Halchita, is now occupied by Navajos. The school is in use, and the millsite buildings are used for a trade school.

Current Site Status:

The structures left after the closing of the mill have been used to form the core of a new community. The radioactive contamination from the millsite and the tailings area represent a continuing problem to further development. The nature of the land in the vicinity precludes agriculture other than a very limited amount of grazing. However, the community could provide training and health care facilities for the area. The school population is about 160 students and faculty, and Halchita has a population of about 200.



LOCATION OF URANIUM TAILINGS SITE AT MEXICAN HAT, UTAH

Site: Salt Lake City, Utah

Location: 3300 South, between 6th and 9th West Streets. South Salt Lake City, in the metropolitan area.

Physical Characteristics:

Site area: 128 acres
Tailings area: 111 acres

Tailings quantity: 1,880,000 tons
Other contaminated materials: 417,000
TOTAL: 2,297,000 tons

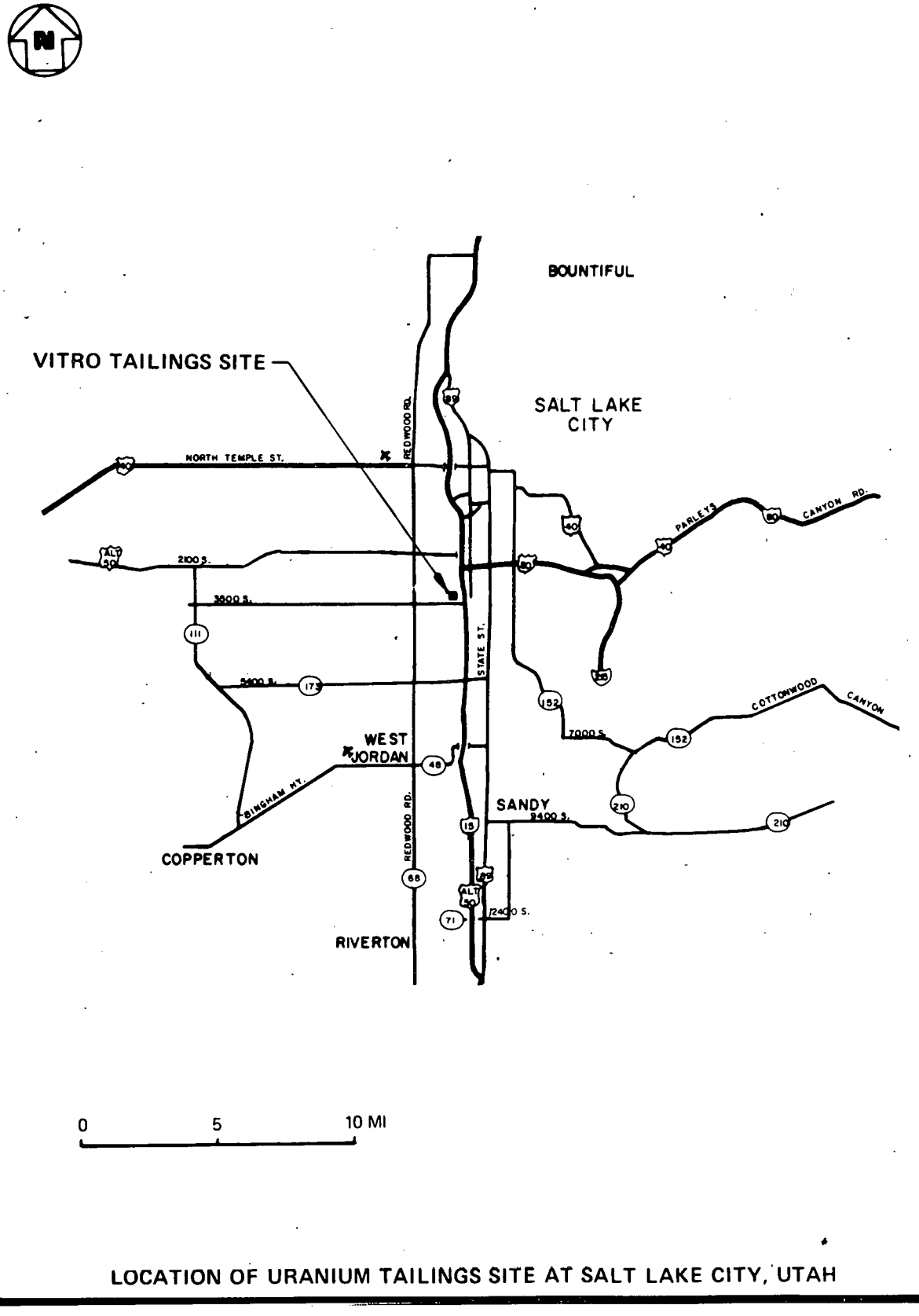
The tailings pile is located in a low lying area and is intersected by several small streams flowing to the Jordan River. Radium from the tailings has penetrated only about 2 feet into the subsoil. The mill has been dismantled leaving only a smokestack and water tower on the site. The area is developing rapidly, largely for warehousing and light industry. Access to transportation is very good. Land values are high. About 40 off-site properties have been idenfified with tailings present which may require remedial action. Since past surveys did not cover the entire city, more such locations could be found. The uranium content of the tailings, estimated at 0.018% U_3O_8, is low, and the economics of reprocessing are doubtful.

Operational Highlights:

Vitro Chemical Company, a subsidiary of Vitro Corporation of America acquired the plant in 1951 which had been built during World War II for production of alumina. After extensive conversion the plant operated for production of uranium under an AEC contract from May 1951 to February 1964. The plant was then converted to produce vanadium for the commercial market from Idaho ferrophos, a byproduct of elemental phosphorus production, and continued to operate until July 1968. Plant demolition was completed in 1970.

Current Site Status:

At present 99 acres of the site are owned by the Salt Lake County Suburban Sanitary District and 29 acres by Richards and Moench. About 25 acres of tailings have been covered with various materials, about half by rubble from roadbuilding, and half by sludge from the adjacent sewage plant. The remaining area is uncovered and subject to erosion. The area is partially fenced, but accessible to the public through various openings. Proximity to heavy population concentrations and physical characteristics of the site make it unsuitable for long-term tailings stabilization. Several alternative sites have been identified for relocation away from the city. Several are in the desert area to the west. Currently, a ban is in effect on further construction within 0.2 miles of the mill tailings.



LOCATION OF URANIUM TAILINGS SITE AT SALT LAKE CITY, UTAH

Site: Baggs, Wyoming

Location: Six miles west of Baggs, Carbon County, Wyoming. The site is about 2 miles north of the Colorado border.

Physical Characteristics:

Site area: 11 acres
Tailings area: 0.4 acres
Tailings quantity: 11,400 tons

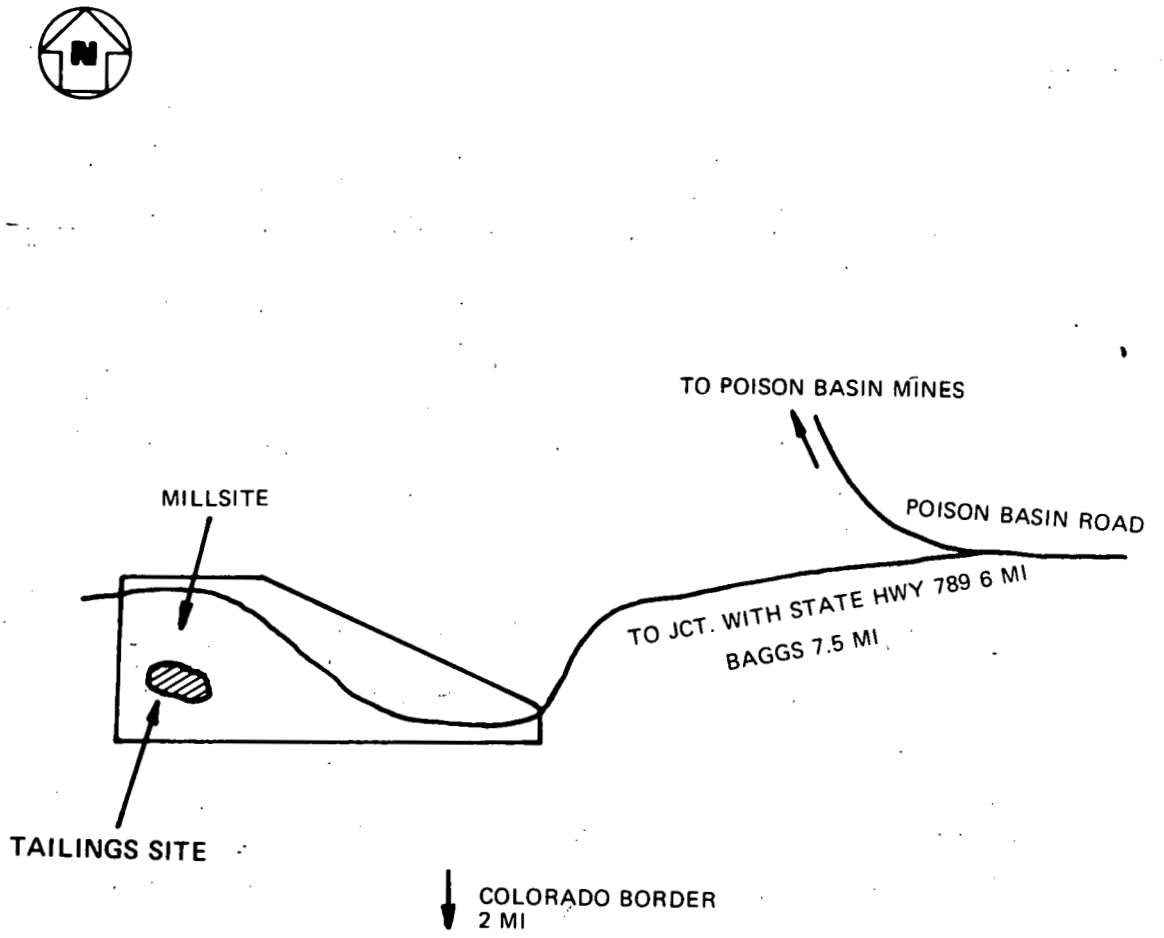
The tailings are located at the site of the former Shawano Development Company mill. There are ore and overburden piles nearby. The two dry settling ponds indicated the highest external gamma radiation at the site. The tailing piles are located on fine to medium grain sandstone. There is no surface water in the immediate vicinity but there is a dry creek about 2000 feet to the north of the site. The uranium content of the ore was estimated at less than 0.10% U_3O_8. The Poison Basin Mine, the Teton # 3 and the Lucky Strike mines are within a few miles of the site.

Operational Highlights:

Uranium ore deposits were discovered near Baggs in October 1953 as part of an AEC commissioned aerial survey. Open pit mining was carried out at the Shawano Development Corp site and an upgrading process was employed on the low grade ore prior to shipment to mills for further processing.

Current Site Status:

The site is not currently in use although some mining equipment has been stored about 1.5 miles from the site. No permanent housing was observed near the site.



LOCATION OF URANIUM TAILINGS SITE AT BAGGS, WYOMING

Site: Spook, Converse County, Wyoming

Location: The Spook Site is about 40 miles north-east of Casper, Wyoming in Converse County, and about 70 miles west of the South Dakota border.

Physical Characteristics:

Site area: 15 acres
Tailings area; 5 acres
Tailings quantity: 187,000 tons
Cover: none

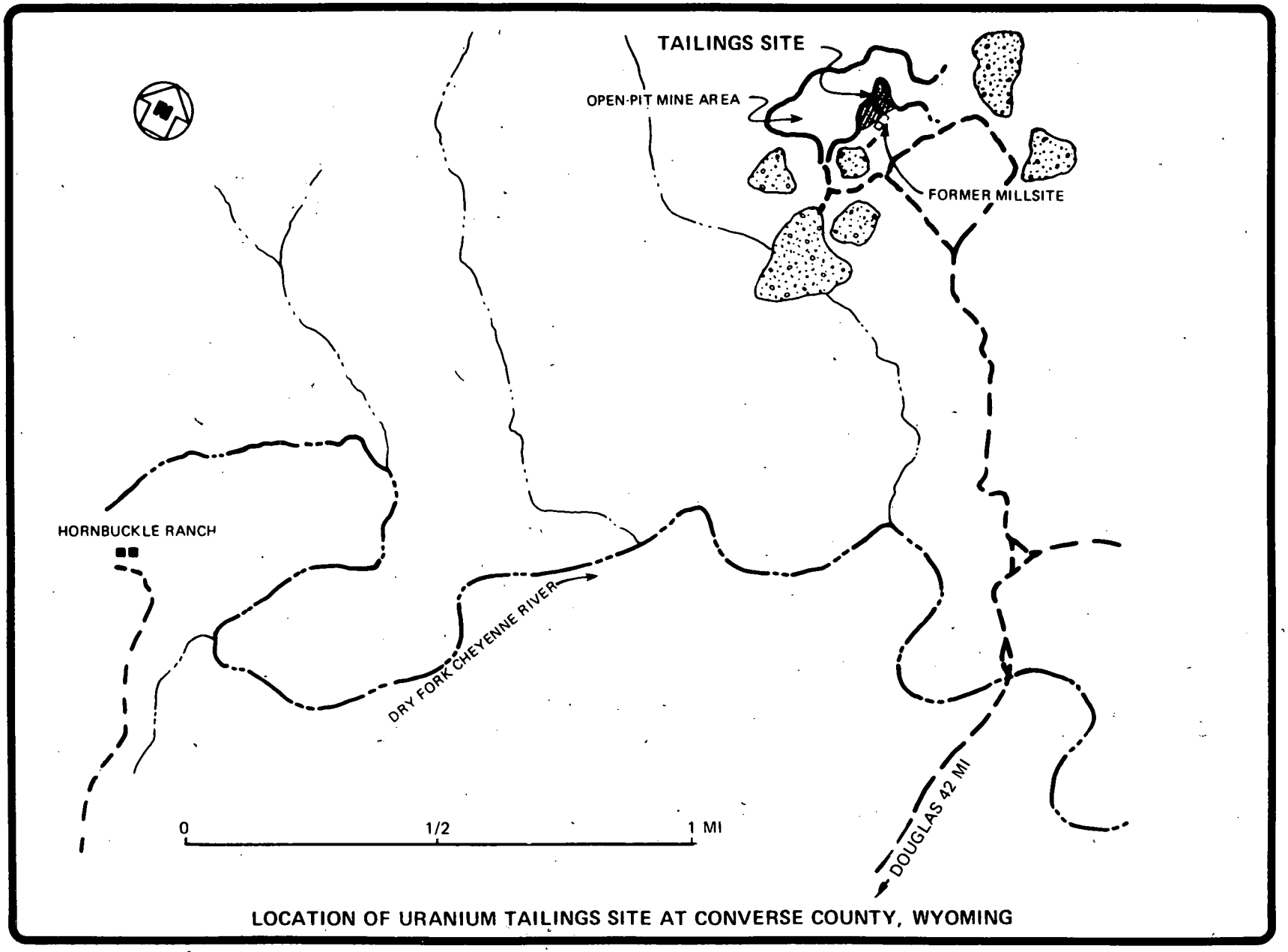
The mill was located adjacent to the open pit mine. Ore was leached in concrete tanks, and the product, a wet uranium bearing slurry was trucked to the Western Nuclear Corporation mill at Jeffrey City, Wyoming. The tailings were dumped by means of a front-end loader back into the open pit mine. The buildings have been removed but much of the equipment was abandoned. The barbed wire fencing is incomplete and cattle and wild animals have easy access to the site. The tailings, at 0.023% U_3O_8, might be reprocessable, but the low tonnage and awkward placement make it unattractive.

Operational Highlights:

This upgrading plant was constructed and operated in the period 1962-1965 by Western Nuclear Inc., now a subsidiary of Phelps Dodge Corporation. The facility was a bare-bones uranium recovery plant built largely in the open using rectangular concrete tanks for static leaching of the ore, and ion exchange for uranium recovery from the leach solution. Most of the ore from the small open pit mine was too low grade to stand the cost of haulage to the Jeffrey City mill 165 miles away, and was treated on site. Following exhaustion of the ore supply the mill was dismantled, but no attempt was made to stabilize the tailings which had been pushed over a steep slope of the side of the pit. Because of the coarse particle sizes of the tailings, they have not been severely affected by erosion.

Current Site Status:

While there are no prospects for reactivation of this site, the general area is one in which a considerable amount of exploration activity has been conducted in recent years. The Exxon mine and mill are about 10 to 12 miles to the south-east. The relatively new mill of Union Pacific and Rocky Mountain Energy Companies is about 2 miles to the north in Sections 10, 13, 14 and 15, Township 38 North Range 73 West. The Spook site is on Sections 27 and 28 of the same Township and Range. The nearest permanent residence is a ranch about 2 miles to the south-west. In general, the area is chiefly a remote cattle ranching territory with abundant deer and antelope. The animals do graze and water within the millsite and mine pit.



