# UNC MINING AND MILLING

Division of United Nuclear Corporation A UNC RESOURCES Company

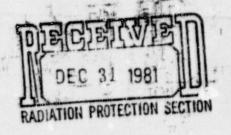
P.O. Box 3951 Albuquerque, New Mexico 87190

Report #60

6000 Uptown Blvd. N.E. Suite 116 Albuquerque, NM 87110

December 30, 1981

Mr. T. E. Baca, M.P.H. Director New Mexico Environmental Improvement Division P.O. Box 968 Santa Fe, NM 87053



Dear Mr. Baca:

United Nuclear Corporation Mining and Milling Division is herewith submitting a copy of the Uranium Mill License Renewal Application for its Church Rock Mill, Gallup, New Mexico. In addition, the Application is supplemented with ten copies of the Environmental Report related to the Application. The Environmental Report is comprised of:

> Volume I - Text and Tables Volume II - Figures Volume III - Appendices

The Application and the accompanying Environmental Report are submitted in accordance with the New Mexico Environmental Improvement Division Radiation Protection Regulations, Section 3-430B.

Any correspondence related to the Application and Environmental Report should be addressed to the undersigned at the following address:

> UNC Mining and Milling Post Office Drawer QQ Gallup, New Mexico 87301

Sincerely,

H. John Abbiss, P.E. Vice President, Environmental and Safety Services UNC Mining and Milling Division

HJA:tac

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Enclosures

cc: G. W. Stewart - NMEID

- G. S. Crout Bigbee Law Firm
- T. F. Bailey
- T. M. Hill
- G. A. Swanquist
- T. F. Miller

K. G. Kennedy - D'Appolonis Consulting Engineers, Inc.

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INSTRUCTIONS: Complete Items 1 through 17 if this is an complete only Items 1 through 7 and indi		is for renewal of a license,
in Items 8 through 16. 1. (a) Name, street address, and phone number of applicant (Institution, Firm, Person, Copt., etc.)	3. Previous License Numbers (If this i indicate and give current license no	s a renewal application, please so
UNC Mining & Milling P. O. Drawer QQ Gallup, NM 87301	Renewal Application-Current Number is NM-UNC-ML-17	
(23 miles NE of Gallup) (505) 722-6651	<ol> <li>Individual Users (name and title o supervise use of Radioactive Mater NAME H. J. Abbiss P.E.</li> </ol>	findividuals who will use or directly iel) <u>TITLE</u> Vice President Environmental & Safety
(b) Street address(es) and phone number at which Radioactive Material will be stored and used (P.O. Box numbers not acceptable)		Services
Copy of the patent for state land indicating ownership is attached	Todd Miller	Director-Environmental Operations
(Attachment A) to this application.	Glenn Clark	Sr. Environmental Chemist
	G. A. Swanquist	Gen. Mgr. Milling & Ion Exchange
	T. Hill	Director-Tailings Mgmnt.
2. Person to contact regarding application (include phone number! H. J. Abbiss P.E. Vice President UNC Mining & milling (505) 722-6651	5. Rediction Protection Officer Game H. J. Abbiss, Todd Mi See Sec. 10.2	ch resume of training and experience) iller, Glenn Clark
6. (a) Element Mass No. (b) Form (Chem/Phys)	(c) Max. Activity (d) Ma	nufacturer & Model No. if sealed source

All isotopes encountered in the milling of natural uranium

All natural radioisotopes encountered in uranium mill tailings sands

7. Use to be made of each item of Radioactive Material requested above

Any required in the milling production U308

Chemical and physical forms encountered in uranium mill tailings sands

### DOIG . Page 2 of 3

8. Individual User(s) Training (attach resume). Complete the following information on the individual user(s) and his training in:

(A) Huclear physics, atomic structure, and interaction of radiation with matter

(B) Radiation detection instrumentation, calibration, and standardization

(C) Radiation protection, waste disposal, and survey and dosimetric procedures

(D) Radiobiology including effects of radiation on the human body

NAME, TITLE DEGREE(S)	Where trained	training in A. B. C. D	training in A, B, C, D
See Section C10.0 in Environmental Report			
8. Actual Experience with Rediation (actual use of radio isotopes) (attac	h recurrel	nan sina tanàna mandritra dia kaominina dia kaominina dia kaominina dia kaominina dia kaominina dia kaominina d	

NAME	Isotope	Maximum activity	Plece of experience	Length of experience
See Section C10.0 in En	nvironmental Repor	t		
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and the second	an a		-	
0. Radiation Detection Instruments (use			-	Use of instrument
10. Radiation Detection Instruments (use	Number F	adiation Sons.civity letected range mr/Mr	Window thickness mp/cm2	Use of instrument (e.g. monitoring, sur- veying, measuring)
TYPE	Number F available d	ladiation Sonstivity letected range mr/Hy	mp/cm2	(e.g. monitoring, sur-
	Number F available d	ladiation Sonstivity letected range mr/Hy	mp/cm2	(e.g. monitoring, sur-
TYPE	Number F available d	ladiation Sonstivity letected range mr/Hy	mp/cm2	(e.g. monitoring, sur-

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11. Method, frequency, and standard uses in calibrating instruments listed in Item 10 (attach necessary supplementary sheets)

See Section C8.0 and Appendices G, H & I of Environmental Report

ID 016 - Page'3 of 3

17.

2. Film Bedges, Dosimeters, and Bioassay procedures used (for film badges, and TLD's, specify method of combrating and processing, or name of supplier; specify frequency of exchange) (attach necessary supplemental sheets)

See Section C8.0 and Appendices G, H & I of the Environmental Report

### ITEMS 13 THROUGH 16 ARE TO BE ANSWERED ON SUPPLEMENTAL SHEETS

13. Facilities and Equipment. Describe laboratory facilities and remote handling equipment, storage containers, shielding, fume hoods, etc. fattach explanatory sketch of facility/ See Section C8.0 and Appendices G, H & I of the Environmental Report 14. Radiation Protection Program. Describe the radiation protection program including control measures. If application covers sealed sources, submit leak testing procedures where applicable, name, training, and experience of person to perform leak test, and arrangements for performing initial radiation survey, servicing, maintenance and repair of the source. See Section C10.0 and Appendix J of Environ. Report 15. Waste Disposal. If a commercial waste disposal service is employed, specify name of company. Otherwise, submit detailed description of methods which will be used for disposing of radioactive wastes and estimates of the type and amount of activity involved. See Sec. C1.0 of Env. Rpt. 16. (a) Survey Program. Describe the surveys to be made to determine if radiation hazards exist in a facility in which radicactive material is used or stored. (b) Records Management Program, Records keeping and reviewing records of surveys, material inventories, personnel exposures, etc. See Sec. C8.0 and Appendices G, H& I of the Environmental Report.

## CERTIFICATE

# (This item must be completed by the applicant)

The applicant and any official executing this certificate on behalf of the applicant named in Item 1, certify that this application is prepared in conformity with the New Mexico Radiation Protection Regulations, Part 3, Licensing, and that all information contained herein, including any supplements attached hereto, is true and correct to the best of our knowledge and belief.

DATE December 31, 1981

SIGNATURE OF APPLICANT NAMED IN ITEM 1

STONATURE OF CERTIFYING OFFICIAL

Vice President, UNC Mining and Milling TITLE OF CERTIFYING OFFICIAL

C. P. L. FORM 12

0/ ....

# State of New Mexico

No. 30%

actes

### 18 130 PATENT FOR STATE LAND

To Ali to Uhom These Presents Shall Come, Orectings:

Santa Fe, State of New Verico,

ha 5 purchased from the

#### STATE OF NEW MEXICO

according to the provisions of law, the following described tract of land, viz:

LOTS 1, 2, 3, 4, SINA, SA

of Section 2, Township 16 North, Range 16 Hest,

New Mexico Principal Meridian, containing \_\_\_\_\_ 599.60

more or less, according to the government survey thereof, and

Whereas, the said UNITED NUCLEAR CORPORATION, a Delaware Corporation

has \_\_\_\_ paid to the STATE OF NEW MEXICO, through the State Land Office, the amount of Twenty Nine Thousand

Nine Hundred Eighty and No/100 ---- Dollars (\$29,980.00), the receipt whereof is hereby acknowledged in full.

Now, Therefore, Enow De, that the STATE OF NEW MEXICO, by its Commissioner of Public Lands, its duly authorized officers according to law. does hereby

GRANT, BARGAIN, SELL and CONVEY

unte the said UNITED NUCLEAR CORPORATION, a Delaware Corporation,

and . to Duccessors and assigns, the said tract of land above described, ubject to valid, existing rights, easements, rights of way and reservations, and also subject to the right of the Commissioner of Public Lands, which is hereby expressly reserved, to renew and extend any existing water easements or leases, and the rents and revenue therefrom, if any, and in addition thereto reserving to the State of New Mexico all minerals of whatsoever kind, including oil and gas, in the lands so granted, and to it, or persons authorized by it, the right to prospect for, mine, produce and remove the same, and perform any and all acts necessary in connection therewith, upon compliance with the conditions and subject to the limitations of the laws of the State of New Mexico, such tract of land so conveyed being a portion of the lands granted to the State of New Mexico by the United States, pursuant to the Acts of Congress, approved June 21, 1898, and June 20, 1910 and May 28, 1928.