LOCATION OF URANIUM TAILINGS SITE AT CONVERSE COUNTY, WYOMING

Site: Riverton, Wyoming

Location: The Riverton millsite is 2 miles south-west of Riverton in Fremont County, Wyoming. While the site is not on Indian owned land, it is within the general boundaries of the Wind River Indian Reservation.

Physical Characteristics:

Site area: 112 acres
Tailings area: 72 acres
Tailings quantity: 900,000 tons
Cover: 230,000 tons

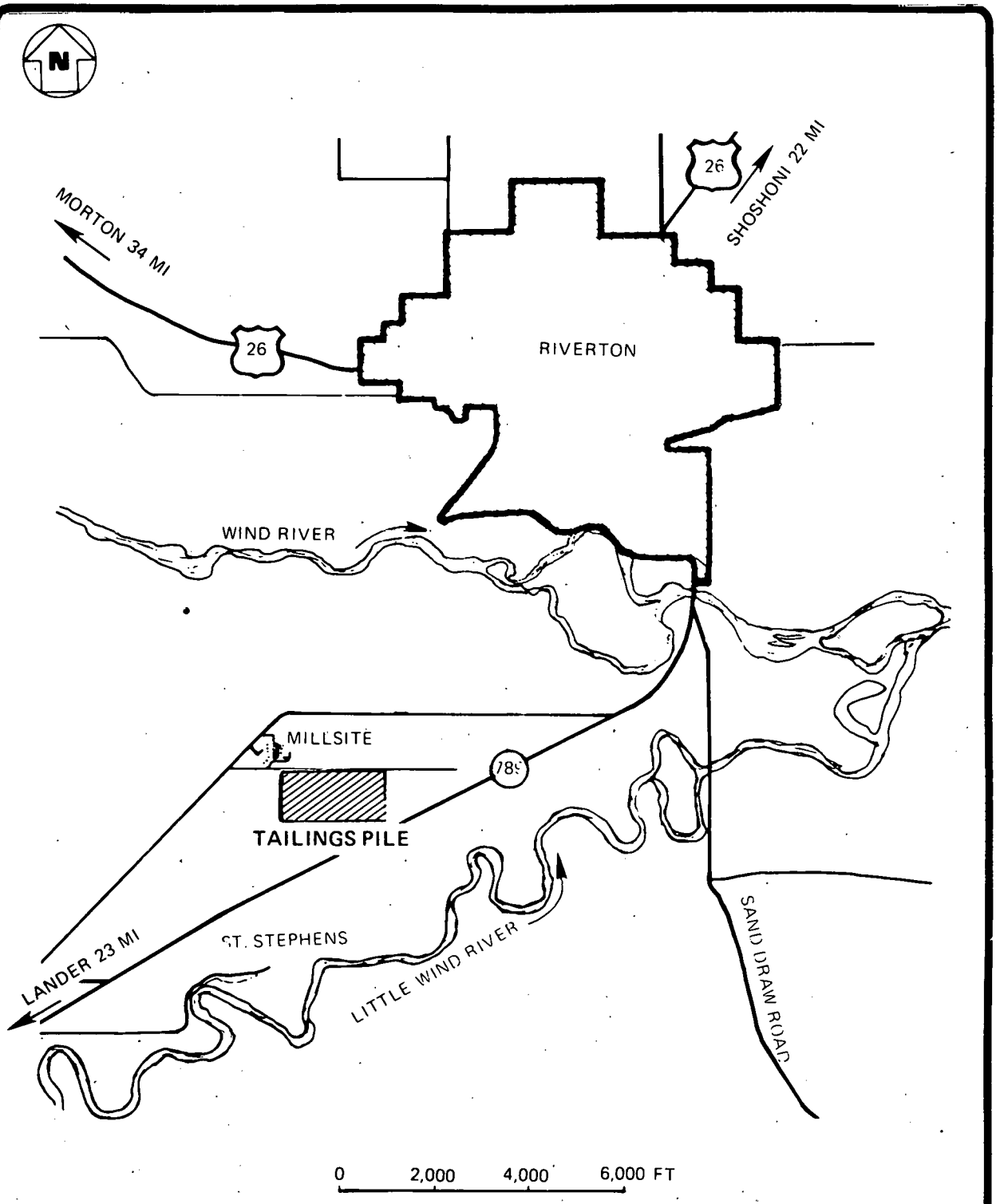
The tailings form a thin layer averaging about 6 feet, over the diked area, as the life of the mill was shorter than originally planned. The tailings have been graded and covered with 18 inches of coarse river-run agregate. Natural vegetation covers about 20% of the surface. Domestic animals have been allowed to graze on the pile, even though it is fenced. Most of the old mill building and some other structures and equipment remain on the site. The sulfuric acid plant built on land adjacent to the millsite is leased to Western Nuclear, Incorporated, and continues to operate. The tailings contain 0.015% U_3O_8, and are of marginal interest for reprocessing. The site has complex surface and ground water problems, and there is some evidence that the tailings could be contributing to high levels of certain non-radioactive elements in the water near the tailings site.

Operational Highlights:

The mill was built by Fremont Minerals, Incorporated, in 1958 with both acid and alkaline circuits to treat a variety of ores on a custom basis. The company name was later changed to Susquehanna-Western, Incorporated. The plant was shut down in 1963. In the mid 1970's, at the request of the Nuclear Regulatory Commission the tailings area was recontoured and covered. Subsequently, the property was acquired by Solution Engineering Company of Alice, Texas, with a view to possible retreatment of the tailings for uranium recovery. Recently, however, the site was sold to Lome Drilling Company.

Current Site Status:

The stabilization cover is holding well and has eliminated further wind and water erosion of the tailings surface. The millsite and ore storage areas and some parts of the tailings show elevated gamma radiation. Because the population in the immediate vicinity of the pile is low the projected health impact is also low. The site is in a good area for future development, and can be expected to receive increasing pressure for use. Plans of Lome Drilling Company for the site are not known. Because of the proximity of the tailings to Riverton and also the unfavorable hydrology of the present site, a number of alternative locations have been identified to which the tailings could be moved for long-term stabilization.



LOCATION OF URANIUM TAILINGS SITE AT RIVERTON, WYOMING

APPENDIX L
SAMPLE COOPERATIVE AGREEMENT

SAMPLE

Cooperative Agreement

This AGREEMENT, entered into this _____ day of _____, 1979, between the UNITED STATES OF AMERICA (hereinafter called the "Government") acting through the DEPARTMENT OF ENERGY (hereinafter called the "DOE"), and the STATE OF _____ (hereinafter called the "State"), acting through its _____,

WITNESSETH THAT:

WHEREAS, the Uranium Mill Tailings Radiation Control Act of 1978 (hereinafter called the "Act") approved November 8, 1978, authorizes the Secretary to enter into this Agreement with the State to perform remedial action at the inactive mill tailings site and vicinity property designated as a "processing site" in _____, and

WHEREAS, the purpose of this Agreement is to establish a program of assessment and remedial action at the processing site in order to stabilize and control such tailings in a safe and environmentally sound manner and to minimize or eliminate radiation health hazards to the public, and

WHEREAS, the parties hereto are mutually desirous of entering into such an Agreement for the performance of such remedial action pursuant to the requirements of the Act under the terms set forth below.

NOW THEREFORE, the parties hereto mutually agree as follows:

I. DEFINITIONS

As used throughout this Agreement, the following terms shall have the meanings set forth below:

A. The term "Secretary" means the Secretary of Energy or any duly authorized representative.

B. The term "Commission" means the Nuclear Regulatory Commission or any duly authorized representative.

C. The term "Administrator" means the Administrator of the Environmental Protection Agency or any duly authorized representative.

D. The term "State" means the State of _____ or any duly authorized representative.

E. The term "person" means any individual, association, partnership, corporation, firm, joint venture, trust, government entity, and any other entity, except that such term does not include any Indian or Indian Tribe.

II. DESCRIPTION OF REMEDIAL ACTION PROGRAM

A. The program covered by this Agreement is a cooperative effort between the DOE and the State for the purpose of assessment and remedial action at the inactive mill tailings site and vicinity property in _____, designated by the Secretary as a "processing site" in order to stabilize and control such tailings in a safe and environmentally sound manner and to minimize or eliminate radiation health hazards to the public.

B. With the full participation of the State and the concurrence of the Commission, the Secretary shall select and perform the remedial action at the designated processing site and the disposal site, if separate, in accordance with the general standards prescribed by the Administrator pursuant to section 275a of the Atomic Energy Act of 1954, as amended. Remedial action shall be carried out, to the greatest extent practicable, in accordance with the priorities established pursuant to section 102 of the Act.

C. The Secretary shall use technology in performing the remedial action as will insure compliance with the general standards promulgated by the Administrator as provided for in paragraph B, above, and will assure the safe and environmentally sound stabilization of residual radioactive materials consistent with existing law.

D. No remedial action will be undertaken before the promulgation by the Administrator of the general standards provided for in paragraph B, above. However, the term "remedial action" does not include the action of acquisition if such action is deemed appropriate by the Secretary with the concurrence of the Commission. Nevertheless, the financial provisions in Articles III and IV of this Agreement do apply with regard to the actual costs of acquiring a processing site (and any interest therein) or any disposition site (and any interest therein).

E. The detailed description of the work to be performed will be contained in a written Remedial Action Plan which will be developed by the DOE and the State. The Plan shall become effective upon the written concurrence of the Commission, and it shall become a part of this Agreement upon such concurrence. This Plan may be modified in writing in a non-substantive manner by mutual agreement of the parties without the formal concurrence of the Commission. All substantive modifications to the Remedial Action Plan by the parties must also have the written concurrence of the Commission. However, no formal execution of an amendment to this Agreement is required for a modification to the Remedial Action Plan.

F. Before the remedial action outlined in the Remedial Action Plan can be finally decided upon and implemented by the parties, the DOE must comply with the requirements of the National Environmental Policy Act of 1969.

III. PAYMENTS

A. The Secretary shall pay 90 percent of the allowable costs under this Agreement and the State shall pay the remaining 10 percent of such costs from non-Federal funds.

B. Unless otherwise agreed by the parties hereto, the Secretary or his authorized representative shall make all payments for allowable costs incurred for the performance of remedial action or other allowable costs incurred pursuant to the terms of this Agreement. Once each month (or at more frequent intervals by mutual agreement) the Secretary or his authorized representative may submit to the State, in such form and reasonable detail as necessary, an invoice supported by a statement of costs incurred in the performance of this contract and deemed to constitute allowable costs. Promptly after receipt of each invoice the State shall pay to the Secretary 10 percent of the amount thereof.

C. The State shall make no payments pursuant to this Agreement other than to the Secretary or his designee without the prior written approval of the Secretary. In the event such payment is made, the State shall submit an invoice to the Secretary and the Secretary shall pay promptly to the State or its designee 90 percent of the amount thereof. Costs incurred shall be subject to audit at any time prior to settlement under this Agreement. Payments made are subject to adjustment based on audit findings.

D. The authority under the Act to enter into contracts or other obligations requiring the Government or the State to make outlays may be exercised only to the extent provided in advance in annual authorization and appropriation acts.

IV. ALLOWABLE COSTS

A. Payment for the allowable costs as hereinafter defined shall constitute full and complete compensation for the performance of work under this Agreement.

B. The allowable costs of performing the work under this Agreement shall be those costs which are directly required to complete the remedial action selected pursuant to article II, above, including:

1. The actual costs of acquiring the processing site (and any interest therein) or any disposition site (and any interest therein) pursuant to section 103 of the Act; and

2. The costs incurred in the ultimate removal and/or stabilization of the "residual radioactive material" as that term is defined in the Act including covering the processing site and/or disposition site with earthen material and the planting of vegetation on such site or sites, otherwise restoring the processing site as may be appropriate, and providing appropriate fencing and other appropriate containment measures at the disposition site; provided, however, that the costs of maintaining the disposition site once the Secretary has determined that remedial action is completed in accordance with the requirements imposed pursuant to the Act shall not be considered allowable costs; and

3. Relocation costs of all persons relocated as a necessary part of the remedial action undertaken pursuant to this Agreement insofar as such relocation costs are costs which are directly required to carry out such remedial action; and

4. The administrative costs associated with the acquisition of lands and interest therein by the State or the Secretary pursuant to the Act; provided, however, that the administrative costs incurred by the State and the DOE to develop, prepare, and carry out this Agreement shall not be considered allowable costs.

V. ACQUISITION, DISPOSITION, AND USE OF PROPERTY

A. The State, when determined appropriate by the Secretary with the concurrence of the Commission, shall acquire the designated processing site, including where appropriate any interest therein.

B. If the Secretary, with the concurrence of the Commission, determines that removal of residual radioactive material from the processing site is appropriate, the State shall acquire land (including, where appropriate, any interest therein) to be used as a site for the permanent disposition and stabilization of such residual radioactive materials in a safe and environmentally sound manner.

C. Acquisition by the State shall not be required under this article if a site located on land controlled by the Secretary or made available by the Secretary of Interior pursuant to section 10[illegible] of the Act is designated by the Secretary, with the concurrence of the Commission, for such disposition and stabilization.

D. The State shall not be required under paragraphs A and B, above, to acquire any real property or improvement outside the boundaries of (1) that portion of the processing site which is described in section 101(6)(a) of the Act and (2) the site used for disposition of the residual radioactive materials.

E. Except where the State is required to acquire the processing site pursuant to paragraph A, above, the State shall obtain, in a form prescribed by the Secretary, written consent from any person holding any record interest in the designated processing site for the Secretary or any person designated by him to perform remedial action at the site. Such written consent shall include a waiver by each such person on behalf of himself, his heirs, successors, and assigns (1) releasing the United States of any liability or claim thereof by such person, his heirs, successors, and assigns concerning the remedial action, and (2) holding the United States harmless against any claim by such person on behalf of himself, his heirs, successors, or assigns arising out of the performance of any such remedial action.

F. The State shall assure that the Secretary, the Commission, and the Administrator and their duly authorized representatives shall have a permanent right of entry at any time to inspect the processing site and the site provided pursuant to paragraph B above, in furtherance of the provisions of Title I of the Act and to carry out this Agreement and enforce the provisions of the Act and any rules prescribed thereunder. This right of entry into an area described in section 101(6)(B) of the Act shall terminate on completion of the remedial action, as determined by the Secretary.

G. In the case of any lands or interests therein acquired by the State pursuant to paragraph A, above, the State with the concurrence of the Secretary and the Commission, may (1) sell such lands and interests, (2) permanently retain such land and interests in lands (or donate such lands and interests therein to another governmental entity within such State) for permanent use by State or entity solely for park, recreational, or other public purposes, or (3) transfer such lands and interests to the United States as provided in paragraph H, below. No site may be sold or retained under this

paragraph G if such site is used for the disposition of residual radioactive materials. Before offering for sale any lands and interests therein which comprise the processing site, the State shall offer to sell such lands and interests at their fair market value to the person from whom the State acquired them.

H. The State shall transfer to the Secretary, when the Secretary (with the concurrence of the Commission) determines that remedial action is completed in accordance with the requirements of Title I of the Act, title to (1) the residual radioactive materials subject to this Agreement, and (2) any lands and interests therein which have been acquired by the State, under paragraphs A and B, above, for the disposition of such materials. No payment shall be made in connection with the transfer of such property from funds appropriated for purposes of the Act other than payments for any administrative and legal costs incurred in carrying out such transfer.

I. The State shall promptly reimburse the Secretary from the proceeds of any sale made by the State pursuant to paragraph G(1), above. Such reimbursement shall be in an amount equal to the lesser of (1) that portion of the fair market value of the lands or interests therein which bears the same ratio to such fair market value as the Federal share of the costs of acquisition by the State to such lands or interest therein bear to the total cost of such acquisition, or (2) the total amount paid by the Secretary with respect to such acquisition. The fair market value of such lands or interest shall be determined by the Secretary as of the date of the sale by the State.

VI. PUBLIC PARTICIPATION

A. The State will cooperate with the Government in implementing a public participation plan which will be made a part of the Remedial Action Plan provided for in Article II, E, above.

B. The parties shall coordinate all public information in connection with the remedial action program.

VII. RULES

The Secretary shall prescribe such rules consistent with the purposes of the Act as he deems necessary to carry out the provisions of this Agreement pursuant to Title V of the Department of Energy Organization Act. All activities under this Agreement shall be carried out pursuant to any such applicable rules.

VIII. COVENANT AGAINST CONTINGENT FEES

The State warrants that no person or selling agency has been employed or retained to solicit or secure this Agreement upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the State for the purpose of securing business. For breach or violation of this warranty, the Government shall have the right to annul this Agreement without liability or in its descretion to deduct from the Agreement price or consideration, or otherwise recover, the full amount of such commission, percentage, brokerage, or contingent fee.

IX. OFFICIALS NOT TO BENEFIT

No member of or delegate to Congress, or Resident Commissioner, shall be admitted to any share or part of this Agreement, or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this Agreement if made with a corporation for its general benefit.

X. EQUAL OPPORTUNITY

(The following clause is applicable unless this Agreement is exempt under the rules, regulations, and relevant orders of the Secretary of Labor (41 CFR, ch. 60).)

During the performance of this Agreement, the State agrees as follows:

A. The State will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The State will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer, recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The State agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Secretary setting forth the provisions of this Equal Opportunity clause.

B. The State will, in all solicitations or advertisements for employees placed by or on behalf of the State, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

C. The State will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the Secretary, advising the labor union or workers' representative of the State's commitments under this Equal Opportunity clause, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

D. The State will comply with all provisions of Executive Order No. 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

E. The State will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

F. In the event of the State's noncompliance with the Equal Opportunity clause of this Agreement or with any of the said rules, regulations, or orders, this Agreement may be cancelled, terminated, or suspended, in whole or in part, and the State may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

G. The State will include the provisions of paragraphs (A) through (G) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The State will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions, including sanctions for noncompliance. Provided, however, that in the event the State becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the State may request the United States to enter into such litigation to protect the interests of the United States.

XI. EXAMINATION OF RECORDS

A. This clause is applicable if the amount of this Agreement exceeds $10,000 and was entered into by means of negotiation, including small business restricted advertising, but is not applicable if this Agreement was entered into by means of formal advertising.

B. The State agrees that the Comptroller General of the United States or any of his duly authorized representatives shall, until the expiration of three years after final payment under this Agreement or such lesser time specified in either Appendix M of the Armed Services Procurement Regulation or the Federal Procurement Regulations, Part 1-20, as appropriate, have access to and the right to examine any directly pertinent books, documents, papers, and records of the State involving transactions related to this Agreement.

C. The State further agrees to include in all its subcontracts hereunder a provision to the effect that the subcontractor agrees that the Comptroller General of the United States or any of his duly authorized representatives shall, until the expiration of three years after final payment under the subcontract or such lesser time specified in either Appendix M of the Armed Services Procurement Regulations, Part 1-20, as appropriate, have access to and the right to examine any directly pertinent books, documents, papers, and records of such subcontractor, involving transactions related to the subcontract. The term "subcontract" as used in this clause excludes (1) purchase orders not exceeding $10,000 and (2) subcontracts or purchase orders for public utility services at rates established for uniform applicability to the general public.

D. The periods of access and examination described in B and C, above, for records which relate to (1) appeals under the "Disputes" clause of this Agreement, (2) litigation or the settlement of claims arising out of the performance of this Agreement or (3) costs and expenses of this Agreement as to which exception has been taken by the Comptroller General or any of his duly authorized representatives, shall continue until such appeals, litigation, claims, or exceptions have been disposed of.

E. The State shall report to the Secretary promptly and in reasonable written detail, each notice or claim of patent or copyright infringement based on the performance of this Agreement of which the State has knowledge.

F. In the event of any claim or suit against the Government, on account of any alleged patent or copyright infringement arising out of the performance of this Agreement or out of the use of any supplies furnished or work or services performed hereunder, the State shall furnish to the Government, when requested by the Secretary, all evidence and information in possession of the State pertaining to such suit or claim. Such evidence and information shall be furnished at the expense of the Government except where the State has agreed to indemnify the Government.

XII. TERM AND TERMINATION

A. This agreement shall expire at such time as the DOE and the State mutually agree in writing that the objectives of the remedial action program have been met, or seven years from the date of promulgation of standards by the Administrator as provided for in this Agreement, whichever is earlier; provided, however, that the parties may extend this Agreement by mutual written consent.

B. The Secretary, upon written notice to the State, may terminate their Agreement in the event the State is in default because of a material breach which is not cured within 60 days after receipt of a written notice of default from the Secretary.

C. The State, upon written notice to the Secretary, may terminate this Agreement in the event the DOE is in default because of a material breach which is not cured within 60 days after receipt of a written notice of default from the State.

D. In the event of termination, all obligations of the terminating party under this Agreement, except those outstanding at the time of notice of termination, shall cease.

E. Neither the DOE nor the State shall be considered in default of this Agreement because of delay in performance for reasons beyond its control including, but not restricted to, acts of God or the public enemy, fire, floods, epidemics, quarantine restrictions, strikes, freight embargoes, or unusually severe weather.

XIII. DISPUTES

A. Except as otherwise provided in this Agreement, any dispute concerning a question of fact arising under this Agreement which is not disposed of by agreement shall be decided by the Secretary, who

shall reduce his decision to writing and mail or otherwise furnish a copy thereof to the State. The decision of the Secretary shall be final and conclusive unless within 30 days from the date of receipt of such copy, the State mails or otherwise furnishes to the Secretary a written appeal. The decision of the Secretary or his duly authorized representative for the determination of such appeals shall be final and conclusive unless determined by a court of competent jurisdiction to have been fraudulent, or capricious, or arbitrary, or so grossly erroneous as necessarily to imply bad faith, or not supported by substantial evidence. In connection with any appeal proceeding under this clause, the State shall be afforded an opportunity to be heard and to offer evidence in support of its appeal. Pending final decision of a dispute hereunder, the State shall proceed diligently with the performance of the Agreement and in accordance with the Secretary's decision.

XIV. EFFECTIVE DATE

This Agreement shall become effective upon the date of concurrence by the Commission and shall remain effective until such time as terminated by the parties in accordance with article XII, above.

IN WITNESS WHEREOF, the parties have executed this Agreement in several counterparts.

STATE OF

BY: _____

TITLE: _____

THE UNITED STATES OF AMERICA
BY: DEPARTMENT OF ENERGY

BY: _____

TITLE: _____

CONCURRENCE: NUCLEAR REGULATORY COMMISSION

BY: _____

TITLE: _____

DATE: _____

APPENDIX M

REPROCESSING OF INACTIVE URANIUM MILL TAILINGS PILES

TAB A U_3O_8 Contained In Inactive Tailings

TAB B Rating and Grouping of Sites

U_3O_8 CONTAINED IN INACTIVE TAILINGS

The following compilation, unless otherwise noted, was abstracted from the FEDU.Phase II - Engineering Assessments of Inactive Uranium Mill Tailings.

	Tons (000,000)	% U_3O_8	Range Cost/Lb.	Total Lbs. U_3O_8	50% Rec. @ < $40/Lb.	50% Rec. @ < $100/Lb.	Remarks
Vitro	1.7	.018	75 - 197	612,000		306,000	
Shiprock	1.65	.012	116 - 249	386,700			
Mexican Hat	2.2	.018	63 - 139	792,000		396,000	
Monument Valley	1.1	.007	236 - 455	163,000			
Tuba City	0.8	.032	46 - 110	512,000		256,000	
Durango	1.555	.048	16 - 40	1,536,000	768,000		
Slick Rock (2)	0.387	.005	415 - 569	41,000			
Naturita	0.704	.037	30 - 34 1/	520,000	260,000		312,000 Rec. 1/
Grand Junction	1.9	.017	65 - 104	646,000		323,000	
Rifle (2)	3.05	.039	12 - 35	2,395,000 2/	1,198,000		
Maybell	2.6	.015	70 - 219	780,000		390,000	
Gunnison	0.54	.017	74 - 111	184,000		92,000	
Ambrosia Lake	2.6	.018	48 - 61	936,000		468,000	
Green River	0.123	.005	300 - 1,550	12,300			
Lowman 3/	-	-	-				
Lakeview	0.13	.018	299 - 449	46,800			
Spook	0.187	.023	30 - 162	86,000	4/		
Falls City	2.5	.009	64 - 142	468,000		234,000	
Ray Point	0.49	.015 5/	-	147,000			
Riverton	0.9	.015	92 - 107	270,000		135,000	
Monticello 6/	0.9	.044	31 - 48	800,000	400,000		AEC < .05
Edgemont 6/	2.3	.01	-	460,000			
				11,799,000	2,626,000	2,600,000	

GJO/ESD/WEH
020778

1/ REDCO estimate on 630,000 tons.

2/ Old and new piles combined

3/ Not included as mill tailings.

4/ Not included because of size and location.

5/ Estimated at 92.5% recovery.

6/ Not in FBDU's reports.

	Site	RATING & GROUPING: Eval. Points	Rank	Group		A. Owner or Controller	B. Drilling & Sampling Recommended
*	Durango	16	1	I	Group I. Reprocessing appears feasible and desirable; therefore, if the mineral content and amenability information are not available, drilling and sampling are recommended. Three sites have option of removal.	REDCO	No. The information has been obtained.
*	Rifle - New	16	1	I		UCC	Yes, if UCC doesn't already have info.
	Naturita	15	2	I		REDCO	No. Project complete.
	Monticello	13	3	I		DOE	Yes.
*	Rifle - Old	12	4	I		UCC	No. Information probably sufficient.
*	Grand Junction	11	5	II	Group II. Reprocessing appears marginal; however, to properly evaluate, the mineral content and amenability should be determined by drilling and sampling. Two sites have option of removal.	Shumway	No. Shumway should have the information.
	Mexican Hat	11	5	II		Atlas	Yes, if Atlas doesn't already have.
	Ambrosia Lake	11	5	II		United Nuclear	Yes, If UN doesn't already have.
*	Vitro	11	5	II		SLSSD	Yes.
	Tuba City	10	6	II		Atlas	No. Atlas has already done.
	Falls City	9	7	III	Group III. Reprocessing appears to be submarginal. Drilling and sampling should only be done if interest is exhibited on any of the four sites with removal option. Interest has been shown re reprocessing the Spook, but this is a unique situation that should not require federal expenditures for drilling and sampling. Four sites have option of removal.	Solution Engineering	No.
*	Edgemont	9	7	III		TVA	No. TVA has done some drilling & sampli
	Maybell	9	7	III		UCC	No.
*	Riverton	8	8	III		Soln Eng.	Yes.
*	Gunnison	8	8	III		Soln Eng.	No. Solution Engineering has drilled.
*	Shiprock	7	9	III		Navajo Nation	No.
	Spook	7	9	III		WNI/Soln Eng.	No.
	Slick Rock - UCC	4	10	IV	Group IV. DOE's evaluation should be that reprocessing is not feasible and does not justify federal expenditures for drilling and sampling. There are no sites with removal option in this group.	UCC	No.
	Lowman	4	10	IV		Velsicol	No.
	Lakeview	4	10	IV		Precision Pine	No.
	Green River	2	11	IV		UCC	No.
	Monument Valley	2	11	IV		Navajo Nation	No.
	Slick Rock - NC	1	12	IV		UCC	No.

* Sites with removal option.

GJO/ESD/WEH
043079

APPENDIX N

PRESS RELEASE OF THE FINDINGS OF THE JULY 1, 1979 REPORT TO CONGRESS

U.S. DEPARTMENT OF ENERGY
OFFICE OF PUBLIC AFFAIRS
WASHINGTON, DC 20585

DOE NEWS

FOR IMMEDIATE RELEASE
JULY 26, 1979

DOE IDENTIFIES 48 SITES ON U.S. PROPERTY CONTAINING RESIDUAL RADIOACTIVE MATERIALS

The Department of Energy (DOE), in a report to Congress, has identified 48 additional sites on federally owned or acquired property which contain residual radioactive materials or other radioactive wastes.

As defined in the report, residual radioactive materials are the wastes left after uranium is removed from ore, including any remaining unprocessed ore or low-grade uranium by-products. Some of these wastes are also referred to as uranium mill tailings.

A list of the 48 sites, including the federal agency having jurisdiction over each and a brief description of the status of the materials on each, is attached.

Also listed are 27 other sites--all on DOE-owned or controlled properties--which were identified to the Congress in earlier reports as containing residual nuclear materials.

The 48 additional sites were identified in response to Section 114(b) of the Uranium Mill Tailings Radiation Control Act of 1978 (Public Law 95-604). That law directed the Secretary of Energy to report to the Congress by July 1, 1979, on any such sites on U.S. property which had not previously been identified.

The legislation, enacted in November 1978, allows DOE to enter into agreements with states and Indian tribes to assess and remedy problems associated with uranium mill tailings at inactive processing sites.

Of the 48 additional sites, 39 are located in the states of: Colorado (27), Wyoming (5), Utah (4), and California (3). There is one site each in Alabama, Illinois, Iowa, Missouri, Nevada, New Jersey, New Mexico, New York and South Dakota.

The report itself provides information on each site, including: the federal agency having jurisdiction over the site; the name and location of the property; off-site structures that are or may be contaminated by radioactive materials; a description of the ways radioactive materials on the site have been stablized to protect the environment, or the remedial actions needed to stablize these materials; and the schedule for performing the work.

Based on the collected data, nine sites are considered stabilized and 39 unstabilized, the report says. None of the sites appear to pose any long-term health risk to the public, according to the report.

However, the report says there is a need for further radiological assessments at many of the 39 unstabilized sites before determining necessary remedial actions.

Eighteen federal agencies participated with DOE in identifying the sites. Six agencies reported sites under their jurisdiction: DOE (31), Department of Interior (9), Department of Defense (4), Environmental Protection Agency (2), Tennessee Valley Authority (1), and the Veterans Administration (1).

Copies of the report, which is titled "Report on Residual Radioactive Materials on Public or Acquired Lands of the United States" (publication number DOE/EV-0037), may be ordered at $8.00 each from the National Technical Information Service, Springfield, Va. 22161.

- DOE -

News Media Contacts: Carl Eifert, 202/252-4705
Jan Cool, 202/252-4620

R-79-332

APPENDIX O

NUCLEAR REGULATORY COMMISSION URANIUM MILL TAILINGS LICENSING AND CRITERIA, AND CONSTRUCTION OF MAJOR PLANTS

federal register

Friday
August 24, 1979

Part IX

Nuclear Regulatory Commission

Uranium Mill Tailings Licensing and Criteria, and Construction of Major Plants

8-24-79
Vol. 44 No. 166
Pages 49641-50026

federal register

Friday
August 24, 1979

Highlights

CONTINUED INSIDE

NUCLEAR REGULATORY COMMISSION

10 CFR Parts 40, 150

Uranium Mill Tailings Licensing

AGENCY: Nuclear Regulatory Commission.

ACTION: Final Regulations with request for comments.

SUMMARY: The Nuclear Regulatory Commission (NRC) is amending its regulations to conform to the requirements of the Uranium Mill Tailings Radiation Control Act of 1978 and to the standards set forth in the draft Generic Environmental Impact Statement Uranium Milling. The bulk of these regulations are being published in proposed form. (See proposed rules published elsewhere in this part of the Federal Register.) The Commission finds it necessary, however, to issue as immediately effective a temporary general license to authorize the possession and storage of mill tailings or wastes to prevent existing milling operations in both Agreement and non-Agreement States from being in technical violation of the Atomic Energy Act of 1954, as amended by the Uranium Mill Tailings Radiation Control Act of 1978. The immediately effective regulations relating to the general license, such as amendments to the definition of "byproduct material," and to the coverage of tailings in Agreement States, serve two functions. They reflect the NRC's legal interpretation of the new Act necessitating the general license and clarify the application of the general license. Accordingly, these regulations must also be made immediately effective.

DATES: Effective date: August 24, 1979.

Comments on or before October 24, 1979.

ADDRESSES: Written comments should be submitted to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Branch. Copies of comments on these amendments may be examined in the Commission's Public Document Room at 1717 H Street, NW., Washington, D.C.

FOR FURTHER INFORMATION CONTACT: Don F. Harmon, Office of Standards Development, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555 (phone 301/433-5910) or Hubert J. Miller, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555 (phone 301/427-4103).

SUPPLEMENTARY INFORMATION: These immediately effective regulations are closely related to the proposed rules implementing the Uranium Mill Tailings Radiation Control Act of 1978 and the draft Generic Environmental Impact Statement on Uranium Milling. Thus, the two sets of amendments should be read together. (See proposed rules published elsewhere) in this part of the **Federal Register.**

On May 17, 1979, the Commission met to determine the issue of the timing of the effectiveness of certain requirements of the Uranium Mill Tailings Radiation Control Act of 1978. At this meeting it was determined that the NRC has immediate licensing authority over mill tailings, now defined as section 11e(2) byproduct material in the Atomic Energy Act of 1954, as amended; that the new requirements for agreement state regulation of tailings and milling operations will not take effect until three years after the date of enactment of the mill tailings legislation; and that during that three-year interim, the legislation requires that NRC assume concurrent jurisdiction over tailings in both Agreement and non-Agreement States. The Commission also determined that the definition of section 11e(2) byproduct material includes the above-ground wastes from in situ extraction operations.