To Have and to Hold, the some, together with all the rights, privileges, immunities and appurtenances of whatsoever nature thereumo belonging or in anywise appertaining unto the said UNITED NUCLEAR CORPORATION, a

Delaware Corporation,	ond to its successors and assigns forever.
water of statistics P and of the	Witness Whereof, the Commissioner of Public Lands of the State of New Mexico. has hereunto set his hand and affixed the official scal of the State Land
and the second sec	December, 27th day of
State Record of Patentis, Vol Page 1596	CONMERCIVITERIONER OU PUBLIC LANINE STATE OF NEW MEXICO

THE STATE OF NEW MEXICO FILSE	APPLICATION FOR	LICENSE
INSTRUCTIONS: Complete Items 1 through 17 if this is an complete only Items 1 through 7 and ind in Items 8 through 16.		
1. (a) Name, street address, and phone number of applicant (Institution, Firm, Person, Dcpt., etc.)	3. Previous License Numbers (If th Indicate and give current license	is is a renewal application, please so e no.)
UNC Mining & Milling P. O. Drawer QQ	Renewal Application • NM-UNC-ML-17	-Current Number is
Gallup, NM 87301 (23 miles NE of Gallup) (505) 722-6651	<ul> <li>4. Individual Users (name and title supervise use of Radioactive Ma NAME</li> <li>H. J. Abbiss P.E.</li> </ul>	e of individuals w io will use or directly iterial) TITLE Vice President
<ul> <li>(b) Street address(es) and phone number at which Radioactive Material will be stored and used. (P.O. Box numbers not acceptable</li> <li>Copy of the patent for state land indicating ownership is attached (Attachment A) to this application.</li> </ul>		Environmental & Safety Services Director-Environmental Operations Sr. Environmental Chemist
(Attachment b) to this opposition	G. A. Swanquist	Gen. Mgr. Milling & Ion Exchange
2. Person to contact regarding application (include phone number)	T. Hill 5. Radistion Protection Officer (#	Director-Tailings Mgmnt. mach resume of training and experience)
H. J. Abbiss P.E. Vice President UNC Mining & Milling (505) 722-6651	H. J. Abbiss, Todd See Sec. 10.2	Miller, Glenn Clark
6. (a) Element Mass No. (b) Form (Chem/Phys	) (c) Max. Activity (d))	Manufacturer & Model No. if sealed source
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<ul> <li>C) Radiation protection, waste disposa</li> </ul>				
D) Radiobiology including effects of ra				
NAME, TITLE DEGREE(S)	W	there trained	Length of academic training in A, B, C, D	Length of on-the-job training in A. B. C. D
AME, THEE DEGREETON	=		(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	
See Section Cl0.0 in Env	vironmental Penart			
out percent orono in int	rionmental Report			
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Actual Experience with Radiation (actu	ual use of radio isotopes) (attach i	resume)	an and and a set with many other and a part of the set o	
NAME	Isotope N	Aaximum activity	Place of experience	Length of experienc
r protos las atos ve names		in a contract of the contract		Length of experience
See Section Cl0.0 in Env	fironmental Report			
		-		
Radiation Detection Instruments fuse s	supplemental sheets if necessary)	lange ander de Balance an an de Weinen an	nan alla ay a Cana dalah a Aya ay na ban ay na ay nan ay nan an	Use of instrument
	Number Radiati		Window thickness	(e.g. monitoring, sur
TYPE	available detecte	d range mr /Hr	mg/cm2	veying, measuring)
See Section C8 0 and An	popdiese C U C T of	England and a start of the		
See Section. C8.0 and Ap	pendices G, H & 1 of	Environmental	Report	
Method, frequency, and standard uses	in calibrating instruments listed in	n Item 10 (attach neces	sary supplementary sheets)	
See Section C8.0 and App	endices G. H & I of	Environmental	Report	1
See Section C8.0 and App	endices G, H & I of	Environmental	Report	•
See Section C8.0 and App	endices G, H & I of	Environmental	Report	•
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2. Film Bedges, Desimeters, and Bios supplier; specify frequency of excl	issay procedures used(for film b lange) (attach incessary suppler	adges, and TLD's, specify method of cent mental sheets)	rating and processing, or name of
See Section C8.0 and	Appendices G, H & T	I of the Environmental Rep	port
TEMS 13 THROUGH 16 ARE	TO BE ANSWERED ON SUP	PLEMENTAL SHEETS	ana ana amin'ny faritr'o amin'ny faritr'o amin'ny faritr'o amin'ny faritr'o amin'ny faritr'o amin'ny faritr'o a
		te handling equipment, storage containers Appendices G, H & I of t	
<ol> <li>Radiation Protection Program. Do leak testing procedures where approach</li> </ol>	escribe the radiation protection ; blicable, name, training, and exp	program including control measures. If ap erience of person to perform leak test, and	plication covers sealed sources, submit
15. Waste Disposal. If a commercial v	vaste disposal service is employe	d, specify name of company. Otherwise, s	
IG. (a) Survey Program. Describe the	surveys to be made to determin	e if radiation hazards exist in a facility in	which radioactive material is used or stored.
(b) Records Management Program and Appendices G.	n, Records keeping and reviewin H & I of the Enviro	g records of surveys, material inventories,	personnel exposures, eve. See Sec. C8
17.			