New § 40.26 is added to 10 CFR Part 40 to establish a temporary general license to authorize the possession and storage of mill tailings or wastes. The general license will prevent existing milling operations with valid licenses from being in technical violation of the Atomic Energy Act of 1954, as amended by the Uranium Mill Tailings Radiation Control Act of 1978. The Commission believes this general license is consistent with the Congressional intent to implement the mill tailings legislation in a manner designed to minimize unnecessary disruption. As provided in section 40.20 of 10 CFR Part 40, a general license is effective without filing of an application or the issuance of licensing documents to particular persons. This general license is applicable only to persons who possess appropriate specific licenses issued by the Commission or Agreement States to authorize uranium milling activities. The authority to possess, use, or own tailings under the general license shall expire upon the expiration or renewal of the underlying NRC or Agreement State specific milling license.

The Commission notes that all of its existing active milling licenses have been reviewed or are being reviewed under the provisions of the National Environmental Policy Act (NEPA). All NRC licenses presently contain, or will contain, requirements for tailings reclamation, mill and site cleanup, and surety arrangements to cover these costs. For the most part, present requirements and conditions are substantially the same as the requirements set forth in the proposed amendments concerning uranium milling, and most milling operations in non-Agreement States have already committed to specific plans for decommissioning and tailings disposal meeting the new requirements. NRC uranium milling licenses that have been granted under the NEPA process during the period over which the NRC's generic environmental impact statement or uranium milling was being developed were issued with the express condition that approved waste generating processes and mill tailings management practices were subject to revision in accordance with the conclusions of the final generic environmental impact statement and any related rulemaking. In the process of reevaluating approved mill operator plans upon expiration or renewal to meet the new regulatory requirements, the NRC staff plans to incorporate into applicable specific licenses the authority to possess and store byproduct material covered by this general license.

Under the provisions of this general license, Agreement State licensees will not be required to obtain a specific NRC license until such time as the licensee's Agreement State specific license expires or is renewed. The Commission notes in this regard that there presently exist Agreement State regulations and requirements governing the control of tailings in Agreement States that appear adequate to protect the public health and safety during the interim period until such licenses expire or are renewed. At such time as each Agreement State license expires or is renewed, it will be necessary at least until November 1, 1981, for the Agreement State licensee to apply for and obtain a specific NRC license covering the possession of byproduct material. The Commission intends to review each application under the NEPA process and impose any necessary requirements as may be necessary to protect the public health and safety. Given that tailings piles in Agreement States covered by this general license have been in existence for several years, the Commission does not believe that the relatively small incremental increase to such piles during the interim time until licenses expire or are renewed will foreclose available alternatives for

reducing or avoiding adverse environmental and other effects or result in irreversible or irretrievable commitments of sources. The Commission has concluded that the issuance of the general license is not a major Federal action significantly affecting the quality of the human environment and as such does not require an environmental impact statement. The Commission further notes in this regard that the authority to possess, own, or receive title to tailings now defined as byproduct material under this general license is subject to NRC remedial orders as necessary to protect the public health and safety and to correct any situations in which events might require more immediate Commission attention to insure proper control of tailings.

Section 40.4 of 10 CFR Part 40 is amended to include a new definition of "byproduct material." This amendment, which includes uranium and thorium mill tailings as byproduct material licensable by the Commission, is required by the recently enacted Uranium Mill Tailings Radiation Control Act. Discrete above-ground wastes from in situ or solution extraction are covered by this definition, although the underground ore bodies depleted by the extraction process are not covered. The Commission considered amending 10 CFR Part 30, "Rules of General Applicablility to Licensing of Byproduct Material," to specify licensing requirements concerning tailings, but has concluded that it is more appropriate to amend 10 CFR Part 40. The legislative record of the mill tailings legislation makes it clear that the expanded definition of byproduct material covers only mill tailings or wastes, which are exclusively associated with 10 CFR Part 40 licensing matters.

The amendments to 10 CFR Part 150 are to conform to Part 40's new definition of byproduct material and to Part 40's coverage of such byproduct material in Agreement States for the three years following enactment of the Uranium Mill Tailings Radiation Control Act of 1978. This is in accordance with the statute's provisions requiring NRC licensing of tailings in Agreement States for the three-year interim. Pursuant to the mill tailings legislation, however, Agreement States may exercise concurrent jurisdiction over tailings and wastes for the three-year interim.

The Commission finds that because the regulations supporting the general license must be effective immediately so as to prevent existing milling operations from being in technical violation of the Atomic Energy Act, good cause exists pursuant to 5 U.S.C. 553 to waive the 30-day comment period, as impracticable and contrary to the public interest, and make the amendments to 10 CFR 40.1, 40.2a, 40.3, 40.4, 40.26, 150.3, and 150.15 immediately effective. The Commission notes in this regard that informal written comments on this matter were solicited and received from industry, environmental groups, and several states. (These comments may be found in the Commission's public document room in a memorandum dated May 9, 1979, from the Executive Legal Director to the Commission entitled "Staff Response to the Commission Request for Further Information Regarding SECY-79-88 'Timing of Certain Requirements of the Uranium Mill Tailings Radiation Control Act of 1978'.") Comments on these amendments are invited, however, and the new regulations remain subject to further modification in response to such comments.

(Secs. 11.e(2), 81, 83, 84, 161b, 174; Pub. L. No. 83-703, 68 Stat. 948 et seq. (42 U.S.C. 2014e.(2), 2111, 2113, 2114, 2201b, 2021)).

Dated at Washington, D.C. this 22nd day of August 1979.

For the Nuclear Regulatory Commission.

Samuel J. Chilk,

Secretary of the Commission.

Regulatory Changes

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, the Uranium Mill Tailings Radiation Control Act of 1978, and sections 552 and 553 of Title 5 of the United States Code, the following amendments to Title 10, Chapters 40 and 150, Code of Federal Regulations are published as a document subject to codification.

1. § 40.1 of 10 CFR 40 is amended by revising paragraphs (a) and (b) as follows:

§ 40.1 Purpose.

(a) The regulations in this part establish procedures and criteria for the issuance of licenses to receive title to, receive, possess, use, transfer, deliver, or import into or export from the United States source and byproduct materials, as defined in this Part, and establish and provide for the terms and conditions upon which the Commission will issue such licenses. The regulations in this Part do not establish procedures and criteria for the issuance of licenses for material covered under Title I of the Uranium Mill Tailings Radiation Control Act of 1978 (92 Stat. 3021).

(b) The regulations contained in this part are issued pursuant to the Atomic Energy Act of 1954, as amended (68 Stat. 919), Title II of the Energy Reorganization Act of 1974 (88 Stat. 1242), and Title II of the Uranium Mill Tailings Radiation Control Act of 1978 (42 U.S.C. 7901).

2. § 40.2a of 10 CFR 40 is added to read as follows:

§ 40.2a Temporary coverage in Agreement States.

Until November 8, 1981, the regulations in this Part shall govern the Commission's licensing of byproduct material as defined in this Part in Agreement States.

3. § 40.3 of 10 CFR 40 is revised to read as follows:

§ 40.3 License requirements.

No person subject to the regulations in this Part shall receive title to, own, receive, possess, use, transfer, deliver, or import into or export from the United States byproduct material as defined in this Part or any source material after removal from its place of deposit in nature, except as authorized in a specific or general license issued by the Commission pursuant to the regulations in this Part.

4. § 40.4 of 10 CFR 40 is amended by revising paragraphs 40.4(a-1), 40.4(e), and 40.4(l) and adding new paragraphs 40.4(b-1) and 40.4(p).

§ 40.4 Definitions.

* * * * *

(a-1) "Byproduct Material" means the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content, including discrete surface wastes resulting from uranium solution extraction processes. Underground ore bodies depleted by such solution extraction operations do not constitute "byproduct material" within this definition.

* * * * *

(b-1) "Department of Energy" means the United States Department of Energy or its duly authorized representative.

* * * * *

(e) "Persons" means (1) any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, Government agency other than the Commission or the Department of Energy except that the Department of Energy shall be considered a person within the meaning of the regulations in this Part to the extent that its facilities and activities are subject to the licensing and related regulatory authority of the Commission pursuant to section 202 of the Energy Reorganization Act of 1974 (88 Stat.

1244)[1] and the Uranium Mill Tailings Radiation Control Act of 1978 (92 Stat. 21), any State or any political subdivision of, or any political entity within a State, any foreign government or nation or any subdivision of any such government or nation, or other entity; and (2) any legal successor, representative, agent or agency of the foregoing.

* * * * *

(l) With the exception of "byproduct material" as defined in Section 11e. of the Act, other terms defined in Section 11 of the Act shall have the same meaning when used in the regulation in this Part.

* * * * *

(p) "Uranium Milling" means any activity that results in the production of byproduct material as defined i this Part.

5. § 40.26 of 10 CFR 40 is added to read as follows:

§ 40.26 General license for possession and storage of byproduct material as defined in this Part.

(a) A general license is hereby issued to receive title to, own, or possess byproduct material as defined in this Part without regard to form or quantity.

(b) The general license in paragraph (a) of this section applies only:

(1) In the case of licensees of the Commission, where activities that result in the production of byproduct material are authorized under a specific license issued by the Commission pursuant to this Part, to byproduct material possessed or stored at an authorized disposal containment area or transported incident to such authorized activity; Provided, that authority to receive title to, own, or possess byproduct material under this general license shall terminate when the specific license for source material expires, is renewed, or is amended to include a specific license for byproduct material as defined in this Part; or

(2) In Agreement States until November 8, 1981, where activities that result in the production of byproduct material are authorized under a specific license issued by the Agreement State on or before May 17, 1979, to byproduct material possessed, or stored at an authorized disposal containment area or transported incident to such authorized activities; Provided, that authority to receive title to, own, or possess byproduct material under such general license shall terminate when such Agreement State license expires or is renewed, whichever first occurs.

(c) The general license in paragraph (a) of this section is subject to:

(1) The provisions of Parts 19, 20, 21, and §§ 40.1, 40.2, 40.2a, 40.3, 40.4, 40.5, 40.6, 40.41, 40.46, 40.61, 40.62, 40.63, 40.65, 40.71, and 40.81 of Part 40 of this Chapter; and

(2) The documentation of daily inspections of tailings or waste retention systems and the immediate notification of the appropriate NRC regional office as indicated in Appendix D of 10 CFR Part 20, or the Director, Office of Inspection and Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, of any failure in a tailings or waste retention system which results in a release of tailings or waste into unrestricted areas, and/or of any unusual conditions (conditions not contemplated in the design of the retention system) which if not corrected could lead to failure of the system and result in a release of tailings or waste into unrestricted areas; and any additional requirements the Commission may by order deem necessary.

6. § 150.3 of 10 CFR 150 is amended by revising § 150.3(c) to read as follows:

§ 150.3 Definitions.

* * * * *

(c) "Byproduct material" means (1) any radioactive material (except special nuclear material) yielded in or made radioactive by exposure to the radiation incident to the process of producing or utilizing special nuclear material; or (2) the tailings or wastes produced by the extraction.

7. § 150.15 of 10 CFR 150 is amended by adding a new paragraph (a)(7), to read as follows:

§ 150.15 Persons not exempt.

(a) * * *

(7) Until November 8, 1981, the receipt of title to, ownership of, receipt of, possession of, use of, transfer of, delivery of, import or export of the byproduct material as defined in § 150.3(c)(2) of this Part; Provided, however, that during this period any State may exercise any authority under State law respecting such material in the same manner, and to the same extent, as permitted before enactment of the Uranium Mill Tailings Radiation Control Act of 1978. In case of conflict between Federal and State requirements regarding a license, the Federal license requirements shall prevail unless the State requirements are more stringent than the Federal requirements.

[FR Doc. 79-26515 Filed 8-23-79; 8:45 am]
BILLING CODE 7590-01-M

[1] The Department of Energy facilities and activities identified in section 202 are:

(1) Demonstration Liquid Metal Fast Breeder reactors when operated as part of the power generation facilities of an electric utility system, or when operated in any other manner for the purpose of demonstrating the suitability for commercial application of such a reactor.

(2) Other demonstration nuclear reactors, except those in existence on January 19, 1975, when operated as part of the power generation facilities of an electric utility system, or when operated in any other manner for the purpose of demonstrating the suitability for commercial application of such a reactor.

(3) Facilities used primarily for the receipt and storage of high-level radioactive wastes resulting from licensed activities.

(4) Retrievable Surface Storage Facilities and other facilities authorized for the express purpose of subsequent long-term storage of high-level radioactive waste generated by the Department of Energy, which are not used for, or are part of, research and development activities.

NUCLEAR REGULATORY COMMISSION

[10 CFR Parts 30, 40, 70, 150, and 170]

Criteria Relating to Uranium Mill Tailings and Constructions of Major Plants

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Proposed rules.

SUMMARY: The proposed amendments to 10 CFR Parts 40 and 150 would incorporate licensing requirements for uranium and thorium mills and their tailings and wastes into the Commission's regulations. The proposed amdnedments to Parts 40 and 150 are derived from a draft generic environmental impact statement on uranium milling and the requirements contained in the Uranium Mill Tailings Radiation Control Act of 1978. The proposed amendments to Parts 30 and 70 would require a final environmental assessment be completed by the NRC prior to construction of other types of major plants. The proposed amendments to 10 CFR 170 set forth the fees to be charged in conjunction with licenses authorizing the possession of tailings. These proposed regulation changes and the draft generic environmental impact statement referred to above will be the subjects of public hearings to be held in October at locations in western milling regions. The general purpose of these hearings will be to receive comments on these proposed regulation changes and the draft generic environmental impact statement. More specific information concerning these hearings will be made available in a forthcoming Federal Register notice.

Closely related to these proposed regulations are immediately effective regulations pertaining to a general license authorizing possession of tailings by existing milling operations with valid specific licenses for milling. Although the immediately effective regulations are formally published elsewhere in this part of the Federal Register, they are shown here for purposes of clarity and continuity.

DATE: Comment period expires October 24, 1979.

ADDRESSES: Written comments should be submitted to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Branch. Copies of comments on the proposed amendment may be examined in the Commission's Public Document Room at 1717 H Street, N.W., Washington, D.C.

FOR FURTHER INFORMATION CONTACT: Don F. Harmon, Office of Standards Development, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555 (phone 301/433–5910) or Hubert J. Miller, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555 (phone 301/427–4103).

SUPPLEMENTARY INFORMATION: The Nuclear Regulatory Commission is amending its regulations to conform to the requirements of the Uranium Mill Tailings Radiation Control Act of 1978 and to the standards set forth in the draft generic environmental impact statement on uranium milling. The bulk of these regulations are published here in proposed form. The Commission finds it necessary, however, to issue as immediately effective a temporary general license to authorize the possession and storage of mill tailings or wastes to prevent existing milling operations in both Agreement and non-Agreement States from being in technical violation of the Atomic Energy Act of 1954, as amended by the Uranium Mill Tailings Radiation Control Act of 1978. Although the immediately effective regulations are formally published elsewhere in this part of the Federal Register, they are shown here for the purposes of clarity and continuity. In a notice published in the Federal Register on June 3, 1976, the U.S. Nuclear Regulatory Commission announced its intention to prepare a generic environmental impact statement (GEIS) on uranium milling. The Commission was acting partly in response to a petition for rulemaking filed with the Commission by the Natural Resources Defense Council, Inc. The Commission has evaluated the environmental impacts of uranium milling and has published a draft GEIS (NUREG–0511) on this subject (See Notice of Availability, April 26, 1979, 44 FR 24963).

The GEIS concludes that there is a need for certain definitive rule changes to the Commissions's regulations to establish specific uranium mill licensing requirements, particularly with regard to the tailings or wastes generated during the milling process. The rule change proposed herein to 10 CFR 40 will incorporate into the Commission's regulations the additional needed. requirements derived from the draft GEIS. These proposed additional requirements and potential alternatives are discussed in detail in the draft GEIS along with their supporting bases. It is not possible to provide here a complete summary of all the complex issues, alternatives, and supporting technical bases addressed in the draft GEIS. In formulating proposals for dealing with uranium milling problems to assure public health and safety and environment protection, the NRC staff has developed a full range of perspectives and facts. It has analyzed the problems from short- and long-term points of view. It has evaluated potential health risks to individuals living in the immediate vicinity of mills, to individuals living in mining and milling regions, to mill workers, and to large populations which can be exposed to radon. Potential impacts on land use, air quality, water quality, water use, biota and soils, and potential socieconomic effects of milling operations have been assessed. Alternatives for tailings disposal which have been examined range from the past practice of doing virtually nothing to isolate tailings, to utilizing potential advanced treatment methods such as incorporation of tailings in a solid matrix, such as cement or asphalt. The major institutional questions considered by the NRC in developing needed rule changes include: the need for land use controls and site monitoring at tailings disposal sites; methods of providing financial surety so that tailings disposal and site decommissioning are accomplished by the milling operator; and the need for and methods of funding any long-term surveillance which may be necessary at tailings disposal sites. For additional information concerning these issues, the draft GEIS should be reviewed. (It is suggested that readers of the GEIS start with the Summary; the chief bases for these proposed regulations are presented there. In preparing the Summary, the staff made a special effort to refer to specific sections of the text which are pertinent to each issue discussed. This has been done to make it easy for readers to find and consider all of the information that has been developed, so that they can draw their own conclusions about the issues addressed.) The major conclusions reached in the draft GEIS relative to needed rule changes, stated here in broad terms, are:

1. Tailings areas should be located at remote sites to reduce potential population exposures to the maximum extent reasonably achievable.

2. Tailing areas should be located at sites where disruption and dispersion by natural forces are eliminated or reduced to the maximum extent reasonably achievable.

3. The "prime option" for tailings disposal is placement below grade.

4. If tailings are located above ground, stringent siting and design criteria should be adhered to.

5. Sufficient cover should be placed over tailings to reduce radon exhalation

to a calculated value of less than 2pCi/m²sec above natural background levels.

6. Steps should be taken to reduce seepage of materials into groundwater to the maximum extent reasonably achievable.

7. Final disposition of tailings should be such that ongoing active maintenance is not necessary to preserve isolation.

8. Milling operations should be conducted so that all airborne effluent releases are reduced to as low as is reasonably achievable. Yellowcake drying and packaging operations should cease when effluent control devices are inoperative or not working at their reasonably expected best performance levels.

9. Financial surety arrangements should be established to ensure that sufficient funds are available to cover the costs of decontamination and decommissioning the mill and site and for the reclamation of tailings areas.

10. Sites on which tailings are stored should be controlled through ownership and custody by a government agency unless, in special cases as might occur in deep mine disposal, this is determined unnecessary.

11. Funds should be provided by each mill operator to cover the costs of long-term site surveillance.

12. Construction of a uranium mill or tailings disposal area should not commence until the NRC has completed its final environmental impact statement required by the National Environmental Policy Act (NEPA).

The rule changes proposed herein would also incorporate into the Commission's regulation 10 CFR 40 and 150 the requirements established by the Uranium Mill Tailings Radiation Control Act of 1978 (92 Stat. 3201). This legislation, among other things, establishes a program to regulate mill tailings during uranium or thorium ore processing at active mill operations and after termination of such operations in order to stabilize and control such tailings in a safe and environmentally sound manner and to minimize or eliminate radiation health hazards to the public. In the Commission's view, the legislation also requires that the NRC exercise concurrent jurisdiction over tailings in Agreement States until November 8, 1981. The UMTRCA, among other things, specifies:

1. A revised defination of "byproduct material" to include tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content;

2. Ownership and custody requirements for byproduct material;

3. Provisions for bonds, sureties, or other financial arrangements covering the decontamination, decommissioning, and reclamation of sites, structures, and equipment used in conjunction with byproduct material;

4. Provisions for Agreement State authority under Section 274 of the Atomic Energy Act; and

5. Provisions for NRC grants to States to aid in the development of State regulatory programs.

The UMTRCA further establishes certain responsibilities and authorities whereby the Environmental Protection Agency (EPA) must develop standards of general application for the protection of the public health, safety, and the environment from radiological and nonradiological hazards associated with the processing and with the possession, transfer, and disposal of byproduct material. Such generally applicable standards for nonradiological hazards must provide for the protection of human health and the environment consistent with the standards required under subtitle C of the Solid Waste Disposal Act, as amended. The Commission and any State permitted to exercise authority under § 274b.(2) of the Atomic Energy Act must apply these standards of general application in licensing actions involving byproduct material. In this regard, the Commission notes that the EPA has published (43 FR 58946), for comments, proposed regulations to implement the requirements of the Solid Waste Disposal Act, as amended. The Commission believes that the requirements in the amendments proposed herein, along with applicable requirements in other parts of the Commission's regulations, will be at least comparable to presently published requirements applicable to the possession, transfer, and disposal of similar material regulated by the EPA under the Solid Waste Disposal Act, as amended. Since final regulations have not been adopted by EPA to implement the mandates of the Solid Waste Disposal Act, additional amendments to the Commission's regulations may be required. The Commission intends to follow the progress of the EPA rulemaking action to implement regulations under the Solid Waste Disposal Act. Any final regulations pertaining to byproduct material adopted by the Commission will be comparable, to the maximum extent practicable, to requirements applicable to the possession, transfer, and disposal of similar hazardous material regulation by EPA under the Solid Waste Disposal Act, as amended. To ensure comparability, concurrence of final regulations will be obtained from the Administrator of EPA as required by the UMTRCA. In addition, the Administrator of EPA will be specifically requested to provide comments and recommendations concerning this matter.

The significant features of the amendments to 10 CFR 40 are:

1. Section 40.4 of Part 40 is being amended (effective immediately) to include the definition of "byproduct material." This amendment, to include uranium and thorium mill tailings as byproduct material as a licensable material in the Commission's regulations, is requird by the recently enacted UMTRCA. Discrete above ground wastes from in-situ or solution extraction are covered by this definition, although the underground ore bodies depleted by the extraction process are not covered. While the Commission has considered amending its regulation 10 CFR 30, "Rules of General Applicability to Licensing of Byproduct Material," to specify licensing requirements relative to tailings, the Commission considers it more appropriate to amend 10 CFR 40 since the legislative record of the UMTRCA makes clear that the expanded definition of byproduct material covers only mill tailings or wastes which are exclusively associated with 10 CFR 40 licensing matters.

2. A new § 40.26 is being added (effective immediately) to 10 CFR 40 to establish a temporary general license to authorize the possession and storage of mill tailings or wastes to keep existing milling operations in both Agreement and non-Agreement States from being in technical violation of the Atomic Energy Act of 1954, as amended by UMTRCA. The Commission believes this general license is consistent with the Congressional intent to implement the UMTRCA in a manner designed to minimize unnecessary disruption. As provided in § 40.20 of 10 CFR 40, a general license is effective without the filing of an application or the issuance of licensing documents to particular persons. This general license is applicable only to persons who possess appropriate specific licenses issued by the Commission or Agreement States which authorize uranium milling activities. The authority to possess, use, or own tailings under the general license shall expire concurrently with the expiration or renewal of each NRC or Agreement State specific milling license.

The Commission notes that all of its existing active milling licenses have been reviewed or are being reviewed under the provisions of the National Environmental Policy Act (NEPA). All

NRC licenses presently contain, or will contain, requirements for tailings reclamation, mill and site cleanup, and surety arrangements to cover these costs. For the most part, present requirements and conditions are substantially the same as the requirements being proposed herein, and most milling operators involved in non-Agreement States have already committed themselves to specific plans for decommissioning and tailings disposal meeting these requirements. NRC uranium milling licenses that have been granted under the NEPA process during the period over which the NRC's generic environmental impact statement on uranium milling was being developed were issued with the express condition that approved waste generating processes and mill tailings management practices were subject to revision in accordance with the conclusions of the final generic environmental impact statement and any related rulemaking. In the process of reevaluating approved mill operator plans upon expiration or renewal to meet the requirements of the rule change proposed herein, the NRC staff plans to incorporate into applicable specific licenses the authority to possess and store byproduct material covered by this general license.

Under the provisions of this general license, Agreement State licensees will not be required to obtain a specific NRC license until such time as the licensee's Agreement State specific license expires or is renewed. The Commission notes in this regard that there presently exist Agreement State regulations and requirements governing the control of tailings in Agreement States which appear adequate to protect the public health and safety during the interim period until such licenses expire or are renewed. At such time as each Agreement State license expires or is renewed, it will be necessary at least until November 1, 1981, for the Agreement State licensee to apply for and obtain a specific NRC license covering the possession of byproduct material. The Commission intends to review each application under the NEPA process and impose any necessary requirements as may be necessary to protect the public health and safety. Given that the tailings piles in Agreement States covered by this general license have been in existence for several years, the Commission does not believe that the incremental increase to such piles during the interim time until licenses expire or are renewed will foreclose available alternatives for reducing or avoiding adverse environmental and other effects or result in irreversible or irretrievable commitments of resources. Thus, the Commission has concluded that an environmental impact statement to support this interim general license is not required. The Commission further notes in this regard that the authority to possess, own, or receive title to tailings now defined as byproduct material under this general license is subject to NRC remedial orders as necessary to protect the public health and safety and to correct any situations where events might require more immediate Commission attention to insure proper control of tailings.

3. Section 40.31 of Part 40 is being amended by revising § 40.31(a) to cover applications for byproduct material and by adding a new paragraph (g) to require applicants for mill licenses to propose specifications relating to the operation of mill sand disposition of tailings or wastes so as to achieve certain requirements and objectives set forth in a new Apendix A to 10 CFR 40. These requirements and objectives are discussed in detail in the following Item #4.

Since these requirements and objectives deal primarily with presently operating and future milling activities, they do not apply to the remedial action program authorized in Title 1 of the UMTRCA.

4. A new Appendix A entitled, "Criteria Relating to the Operation of Uranium Mills and Disposition of Tailings or Wastes (i.e., byproduct material as defined in Section 11e.(2) of the Atomic Energy Act) Produced by the Extraction or Concentration of Source Material From Ores," is being added to 10 CFR 40. This appendix is divided into four major categories: technical criteria; financial criteria; site and byproduct material ownership; and long-term site surveillance. The technical criteria deal primarily with specifications for siting tailing areas, options for storing tailings below and above ground, seepage controls, minimum cover requirements for tailings at the end of milling operations, preoperational site monitoring requirements, and effluent controls during milling operations. These criteria were basically dervied from the GEIS discussed above. The guiding principles in the development of these criteria were that: tailings should be isolated from people and the environment in such a manner to reduce potential exposures to as low as is reasonably achievable; the site where tailings are stored should be returned to conditions reasonably near those of the surrounding evironment; and final disposition of tailings should be such that active maintenance is not necessary to preserve isolation. The bases for these criteria are set forth in detail in the GEIS. The Commission believes that under these criteria tailings can be disposed of at reasonable costs and in such a manner that conditions at disposal sites will be reasonably near those of surrounding environs. Thus, the need for ongoing active care and maintenance programs to redress degradation of the tailings isolation by natural weathering and erosion forces can be essentially eliminated. In that the proposed technical criteria for mill siting and tailings disposal areas preclude location of tailings or milling operations in an area that could be disrupted by natural events such as flooding, these criteria will assure that the requirements of Executive Order 11988 of May 23, 1977, concerning flood plain management are met. Therefore, as well as assuring tailings isolation, floodplains will be protected.

The ownership, surefy, and long-term funding criteria delineated in the new Appendix were derived from the GEIS. They are also requirements established under the UMTRCA. The Commission believes that compliance with these criteria will ensure that milling operators, who are responsible for the generation of tailings, will bear the costs of tailing reclamation and long-term site surveillance and that government ownership of tailings and disposal sites will ensure adequate long-term control of the tailings.

With regard to long-term site surveillance, the UMTRCA requires the final disposition of tailings or wastes at milling sites to be such that the need for long-term maintenance and monitoring of such sites after license termination shall be minimized, and to the maximum extent practicable, eliminated. These requirements are delineated in the long-term surveillance criterion set forth in the new Appendix. In order to confirm the integrity of a stablilized tailings system, the Commission proposes to require annual site inspections by site owners (e.g., an appropriate government agency). Depending on the specific conditions of a particular site, as determined during the period following site reclamation and before termination of a mill operator's license, a determination may be made that more frequent inspections or more comprehensive monitoring are required. More specific guidance on long-term surveillance may be issued in the future after more experience has been gained relative to this issue. Results of such inspections would be submitted to the

Commission within 60 days following each inspection.

The criteria in the new Appendix A would become effective following completion of the rulemaking action contemplated herein by the Commission, except that criterion 11 would not become effecitve until November 8, 1981, under the provisions of the UMTRCA.

5. Paragraphs (b) of § 40.14 and (e) of § 40.32 of 10 CFR 40 are being amended to require the Director of the Commission's Office of Nuclear Material Safety and Safeguards or his designee to make a positive finding on an applicant's proposed plans as meeting the requirements and objectives in Appendix A prior to commencement of construction of a mill which produces byproduct material. This finding would be that made in the final environmental impact statement (or other environmental assessment) prepared pursuant to Part 51 of this chapter. These proposed amendments will delete paragraph (b) of § 40.14 so as to preclude exemptions from the requirements of §§ 40.31(f) and 40.32(e) of Part 40 and amend paragraph (e) of § 40.32 so as to require the denial of applications for licenses where construction is started before the appropriate environmental appraisals are completed and documented. The Commission notes in this regard that milling results in the production of large quantities of byproduct material as tailings per year. When construction of a mill commences, nearly irrevocable commitments are made regarding tailings disposal. Given that each mill tailings pile constitutes a low-level waste burial site containing long-lived radioactive materials, the Commission believes that prudence requires that specific methods of tailings disposal, mill decontamination, site reclamation, surety arrangements, and arrangements to allow for transfer of site and tailings ownership be worked out and approved before a license is granted.

The Commission also notes that similar irrevocable and/or irretrievable commitments are involved in the commencement of construction of plants and facilities in which source materials are possessed and used for the production of uranium hexafluoride and commercial waste disposal by land burial. Accordingly, the requirements of the revised paragraphs (b) of § 40.14 and (e) of § 40.32 would apply to these plants and facilities.

The proposed amendments to 10 CFR 30 and 70 also relate to commencement of construction of other types of plants and facilities in which byproduct and special nuclear materials are used and possessed. The Commission also believes commencement of construction of these plants and facilities may also result in irreversible and irretrievable commitments of resources. Therefore, the Commission believes that it is also desirable and necessary that a final evironmental impact statement or assessment be completed and documented before authorizing commencement of construction. Thus, 10 CFR 30.11(b), 10 CFR 30.33(a)(5), 10 CFR 70.14(b) and 10 CFR 70.23(a)(7) are being amended to conform to the foregoing amendments to 10 CFR 40.

The amendments to 10 CFR Part 150 that are to conform to Part 40's new definition of byproduct material and to Part 40's coverage of such byproduct material in Agreement States for the three years following enactment of UNTRCA are immediately effective. These amendments are in accordance with UMTRCA's provisions requiring NRC licensing of tailings in Agreement States for the three year interim. Pursuant to UMTRCA, however, Agreement States may exercise concurrent jurisdiction over tailings and wastes for the three-year interim.

A new proposed § 150.15a is added to enumerate certain authorities reserved in the Commission under UMTRCA. Paragraph (a) is drawn directly from sections 204(f) and 202(a) of UMTRCA. Paragraph (b) is extracted from § 83 of the Atomic Energy Act of 1954, as added by § 202(a) of UMTRCA. The language of UMTRCA and its legislative history indicate that the NRC is to make the determinations under and establish requirements pursuant to § 83, which minimum Federal standards and determinations must, under § 204(e) of the UMTRCA, be met by the Agreement States. New proposed § 150.31 and 150.32 outline requirements in the UMTRCA for Agreement State regulation of tailings or activities that produce such tailings or wastes. The new requirements, which become effective after November 8, 1981, are taken directly from § 274o of the Atomic Energy Act, as added by § 204(e) of the UMTRCA.

The proposed amendments to 10 CFR 170 establish fees for licensing and inspection actions involving only the management of mill tailings and associated wastes. The proposed fees are based on NRC staff experience involving the review of the environmental and public health aspects of uranium milling and related activities.

Proposed regulatory changes

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, the Uranium Mill Tailings Radiation Control Act of 1978, and section 553 of title 5 of the United States Code, notice is hereby given that the Commission proposes to amend 10 CFR 30, 40, 70, 150, and 170 as indicated below.

The amendments to §§ 40.1, 40.2a, 40.3, 40.4, 40.26, 150.3, and 150.15, adopted as final rules in a document printed elsewhere in this part, are included below for purposes of clarity and continuity. They are identified in the amendatory language as being effective immediately.

1. Section 40.1 of 10 CFR 40 is amended (effective immediately) by revising paragraphs (a) and (b) as follows:

§ 40.1 Purpose.

(a) The regulations in this part establish procedures and criteria for the issuance of licenses to receive title to, receive, possess, use, transfer, deliver, or import into or export from the United States source and byproduct materials, as defined in this Part, and establish and provide for the terms and conditions upon which the Commission will issue such licenses. The regulations in this Part do not establish procedures and criteria for the issuance of licenses for materials covered under Title I of the Uranium Mill Tailings Radiation Control Act of 1978 (92 Stat. 3021).