## CERTIFICATE

### (This item must be completed by the applicant)

The applicant and any official executing this certificate on behalf of the applicant named in Item 1, certify that this application is prepared in conformity with the New Mexico Radiation Protection Regulations, Part 3, Licensing, and that all information contained herein, including any supplements attached hereto, is true and correct to the best of our knowledge and belief.

SIGNATURE OF APPLICANT NAMED IN ITEM 1

STONATURE OF CERTIFYING OFFICIAL

Vice President, UNC Mining and Milling TITLE OF CERTIFYING OFFICIAL

DATE December 31, 1981

State of New Mexico
No. 30%
To All to Whom These Presents Shall Come. Greetings: Whereas, UNITED NUCLEAR CORPORATION, a Delaware Corporation
ofState of New Mexico,
ha_spurchased from the STATE OF NEW MEXICO according to the provisions of law, the following described tract of land, viz:
LOTS 1, 2, 3, 4, State, State
of Section 2, Township 16 North, Range 36 West,
New Mexico Principal Meridian, containing 599.60 - acres more so less, according to the government survey thereof, and
Whereas, the said UNITED NUCLEAR CORPORATION, a Delaware Corporation
has paid to the STATE OF NEW MEXICO, through the State Land Office, the amount of Twenty Nine Thousand Nine Hundred Eighty and No/100 Dollars (\$29,980.00), the receip
whereof is hereby acknowledged in full. Now, Therefore, Know De, that the STATE OF NEW MEXICO, by its Commissioner of Public Lands, its dud authorized officers according to law, does hereby GRANT, BARGAIN, SELL and CONVEY
unto the said UNITED NUCLEAR CORPORATION, a Delaware Corporation,
and to 1ts Successors and assigns, the said tract of land above described, subject to valid, existing rights, easements, rights of way and reservations, and also subject to the right of the Commissioner of Public Lands, which is hereby expressly reserved, to renew and extend any existing water easements or leases, and the rents and revenue therefrom, if any, and in addition thereto reserving to the State of New Mexico all minerals of whatsoever kind, including oil and gas, in the lands so granted, and to it, or person authorized by it, the right to prospect for, mine, produce and remove the same, and perform any and all acts necessary in connections therewith, upon compliance with the conditions and subject to the limitations of the laws of the State of New Mexico, such tract of land so conveyed being a portion of the lands granted to the State of New Mexico by the United States, pursuant to the Acts of Congress, approved June 21, 1898, and June 20, 1910 and May 28, 1928.
To Have and to Hold, the some, together with all the rights, privileges, immunities and appurtenances of whatsoever

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Delaware Corporation,		and to its successors	nd assigns forever.
	Strand in 1	n Witness Whereof, the Commissioner of Public Lands of	the State of New
	A A A A A A A A A A A A A A A A A A A	Mexico, has hereunto set his hand and affixed the official seal	of the State Land
	SUSAng PS	Office, this 27th	day of
-		December, 1. D. 19 68	1
	A CONTRACT OF A	Later & H	
	77	COMMISSIONER OF PUBLIC LANDS. STATE OF N	EW MEXICO
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