(b) The regulations contained in this part are issued pursuant to the Atomic Energy Act of 1954, as amended (68 Stat. 919), Title II of the Energy Reorganization Act of 1974 (88 Stat. 1242), and Title II of the Uranium Mill Tailings Radiation Control Act of 1978 (42 U.S.C. 7901).

2. § 40.2a of 10 CFR 40 is added (effective immediately) to read as follows:

§ 40.2a Temporary coverage in Agreement States.

Until November 8, 1981, the regulations in this Part shall govern the Commission's licensing of byproduct material as defined in this Part in Agreement States.

3. § 40.2b of 10 CFR 40 is proposed to be read as follows:

§ 40.2b Coverage of inactive tailings sites.

(a) Prior to the completion of the remedial action, the Commission will not require a license pursuant to this Part for possession of byproduct material as defined in this Part that is located at a site where milling operations are no longer active, if such site is or is likely to be designated a processing site covered by the remedial action program of title I of the Uranium Mill Tailings Radiation Control Act of 1978. The Commission will exert its

regulatory role in remedial actions exclusively through concurrence and consultation in the execution of the remedial action pursuant to title I of the Uranium Mill Tailings Radiation Control Act of 1978.

(b) The Commission will require a license pursuant to this Part for byproduct material as defined in this Part that is located at a site where milling operations are not longer active, if such site is not and will not be covered by the remedial action program of title I of the Uranium Mill Tailings Radiation Control Act of 1978; provided, however, that the criteria in Appendix A of this Part will be applied to the maximum extent practicable, with consideration given to the unique circumstances of such inactive sites.

4. § 40.3 of 10 CFR 40 is revised (effective immediately) to read as follows:

§ 40.3 License requirements.

No person subject to the regulations in this Part shall receive title to, own, receive, possess, use, transfer, deliver, or import into or export from the United States byproduct material as defined in this Part or any source material after removal from its place of deposit in nature, except as authorized in a specific or general license issued by the Commission pursuant to the regulations in this Part.

5. § 40.4 of 10 CFR 40 is revised (effective immediately) by amending paragraphs 40.4(a–1), 40.4(e), and 40.4(1) and adding new paragraphs 40.4(b–1) and 40.4(p).

§ 40.4 Definitions.

* * * * *

(a–1) "Byproduct Material" means the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content, including discrete surface wastes resulting from uranium solution extraction processes. Underground ore bodies depleted by such solution extraction operations do not constitute "byproduct material" within this definition.

* * * * *

(b–1) "Department of Energy" means the United States Department of Energy or its duly authorized representative.

* * * * *

(e) "Person" means (1) any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, Government agency other than the Commission or the Department of Energy except that the Department of Energy shall be considered a person within the meaning of the regulations in this Part to the extent that its facilities and activities are subject to the licensing and related regulatory authority of the Commission pursuant to section 202 of the Energy Reorganization Act of 1974 (88 Stat. 1244) [6] and the Uranium Mill Tailings Radiation Control Act of 1978 (92 Stat. 21), any State or any political subdivision of, or any political entity within a State, any foreign government or nation or any political subdivision of any such government or nation, or other entity; and (2) any legal successor, representative, agent or agency of the foregoing.

* * * * *

(1) With the exception of "byproduct material" as defined in Section 11e. of the Act, other terms defined in Section 11 of the Act shall have the same meaning when used in the regulation in this Part.

* * * * *

(p) "Uranium Milling" means any activity that results in the production of byproduct material as defined in this Part.

6. Section 40.11 of 10 CFR 40 is proposed to be amended by changing the word "Adminstration" to read "Department of Energy" and by adding the words "or the Uranium Mill Tailings Radiation Control Act of 1978" following the words "Energy Reorganization Act of 1974."

7. Section 40.13 of 10 CFR 40 is proposed to be amended by adding the following sentence at the end of Paragraph (a): "The exemption contained in this paragraph does not include byproduct material as defined in this Part."

8. Section 40.14 of 10 CFR 40 is proposed to be amended by deleting paragraph 40.14(b).

[6] The Department of Energy facilities and activities identified in section 202 are:

(1) Demonstration Liquid Metal Fast Breeder reactors when operated as part of the power generation facilities of an electric utility system, or when operated in any other manner for the purpose of demonstrating the suitability for commercial application of such a reactor.

(2) Other demonstration nuclear reactors, except those in existence on January 19, 1975, when operated as part of the power generation facilities of an electric utility system, or when operated in any other manner for the purpose of demonstrating the suitability for commercial application of such a reactor.

(3) Facilities used primarily for the receipt and storage of high-level radioactive wastes resulting from licensed activities.

(4) Retrievable Surface Storage Facilities and other facilities authorized for the express purpose of subsequent long-term storage of high-level radioactive waste generated by the Department of Energy, which are not used for, or are part of, research and development activities.

9. Section 40.26 of 10 CFR 40 is added (effective immediately) to read as follows:

§ 40.26 General license for possession and storage of byproduct material as defined in this Part.

(a) A general license is hereby issued to receive title to, own, or possess byproduct material as defined in this Part without regard to form or quantity.

(b) The general license in paragraph (a) of this section applies only:

(1) In the case of licensees of the Commission, where activities that result in the production of byproduct material are authorized under a specific license issued by the Commission pursuant to this Part, to byproduct material possessed or stored at an authorized disposal containment area or transported incident to such authorized activity; Provided, that authority to receive title to, own, or possess byproduct material under this general license shall terminate when the specific license for source material expires, is renewed, or is amended to include a specific license for byproduct material as defined in this Part; or

(2) In Agreement States until November 8, 1981, where activities that result in the production of byproduct material are authorized under a specific license issued by the Agreement State on or before May 17, 1979, to byproduct material possessed, or stored at an authorized disposal containment area or transported incident to such authorized activities; Provided, that authority to receive title to, own, or possess byproduct material under such general license shall terminate when such Agreement State license expires or is renewed, whichever first occurs.

(c) The general license in paragraph (a) of this section is subject to:

(1) The provisions of Parts 19, 20, 21, and sections 40.1, 40.2, 40.2a, 40.3, 40.4, 40.5, 40.6, 40.41, 40.46, 40.61, 40.62, 40.63, 40.65, 40.71, and 40.81 of Part 40 of this Chapter; and

(2) The documentation of daily inspections of tailings or waste retention systems and the immediate notification of the appropriate NRC regional office as indicated in Appendix D of 10 CFR Part 20, or the Director, Office of Inspection and Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, of any failure in a tailings or waste retention system which results in a release of tailings or waste into unrestricted areas, and/or of any unusual conditions (conditions not contemplated in the design of the retention system) which if not corrected could lead to failure of the system and result in a release of tailings or waste

into unrestricted areas; and any additional requirements the Commission may by order deem necessary.

10. Section 40.31 of 10 CFR 40 is proposed to be amended by revising § 40.31(a) and adding a new § 40.31(g) as follows:

§ 40.31 Applications for specific licenses.

(a)(1) Applications for a specific license for source material or for byproduct material produced in conjunction with the uranium milling activity for which a source material license is sought from the Commission should be filed in quadruplicate on Form NRC-2 "Application for Source Material License," with the Director of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. Applications may be filed in person at the Commission's Offices at 1717 H Street, NW., Washington, D.C., or 7920 Norfolk Avenue, Bethesda, Md. Information contained in previous applications, statements, or reports filed with the Commission may be incorporated by reference, provided such references are clear and specific.

(2) Applications for specific licenses for byproduct material as defined in this Part not sought in conjunction with a source material license from the Commission for uranium milling shall be filed with the Director of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. Such applications include, until November 8, 1981, applications for specific licenses from the Commission for such byproduct material generated by uranium milling under an Agreement State license issued or renewed after May 17, 1979.

* * * * *

(g) An application for a license to receive title to, own, receive, possess, and use source material for uranium milling or byproduct material, as defined in this Part, shall contain proposed specifications relating to milling operations and the disposition of the byproduct material to achieve the requirements and objectives set forth in Appendix A of this Part.

11. Section 40.32 of 10 CFR 40 is proposed to be amended by revising § 40.32(e) as follows:

§ 40.32 General requirements for issuance of specific licenses.

* * * * *

(e) In the case of an application for a license to possess and use source and byproduct material for uranium milling, production of uranium hexafluoride, commercial waste disposal by land burial or for the conduct of any other activity which the Commission determines will significantly affect the quality of the environment, the Director of Nuclear Material Safety and Safeguards or his designee, before commencement of construction of the plant or facility in which the activity will be conducted, on the basis of information filed and evaluations made pursuant to Part 51 of this chapter, has concluded, after weighing the environmental, economic, technical and other benefits against environmental costs and considering available alternatives, that the action called for is the issuance of the proposed license, with any appropriate conditions to protect environmental values. Commencement of construction prior to such a conclusion shall be grounds for denial of a license to possess and use source and byproduct material in such plant or facility.

12. Appendix A is proposed to be added to Part 40 to read as follows:

Appendix A to Part 40

Criteria Relating to the Operation of Uranium Mills and the Disposition of Tailings or Wastes (i.e., byproduct material as defined in Section 11e.(2) of the Atomic Energy Act) Produced by the Extraction or Concentration of Source Material From Ores.

Introduction. Every applicant for a license to possess and use source material in conjunction with uranium or thorium milling is required by the provisions of § 40.31(g) to include in a license application proposed specifications relating to milling operations and the disposition of tailings or waste resulting from such miling activities. This appendix establishes technical, financial, ownership, and long-term site surveillance requirements relating to the siting, operation, decontamination, decommissioning, and reclamation of mills and tailings or waste systems and sites at which such mills and systems are located.

I. Technical Criteria

Criterion 1—Tailings or waste disposal areas shall be located at remote sites so as to reduce potential population exposures and the likelihood of human intrusions to the maximum extent reasonably achievable. To avoid proliferation of small waste disposal sites, byproduct material from in-situ extraction operations, such as residues from solution evaporation or contaminated control processes, and wastes from small remote above ground extraction operations shall preferably be disposed of at existing large mill tailings disposal sites; consideration will be given to the nature of the wastes, such as their volume and specific activity, and to costs and environmental impacts of transporting the wastes to a large disposal site.

Criterion 2—Tailings or waste disposal areas shall be located at sites where disruption and dispersion by natural forces are eliminated or reduced to the maximum extent reasonably achievable. In the selection of mill sites, primary emphasis shall be given to isolation of tailings or wastes, a matter having long-term impacts, as opposed to consideration only of short-term convenience or benefits, such as minimization of transportation or land acquisition costs. These criteria, which preclude location of tailings or mill site in an area which could be disrupted by natural events, such as flooding, assure that the requirements of Executive Order 11988 concerning floodplain management are met.

Criterion 3—The "prime option" for disposal of tailings is placement below grade, either in mines or specially excavated pits. The evaluation of alternative sites and disposal methods performed by mill operators in support of their proposed tailings disposal program (provided in applicant environmental reports) shall reflect this. In some instances, below-grade disposal may not be the most environmentally sound approach, such as might be the case if a high quality groundwater formation is relatively close to the surface or not very well isolated by overlying soils and rock. Also, geologic and topographic conditions might make full, below-grade burial impracticable; for example, bedrock may be sufficiently near surface that blasting would be required to excavate a disposal pit at excessive cost, and more suitable alternate sites are not available. In these cases, it must be demonstrated that an above-grade disposal program will provide reasonably equivalent isolation of the tailings from natural erosional forces.

Criterion 4—If tailings or wastes are disposed of above ground, the following siting and design criteria shall be adhered to:

(a) Upstream rainfall catchment areas must be utilized to decrease the size of the maximum possible flood which could erode or wash out sections of the tailings disposal area.

(b) Topographic features shall provide good wind protection.

(c) Embankment slopes shall be relatively flat after final stabilization to minimize erosion potential and to provide conservative factors of safety assuring long-term stability. The broad objective should be to contour final slopes to grades which are as close as

possible to those which would be provided if tailings were disposed of below grade; this would, for example, lead to slopes of about 10 horizontal to 1 vertical (10h:1v) or less steep. In general, slopes should not be steeper than about 5h:1v. Where steeper slopes are proposed, reasons why a slope less steep than 5h:1v would be impracticable should be provided, and compensating factors and conditions which make such slopes acceptable should be identified.

(d) A full, self-sustaining vegetative cover shall be established or riprap employed to retard wind and water erosion. Special concern shall be given to slopes of embankments.

(e) The impoundment shall not be located near a potentially active fault that could cause a maximum credible earthquake larger than that which the impoundment could reasonably be expected to withstand.

(f) The impoundment, where feasible, should be designed to incorporate features which will promote deposition. For example, design features which promote deposition of sediment suspended in any runoff which flows into the impoundment area might be utilized; the objective of such a design feature would be to enhance the thickness of cover over time.

Criterion 5—Steps shall be taken to reduce seepage of toxic materials into groundwater to the maximum extent reasonably achievable. This could be accomplished by lining the bottom of tailings areas and reducing the inventory of liquid in the impoundment by such means as dewatering tailings and/or recycling water from tailings impoundments to the mill. Furthermore, steps shall be taken during stockpiling of ore to minimize penetration of radionuclides into underlying soils; suitable methods include lining and/or compaction of ore storage areas. Also, tailings treatment, such as neutralization to promote immobilization of toxic substances shall be considered. The specific method, or combination of methods, to be used must be worked out on a site-specific basis. While the primary method of protecting groundwater shall be isolation of tailings and tailings solutions, disposal involving contact with groundwater will be considered provided supporting tests and analysis are presented demonstrating that the proposed disposal and treatment methods will preserve quality of groundwater.

Criterion 6—Sufficient earth cover, but not less than three meters, shall be placed over tailings or wastes at the end of milling operations to result in a *calculated* reduction in surface exhalation of randon from the tailings or wastes to less than two picocuries per square meter per second above natural background levels. Direct gamma exposure from the tailings or wastes should be reduced to background levels. Plastic or other synthetic caps should not be used to reduce randon exhalation from the tailings or wastes. Cover material must not include mine waste or rock that contain elevated levels of radium; soils used for cover must be essentially the same, as far as radioactivity is concerned, as that or surrounding soils.

Criterion 7—At least one full year prior to any major site construction, a preoperational monitoring program should be conducted to provide complete baseline data on a milling site and its environs prior to development. Throughout the construction and operation phase of the mill, an operational monitoring program should be conducted to demonstrate compliance with applicable standards and regulations; to evaluate performance of control systems and procedures; to evaluate environmental impacts of operation; and to detect potential long-term effects.

Criterion 8—Milling operations shall be conducted so that all airborne effluent releases are reduced to as low as is reasonably achievable below the limits in 10 CFR Part 20. The primary means of accomplishing this should be by means of emission controls. Institutional controls, such as extending the site boundary and exclusion area, may be employed to ensure that offsite exposure limits are met, but only after efforts have been taken to control emissions at the source to the maximum extent reasonably achievable. Notwithstanding the existence of individual dose standards, strict control of emissions is necessary to assure that population exposures are reduced to the maximum extent reasonably achievable and to avoid site contamination. The greatest potential sources of offsite radiation exposure (aside from radon exposure) are dusting from dry surfaces or the tailings disposal area not covered by tailings solution and emissions from yellowcake drying and packaging operations. Yellowcake drying and packaging operations should cease when effluent control devices are inoperative or not working at their reasonably expected best performance levels. To control dusting from tailings, that portion not covered by standing liquids should be wetted or chemically stabilized to prevent or minimize blowing and dusting to the maximum extent reasonably achievable. This requirement may be relaxed if tailings are effectively sheltered from wind, such as may be the case where they are disposed of below grade and the tailings surface is not exposed to wind. Consideration should be given in planning tailings disposal programs to methods which would allow phased covering and reclamation of tailings impoundments since this will help in controlling particulate and radon emissions during operation. To control dusting from diffuse sources, such as tailings and ore pads where automatic controls do not apply, operators should develop written operating procedures specifying the methods of control which will be utilized.

Criterion 8(A)—Daily inspections of tailings or waste retention systems shall be conducted and documented. The appropriate NRC regional office as indicated in Appendix D of 10 CFR Part 20, or the Director, Office of Inspection and Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, shall be immediately notified of any failure in a tailings or waste retention system which results in a release of tailings or waste into unrestricted areas, and/or of any unusual conditions (conditions not contemplated in the design of the retention system) which if not corrected could lead to failure of the system and result in a release of tailings or waste into unrestricted areas.

II. Financial Criteria

Criterion 9—Financial surety arrangements shall be established by each mill operator to assure that sufficient funds will be available to carry out the decontamination and decommissioning of the mill and site and for the reclamation of any tailings or waste disposal areas. The amount of funds to be ensured by such surety arrangements shall be based on cost estimates in an approved plan for (1) decontamination and decommissioning of mill buildings and the milling site to levels which would allow unrestricted use of these areas upon decommissioning, and (2) the reclamation of tailings and/or waste disposal areas in accordance with technical criteria delineated in Section I of this Appendix. The licensee shall submit this plan in conjunction with an environmental report that addresses the expected environmental impacts of the milling operation, decommissioning and tailings reclamation, and evaluates alternatives for mitigating these impacts. The surety shall cover the payment of the charge for long-term surveillance required by Criterion 10. In establishing specific surety arrangements, the licensee's cost estimates shall take into

account total capital costs that would be incurred if an independent contractor were hired to perform the decommissioning and reclamation work. In order to avoid unnecessary duplication and expense, the Commission will accept financial sureties that have been consolidated with financial or surety arrangements established to meet requirements of other Federal or State agencies and/or local governing bodies for such decommissioning, decontamination, reclamation, and long-term site surveillance. The licensee's surety mechanism will be reviewed from time to time by the Commission (generally at the time of license renewal) to assure sufficient funds for completion of the reclamation plan if the work had to be performed by the regulatory authority. The amount of surety liability should change in accordance with the predicted cost of future reclamation. Factors affecting reclamation cost estimates include: inflation; increases in the amount of disturbed land; and decommissioning and reclamation that has been performed. This will yield a surety that is at least sufficient at all times to cover the costs of decommissioning and reclamation of the areas that are expected to be disturbed before the next license renewal. The term of the surety mechanism must be open ended. Liability under the surety mechanism shall remain in effect until the reclamation program has been completed and approved. Financial surety arrangements generally acceptable to the Commission are:

(a) Surety bonds;
(b) Cash deposits;
(c) Certificates of deposit;
(d) Deposits of government securities;
(e) Letters or lines of credit; and
(f) Combinations of the above or such other types of arrangements as may be approved by the Commission.

Criterion 10—A charge of $250,000 to cover the costs of long-term surveillance shall be paid by each mill operator to the general treasury of the United States or to an appropriate State agency prior to the termination of a uranium or thorium mill license. If site surveillance requirements at a particular site are determined, on the basis of a site-specific evaluation, to be significantly greater than those specified in Criterion 12, variance in funding requirements may be specified by the Commission. The total charge to cover the costs of long-term surveillance shall be such that, with an assumed 1 percent annual real interest rate, the collected funds will yield interest in an amount sufficient to cover the annual costs of site surveillance. The charge will be adjusted annually to recognize inflation. The inflation rate to be used is that indicated by the change in the Consumer Price Index published by the U.S. Department of Labor, Bureau of Labor Statistics.

III. Site and Byproduct Material Ownership

Criterion 11—

A. These criteria relating to ownership of tailings and their disposal sites become effective on November 8, 1981, and apply to all licenses terminated, issued, or renewed after that date.

B. Any uranium or thorium milling license or tailings license shall contain such terms and conditions as the Commission determines necessary to assure that, prior to termination of the license, the licensee will comply with ownership requirements of this criterion for sites used for tailings disposal.

C. Title to the byproduct material licensed under this Part and land, including any interests therein (other than land owned by the United States or by a State) which is used for the disposal of any such byproduct materal, shall be transferred to the United States or the State in which such land is located, at the option of such State. For licenses issued before November 8, 1981, the NRC will review an applicant's plans to effect arrangements to allow for transfer of site and tailings ownership prior to issuance of a license.

D. If the Commission determines that use of the surface or subsurface estates, or both, of the land transferred to the United States or to a State will not endanger the public health, safety, welfare, or environment, the Commission will permit the use of the surface or subsurface estates, or both, of such land in a manner consistent with the provisions provided in these criteria. If the Commission permits such use of such land, it will provide the person who transferred such land with the right of first refusal with respect to such use of such land.

E. In the case of any uranium or thorium milling license in effect on November 8, 1981, the Commission may require, before the termination of such license, transfer of land and interests therein (including tailings) to the United States or a State in which such land is located at the option of such State as may be necessary to protect the public health, welfare, and the environment from any effects associated with byproduct material defined in this Part. In exercising this requirement, the Commission will take into consideration the status of the ownership of such land and interests therein (including tailings) and the ability of the licensee to transfer title and custody thereof to the United States or a State. For licenses issued before November 8, 1981, the NRC will review an applicant's plans to effect arrangements to allow for transfer of site and tailings ownership prior to issuance of a license. Subsequent renewals shall not disqualify licensees otherwise eligible for such consideration under this criterion.

F. Material and land transferred to the United States or a State in accordance with this Criterion shall be transferred without cost to the United States or a State other than administrative and legal costs incurred in carrying out such transfer.

G. The provisions of this Part respecting transfer of title and custody to land and trailings and wastes shall not apply in the case of lands held in trust by the United States for any Indian tribe or lands owned by such Indian tribe subject to a restriction against alienation imposed by the United States. In the case of such lands which are used for the disposal of byproduct material, as defined in this Part, the licensee shall enter into arrangements with the Commission as may be appropriate to assure the long-term surveillance of such lands by the United States.

IV. Long-Term Site Surveillance

Criterion 12—The final disposition of tailings or wastes at milling sites should be such that the need for ongoing active maintenance is not necessary to preserve isolation. As a minimum, annual site inspections shall be conducted by site owners where tailings, or wastes are stored to confirm the integrity of the stabilized tailings or waste systems and to determine the need, if any, for maintenance and/or monitoring. Results of the inspection shall be reported to the Commission within 60 days following each inspection. The Commission may require more frequent site inspections if, on the basis of a site-specific evaluation, such a need appears necessary due to the features of a particular tailings or waste disposal system.

13. Section 70.14 of 10 CFR 70 is proposed to be amended by deleting paragraph 70.14(b).

14. Section 70.23 of 10 CFR 70 is proposed to be amended by revising paragraph (a)(7) to read as follows:

§ 70.23 Requirements for the approval of applications.

(a) * * *

(7) Where the proposed activity is processing and fuel fabrication, scrap recovery, conversion of uranium hexafluoride, commercial waste disposal by land burial, or any other

activity which the Commission determines will significantly affect the quality of the environment, the Director of Nuclear Material Safety and Safeguards or his designee, before commencement of construction of the plant or facility in which the activity will be conducted, on the basis of information filed and evaluations made pursuant to Part 51 of this chapter, has concluded, after weighing the environmental, economic, technical, and other benefits against environmental costs and considering available alternatives, that the action called for is the issuance of the proposed license, with any appropriate conditions to protect enviromental values. Commencement of construction prior to such conclusions shall be grounds for denial to posses and use special nuclear material in such plant or facility.

* * * * *

15. Section 30.11 of 10 CFR 30 is proposed to be amended by deleting paragraph 30.11(b).

16. Section 30.33 of 10 CFR 30 is proposed to be amended by revising paragraph (a)(5) to read as follows:

§ 30.33 General requirements for issuance of specific licenses.

(a) * * *

(5) In the case of an application for a license to receive and possess byproduct material for commercial waste disposal by land burial or for the conduct of any other activity which the Commission determines will significantly affect the quality of the environment, the Director of Nuclear Material Safety and Safeguards or his designee, before commencement of construction of the plant or facility in which the activity will be conducted, on the basis of information filed and evaluations made pursuant to Part 51 of this chapter, has concluded, after weighing the environmental, economic, technical, and other benefits against environmental costs and considering available alternatives, that the action called for is the issuance of the proposed license, with any appropriate conditions to protect environmental values. Commencement of construction prior to such conclusion shall be grounds for denial of a license to receive and possess byproduct material in such plans or facility.

17. Section 150.3 of 10 CFR 150 is amended (effective immediately) by revising paragraph 150.3(c) to read as follows:

§ 150.3. Definitions.

* * * * *

(c) "Byproduct material" means (1) any radioactive material (except special nuclear material) yielded in or made radioactive by exposure to the radiation incident to the process of producing or utilizing special nuclear material; or (2) the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content, including discrete surface wastes resulting from solution extraction processes. Underground ore bodies depleted by such solution extraction operations do not constitute "byproduct material" within this definition.

18. Section 150.15 of 10 CFR 150 is amended (effective immediately) by adding a new paragraph (a)(7), to read as follows:

§ 150.15 Persons not exempt.

(a) * * *

(7) Until November 8, 1981, the receipt of title to, ownership of, receipt of, possession of, use of, transfer of, delivery of, import or export of the byproduct material as defined in § 150.3(c)(2) of this Part; Provided, however, that during this period any State may exercise any authority under State law respecting such material in the same manner, and to the same extent, as permitted before enactment of the Uranium Mill Tailings Radiation Control Act of 1978. In case of conflict between Federal and State requirements regarding a license, the Federal license requirements shall prevail unless the State requirements are more stringent than the Federal requirements.

19. 10 CFR 150 is proposed to be amended by adding a new § 150.15a to read as follows:

§ 150.15a Continued Commission authority pertaining to byproduct material.

(a) Prior to the termination of any Agreement State license for byproduct material as defined in § 150.3(c)(2) of this Part, or for any activity that results in the production of such material, the Commission shall have made a determination that all applicable standards and requirements pertaining to such material have been met.

(b) After November 8, 1981, the Commission reserves the authority to establish minimum standards regarding reclamation, long term surveillance (i.e., continued site observation, monitoring and, in some cases where necessary, maintenance), and ownership of byproduct material as defined in § 150.3(c)(2) of this Part and of land used as a disposal site for such material. Such reserved authority includes:

(1) Authority to establish such terms and conditions as the Commission determines necessary to assure that, prior to termination of any license for byproduct material as defined in § 150.3(c)(2) of this Part, or for any activity that results in the production of such material, the licensee shall comply with decontamination, decommissioning, and reclamation standards prescribed by the Commission; and with ownership requirements for such materials and its disposal site as the Commission may establish;

(2) The authority to require that prior to termination of any license for byproduct material as defined in § 150.3(c)(2) of this Part or for any activity that results in the production of such material, that title to such byproduct material and its disposal site be transferred to the United States or the State in which such material and land is located, at the option of the State (provided such option is exercised prior to termination of the license);

(3) The authority to permit use of the surface or subsurface estates, or both, of the land transferred to the United States or a State pursuant to paragraph (b)(2) of this section in a manner consistent with the provisions of the Uranium Mill Tailings Radiation Control Act of 1978, provided that the Commission determines that such use would not endanger the public health, safety, welfare, or the environment;

(4) The authority to require, in the case of a license for any activity that produces such byproduct material (which license was in effect on November 8, 1981) transfer of land and material pursuant to paragraph (b)(2), of this section, taking into consideration the status of such material and land and interests therein, and the ability of the licensee to transfer title and custody thereof to the United States or a State;

(5) The authority to require the Secretary of the Department of Energy, other Federal agency, or State, whichever has custody of such property and materials, to undertake such monitoring, maintenance, and emergency measures as are necessary to protect the public health and safety and other actions as the Commission deems necessary to comply with the standards promulgated pursuant to the Uranium Mill Tailing Radiation Control Act of 1978; and

(6) The authority to enter into arrangements as may be appropriate to assure Federal long term surveillance (i.e., continued site observation of such disposal sites on land held in trust by the United States for any Indian tribe or land owned by an Indian tribe and subject to a restriction against alienation imposed by the United States.

20. 10 CFR 150 is proposed to be amended by adding a new § 150.31 to read as follows:

§ 150.31 Requirements for Agreement State regulation of byproduct material.

After November 8, 1981, in the licensing and regulation of byproduct material, as defined in § 150.3(c)(2) of this Part, or of any activity which results in the production of such byproduct material, an Agreement State shall require—

(a) Compliance with requirements established by the Commission pertaining to ownership of such byproduct material and disposal sites for such material; and

(b) Compliance with standards which shall be adopted by the Agreement State for the protection of the public health, safety, and the environment from hazards associated with such material which are equivalent, to the extent practicable, or more stringent than, standards adopted and enforced by the Commission for the same purpose, including requirements and standards promulgated by the Commission and the Administrator of the Environment Protection Agency pursuant to the Uranium Mill Tailing Radiation Control Act of 1978; and

(c) Procedures which—

(1) In the case of licenses under State law include—

(i) An opportunity, after public notice, for written comments and a public hearing, with a transcript,

(ii) An opportunity for cross examination, and

(iii) A written determination which is based upon findings included in such determination and upon the evidence presented during the public comment period and which is subject to judicial review;

(2) In the case of rulemaking, provide an opportunity for public participation through written comments or a public hearing and provide for judicial review of the rule;

(3) Require for each license which has a significant impact on the human environment a written analysis (which shall be available to the public before the commencement of any such proceedings) of the impact of such license, including any activities conducted pursuant thereto, on the environment. Such analysis shall include—

(i) An assessment of the radiological and nonradiological impacts to the public health of the activities to be conducted pursuant to such license;

(ii) An assessment of any impact on any waterway and groundwater resulting from such activities;

(iii) Consideration of alternatives, including alternative sites and engineering methods, to the activities to be conducted pursuant to such license; and

(iv) Consideration of the long term impacts, including decommissioning, decontamination, and reclamation impacts associated with activities to be conducted pursuant to such license, including the management of any byproduct material, as defined in § 150.3(c)(2) of this Part; and

(4) Prohibit any major construction activity with respect to such material prior to complying with the provisions of paragraph (c)(3) of this section.

(d) No Agreement State shall be required under paragraph (c) to conduct proceedings concerning any license or regulation which would duplicate proceedings conducted by the Commission.

21. 10 CFR 150 is proposed to be amended to add § 150.32 to read as follows:

§ 150.32 Funds for reclamation or maintenance of byproduct material.

(a) The total amount of funds an Agreement State collects, pursuant to a license for byproduct material as defined in § 150.3(c)(2) of this Part or for any activity that results in the production of such material, for reclamation or long term maintenance and monitoring of such material, shall, after November 8, 1981, be transferred to the United States if title and custody of such material and its disposal site is transferred to the United States upon termination of such license. Such funds include, but are not limited to, sums collected for long term surveillance (i.e., continued site observation, monitoring and, in some cases where necessary, maintenance). Such funds do not, however, include monies held as surety where no default has occurred and the reclamation or other bonded activity has been performed.

(b) If an Agreement State requires such payments for reclamation or long term surveillance (i.e., continued site observation, monitoring and, in some cases where necessary, maintenance), they payments must, after November 8, 1981, be sufficient to ensure compliance with those standards established by the Commission pertaining to bonds, sureties, and financial arrangements to ensure adequate reclamation and long term management of such byproduct material and its disposal site.

22. § 170.2 of 10 CFR 170 is proposed to be revised to read as follows:

§ 170.2 Scope.

Except for persons who apply for or hold the permits, licenses, or approvals exempted in § 170.11, the regulations in this part apply to a person who is an applicant for, or holder of, a specific byproduct material license issued pursuant to Part 40 of this chapter, a specific special nuclear material license issued pursuant to Part 70 of this chapter, a specific approval of spent fuel casks and shipping containers issued pursuant to Part 71 of this chapter, a specific request for approval of sealed sources and devices containing byproduct material, source material, or special nuclear material, or a production or utilization facility construction permit and operating license issued pursuant to Part 50 of this chapter, to routine safety and safeguards inspections of a licensed person, to a person who applies for approval of a reference standardized design of a nuclear steam supply system or balance of plant, for review of a facility site prior to the submission of an application for a construction permit, for review of a standardized spent fuel facility design, and for a special project review which the Commission completes or makes whether or not in conjunction with a license application on file or which may be filed.

23. § 170.3 of 10 CFR 170 is proposed to be amended by revising paragraphs 170.3 (a) and (c) to read as follows:

§ 170.3 Definitions.

As used in this part:

(a) "Byproduct material" means (1) any radioactive material (except special nuclear material) yielded in or made radioactive by exposure to the radiation incident to the process of producing or utilizing special nuclear material; or (2) the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content, including discrete surface wastes resulting from uranium solution extraction processes. Underground ore bodies depleted by such solution extraction operations do not constitute "byproduct material" within this definition.

* * * * *

(c) "Materials license" means a byproduct material license issued pursuant to Part 30 of this chapter, or a source or byproduct material license issued pursuant to Part 40 of this chapter, or a special nuclear material license issued pursuant to Part 70 of this chapter.

* * * * *

24. §170.31 of 10 CFR 170 is proposed to be amended by adding a new category 4.D to read as follows:

§ 170.31 Schedule of fees for materials licenses and other regulatory services.

* * * * *

4.D (1) Licenses specifically authorizing the receipt, possession, use, or ownership of tailings or wastes (i.e., byproduct material) produced in conjunction with heap-leaching operations.

Application	10,000
New License[4]	93,800
Renewal[4]	93,800
Amendment[3]	
Major[4]	20,800
Minor[4]	-3,500
Administrative	150

(2) Licenses specifically authorizing the receipt, possession, use, or ownership of tailings or wastes (i.e., byproduct material) produced in conjunction with milling operations.

Production scale activity:	
Application	7,000
New License[4]	52,600
Research and development scale activity:	
Application	2,000
New License[4]	14,800
Renewal[4]	[*]13,800
Amendment[3]	
Major[4]	[*]4,200
Minor[4]	[*]760
Administrative	[*]150

(3) Licenses specifically authorizing the receipt, possession, use, or ownership of tailings or wastes (i.e., byproduct material) produced in conjunction with in situ leaching operations.

Production scale activity:	
Application	2,500
New License[4]	16,900
Research and development scale activity:	
Application	850
New License[4]	5,000
Renewal[4]	[*]14,800
Amendment[3]	
Major[4]	[*]1,400
Minor	[**]250
Administrative	[*]150

* * * * *

25. § 170.32 of 10 CFR 170 is proposed to be amended by adding a new category 4.D to read as follows:

§ 170.32 Schedule of fees for health and safety, and safeguards inspections for materials licenses.

* * * * *

4.D. Licenses specifically authorizing the receipt, possession, use, or ownership of tailings or wastes (i.e., byproduct material) produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content.

Health and Safety	1,800 One Per Year.

* * * * *

The Commission finds that because the regulations supporting the general license must be effective immediately so as to prevent existing milling operations from being in technical violation of the Atomic Energy Act, good cause exists pursuant to 5 U.S.C. 553 to waive the 30-day comment period, as impracticable and contrary to the public interest, and make the amendments to 10 CFR 40.1, 40.2a, 40.3, 40.4, 40.26, 150.3, and 150.15 immediately effective. The Commission notes in this regard that informal written comments on this matter were solicited and received from industry, environmental groups, and several States (these comments may be found in the Commission's public document room in a memorandum dated May 9, 1979, from the Executive Legal Director to the Commission entitled "Staff Response to the Commission Request for Further Information Regarding SECY-79-88 'Timing of Certain Requirements of the Uranium Mill Tailings Radiation Control Act of 1978' "). Comments on these amendments are invited, however, and the new regulations remain subject to further modifications in response to such comments.

(Secs. 11e.(2), 81, 83, 84, 161b, 161x, 274; Pub. L. No. 83-703, 68 Stat. 948 et seq. (42 U.S.C. 2014e.(2), 2111, 2113, 2114, 2201b, 2201x, 2021))

Dated at Washington, D.C. this 22nd day of August 1979.

for the Nuclear Regulatory Commission.

Samuel J. Chilk,

Secretary of the Commission.

[FR Doc. 79-26516 Filed 8-23-79; 8:45 am]

BILLING CODE 7590-01-M

APPENDIX P

NUCLEAR REGULATORY COMMISSION REPORT ON TITLE III STUDY

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

CHAIRMAN

November 7, 1979

The Honorable Charles W. Duncan, Jr.
Secretary of Energy
Washington, D.C. 20585

Dear Mr. Secretary:

In accordance with Title III, Section 301 of Public Law 95-604, the "Uranium Mill Tailings Radiation Control Act of 1978," the U.S. Nuclear Regulatory Commission herewith submits to you the enclosed report.

Sincerely,

Joseph M. Hendrie

Enclosure as stated

TITLE III - STUDY AND DESIGNATION OF TWO MILL TAILINGS SITES IN NEW MEXICO

Summary

Title III of Public Law 95-604, the "Uranium Mill Tailings Radiation Control Act of 1978" [the Act], directs the U.S. Nuclear Regulatory Commission [the NRC] in consultation with the Attorney General and the Attorney General of New Mexico to conduct a study to determine the extent to which the Atomic Energy Act of 1954, as amended by Title II of the Act, gives NRC or the State of New Mexico (pursuant to the agreement state program authorized by Section 274 of the Atomic Energy Act as amended) authority to regulate and control all mill tailings located on two named active mill sites in New Mexico. Since these two sites are the only active sites which contain inactive uranium mill tailings piles created solely from Federal contract work and not commingled with uranium mill tailings generated in subsequent commercial operations, the NRC was directed to determine whether such unusual circumstances would affect the adequacy of the Act to require the mill operators to control these mill tailings piles.

After reviewing the question presented by Title III, we have concluded that NRC or State authority under the Atomic Energy Act as amended is adequate to require the owners of the former Homestake-New Mexico Partners site near Milan, New Mexico, and the Anaconda carbonate process tailings site near Bluewater, New Mexico, to control all mill tailings at the sites in a manner consistent with public health, safety and the environment. The Atomic Energy Act of 1954, as amended by Title II of the Act, gives NRC or New Mexico (pursuant to Section 274) adequate authority to require operators of active mills, as possessors of licensable byproduct material, to make adequate disposition of all mill tailings at their sites, regardless of whether the tailings piles themselves are characterized as active or inactive. The mill sites named in Title III clearly come within the scope of this authority. The offices of the Attorney General of the United States and the Attorney General of New Mexico agree with this conclusion.

Discussion

The study mandated by Title III addresses what may have appeared to be a potential anomaly in Titles I and II as applied to two particular active sites in New Mexico. These sites -- the former Homestake-New Mexico Partners site near Milan, New Mexico, and the Anaconda carbonate process tailings site near Bluewater, New Mexico -- contain the only two piles of uranium mill tailings known to have been created completely under Federal contract and yet to be at actively licensed sites. These tailings piles created as a result of Federal contract work are presently inactive and are not commingled with tailings generated subsequently.

The question which Title III directed the Commission to study is whether in these unusual cases of inactive piles on active sites, present authority 1/ was adequate to require the owners to clean up and stabilize inactive mill tailings at the above-named active sites.

Title I of that Act was designed to create a "remedial action program" whereby the Federal Government and the State would share 2/ the cost of cleaning up and stabilizing 22 designated inactive sites of the type discussed. In addition, under Title I the Secretary of the Department of Energy has the authority to designate other inactive sites as "processing sites" and thereby make them eligible for the remedial action program. The Act on its face and its legislative history, however, make it plain that active sites are excluded from Title I's purview. Thus, authority to regulate tailings at the Bluewater and Milan sites must be sought in Title II of the Act.

Since the two sites addressed by Title III are active, we find that the Commission has clear authority under the Atomic Energy Act of 1954, as amended by Title II of the Act, to require their owners to clean up and stabilize all tailings at those sites, including tailings piles which are no longer associated with active operations. 3/ The mandate of the Act in this regard is clear.

1/ "Present authority" refers to NRC or Agreement State authority under the Atomic Energy Act of 1954, as amended by Title II of the Act, or other provision of law.

2/ The Federal Government will pay 90% of the cost of the remedial action, with States paying the remainder. Since the authority of the NRC or the State of New Mexico is adequate to control the tailings at the two sites in question, no federal funds can be provided for remedial action for those sites under this Act. However, we have no objection to the general proposition urged by the Attorney General of New Mexico that appropriate action should be taken to secure federal funds from other sources for the purpose of assisting with remedial action on those sites.

3/ This authority may be relinquished to the State by an agreement pursuant to Section 274 of the Atomic Energy Act as amended by Title II of the Act. Such agreements cannot take effect until three years after the date of enactment. Existing State authority pursuant to the State's general police powers remains in effect during the interim period. The Commission had interpreted the Act as giving New Mexico and the NRC concurrent jurisdiction over mill tailings at the New Mexico sites for the interim period. The Commission requested Congress to amend the Act to eliminate this period of concurrent jurisdiction in Agreement States. H.R. 4249, passed by the Congress but not yet signed by the President, would accomplish this goal by leaving authority over tailings with Agreement States, unless the agreement entered into prior to the enactment of this Act is terminated or the State has not entered into a new agreement at the expiration of the interim period.

There is no indication that Congress intended to exempt inactive tailings piles present at active sites from Title II authority over active sites. We conclude that the original source or present activity of mill tailings piles at active, currently licensed sites has no legal significance. Therefore, the operators of the sites named in Title III may clearly be required under the Act to control all mill tailings at the sites in a manner consistent with protection of public health and safety and the environment.

As required by Title III of the Act, we have reached the above conclusion in consultation with the offices of the Attorney General of the United States and the Attorney General of the State of New Mexico. The Office of the Attorney General of the United States concurs fully in the Nuclear Regulatory Commission's view that adequate authority exists to require clean up and stabilization of all tailings at active sites, regardless of their orgin, in a safe and environmentally sound manner. The Attorney General of the State of New Mexico also agrees with this conclusion.

APPENDIX Q

ENVIRONMENTAL ASSESSMENTS FOR INACTIVE URANIUM MILL TAILINGS SITES

DOE Form AD-10A
(12-77)

U.S. DEPARTMENT OF ENERGY

memorandum

DATE: SEP 24 1979

REPLY TO ATTN OF: ET-913

SUBJECT: Environmental Assessments for Inactive Uranium Mill Tailings Sites

TO: Donald Everhart, Manager
Grand Junction Office

This letter is in response to the Grand Junction Office memo of August 17, 1979, and confirms telephone discussions between J. Themelis and D. Groelsema on September 10, 1979.

In consultation with the Office of the General Counsel and the NEPA Affairs Office, we have concluded, as a basis for planning, that Environmental Impact Statements will be required for the following sites:

Salt Lake City, Utah
Durango, Colorado
Grand Junction, Colorado
Rifle, Colorado (2 Sites)
Gunnison, Colorado
Shiprock, New Mexico
Riverton, Wyoming
Canonsburg, Pennsylvania

It was also decided that it will not be necessary to publish Environmental Assessments (EA's) for the above sites, and that it would be preferable to proceed directly with the preparation of Environmental Impact Statements (EIS's). The draft EA's which have already been prepared for Salt Lake City and Grand Junction will, of course, serve as useful input to the preparation of the EIS's.

Accordingly, you are requested to negotiate with Ford, Bacon and Davis, Utah (FBDU) the completion EA's for Inactive Uranium Mill Tailings Sites as follows:

1. Complete drafts of the EA's for the Grand Junction and Salt Lake City sites, and complete in draft and final form the EA for the Mexican Hat site, all of which are presently funded through completion of the draft documents.

2. Complete in draft and final form the EA for the two Slick Rock sites which is partially authorized and funded at present.

3. Complete draft and final form EA's for the following additional sites for which FBDU is not presently funded:

Green River, Utah
Naturita, Colorado
Maybell, Colorado
Ambrosia Lake, New Mexico
Converse County, Wyoming (Spook Site)
Lakeview, Oregon
Falls City, Texas
Tuba City, Arizona
Monument Valley, Arizona
Lowman, Idaho

Funding provided by EV/ECT in FY 1979 is available to cover the necessary contractual requirements. Costing authority to complete this activity will be provided in FY 1980 under B&R AP-10-15.

Delivery of the EA documents should be to Mr. Donald Groelsema, Office of Nuclear Waste Management, Mail Stop B-107, Department of Energy, Washington, D. C. 20545. Each draft EA should be delivered in 25 copies. Each final should be delivered as a camera-copy master with 10 copies.

The desired schedule for completion of the remaining draft EA's is one per week, beginning as soon as possible after FBDU negotiations are completed. The schedule for delivery of final EA's will depend on DOE review and comment, but should be a matter of GJO/FBDU discussion as to probable delivery dates.

Romatowski

Sheldon Meyers, Program Director
Office of Nuclear Waste Management

cc: W. Mott, EV-13
C. Kouts, EV-11
W. Voigt, RA-22
D. Leclaire, ET-92
T. Clark, AL

APPENDIX R
BIBLIOGRAPHY

BIBLIOGRAPHY

1. Ford, Bacon & Davis Utah Inc., "Phase II - Title I Engineering Assessment of Inactive Uranium Mill Tailings, Monument Valley Site, Monument Valley, Arizona," GJT-4, March 31, 1977.

2. Ford, Bacon & Davis Utah Inc., "Phase II - Title I Engineering Assessment of Inactive Uranium Mill Tailings, Tuba City Site, Tuba City, Arizona," GJT-5, March 31, 1977.

3. Ford, Bacon & Davis Utah Inc., "Phase II - Title I Engineering Assessment of Inactive Uranium Mill Tailings, Durango Site, Durango, Colorado," GJT-6, November 1977.

4. Ford, Bacon & Davis Utah Inc., "Phase II - Title I Engineering Assessment of Inactive Uranium Mill Tailings, Grand Junction Site, Grand Junction, Colorado," GJT-9, October 1977.

5. Ford, Bacon & Davis Utah Inc., "Phase II - Title I Engineering Assessment of Inactive Uranium Mill Tailings, Gunnison Site, Gunnison, Colorado," GJT-12, November 1977.

6. Ford, Bacon & Davis Utah Inc., "Phase II - Title I Engineering Assessment of Inactive Uranium Mill Tailings, Maybell Site, Maybell, Colorado," GJT-11, October 1977.

7. Ford, Bacon & Davis Utah Inc., "Phase II - Title I Engineering Assessment of Inactive Uranium Mill Tailings, Naturita Site, Naturita, Colorado," GJT-8, November 1977.

8. Ford, Bacon & Davis Utah Inc., "Phase II - Title I Engineering Assessment of Inactive Uranium Mill Tailings, New and Old Rifle Sites, Rifle, Colorado," GJT-10, October 1977.

9. Ford, Bacon & Davis Utah Inc., "Phase II - Title I Engineering Assessment of Inactive Uranium Mill Tailings, Slick Rock Sites, Slick Rock, Colorado," GJT-7, October 1977

10. Ford, Bacon & Davis Utah Inc., "Phase II - Title I Engineering Assessment of Inactive Uranium Mill Tailings, Lowman Site, Lowman, Idaho," GJT-17, December 1977.

11. Ford, Bacon & Davis Utah Inc., "Phase II - Title I Engineering Assessment of Inactive Uranium Mill Tailings, Phillips/United Nuclear Site, Ambrosia Lake, New Mexico," GJT-13, December 1977

12. Ford, Bacon & Davis Utah Inc., "Phase II - Title I Engineering Assessment of Inactive Uranium Mill Tailings, Shiprock Site, Shiprock, New Mexico," GJT-2, March 31, 1977.

13. Ford, Bacon & Davis Utah Inc., "Phase II - Title I Engineering Assessment of Inactive Uranium Mill Tailings, Lakeview Site, Lakeview, Oregon," GJT-18, December 1977.

14. Ford, Bacon & Davis Utah Inc., "Engineering Evaluation of the Former Vitro Rare Metals Plants, Canonsburg, Pennsylvania," FBDU 230-002, July 1979.

15. Ford, Bacon & Davis Utah Inc., "Phase II - Title I Engineering Assessment of Inactive Uranium Mill Tailings, Falls City Site, Falls City, Texas," GJT-16, December 1977.

16. Ford, Bacon & Davis Utah Inc., "Phase II - Title I Engineering Assessment of Inactive Uranium Mill Tailings, Green River Site, Green River, Utah," GJT-1, December 1977.

17. Ford, Bacon & Davis Utah Inc., "Phase II - Title I Engineering Assessment of Inactive Uranium Mill Tailings, Mexican Hat Site, Mexican Hat, Utah," GJT-3, March 31, 1977.

18. Ford, Bacon & Davis Utah Inc., "Phase II - Title I Engineering Assessment of Inactive Uranium Mill Tailings, Vitro Site, Salt Lake City, Utah," April 30, 1976.

19. Ford, Bacon & Davis Utah Inc., "Phase II - Title I Engineering Assessment of Inactive Uranium Mill Tailings, Spook Site, Converse County, Wyoming," GJT-15, December 1977.

20. Ford, Bacon & Davis Utah Inc., "Phase II - Title I Engineering Assessment of Inactive Uranium Mill Tailings, Riverton Site, Riverton, Wyoming," GJT-19, December 1977.

21. U.S. Department of Energy, Progress Report on the Grand Junction Uranium Mill Tailings Remedial Action Program, February 1979.

22. U.S. Department of Energy, Report on Residual Radioactive Materials on Public or Acquired Lands of the United States, July 1, 1979.

23. Environmental Protection Agency, EPA Contribution to the Progress Report on the Inactive Uranium Mill Tailings Remedial Action Program, undated.

24. Nuclear Regulatory Commission, NRC Contribution to the Progress Report on the Inactive Uranium Mill Tailings Remedial Action Program, November 9, 1979.

25. Department of Interior, DOI Contribution to the Progress Report on the Inactive Uranium Mill Tailings Remedial Action Program, November 8, 1979.

26. Department of Justice, DOJ Contribution to the Progress Report on the Inactive Uranium Mill Tailings Remedial Action Program, November 8, 1979.

*U.S. GOVERNMENT PRINTING OFFICE : 1979 0-310-912/156