FROM: The Anaconda Company

DATE OF DOCUMENT: 7-31-68 | DATE RECEIVED: 8-5-68 | NO.: 2754

LTR. X | MEMO: | REPORT: | OTHER:

TO: DML

ORIG.: 1 | CC: | OTHER:

ACTION NECESSARY ☐ | NO ACTION NECESSARY ☐ | CONCURRENCE: ☐ | COMMENT ☐ | DATE ANSWERED: | BY:

CLASSIF.: U | POST OFFICE | REG. NO:

FILE CODE: XXXXX 40-665

DESCRIPTION: (Must Be Unclassified)

Ltr. req. that Items No. 4 and 11 of their appl. for renewal of SUA-647 be amended.....

ENCLOSURES:

(4 cys. each)
Drawing No. 122-22
Two memoranda dtd. 7-30-68

REMARKS:

1-pdr cy.
1-compliance cy. (Region)

REFERRED TO	DATE	RECEIVED BY	DATE
Hasbrouck w/file cy.	8/5		
FILE CHARGED TO HUSSBAUER			
		DO NOT REMOVE	
NOT MICROFILMED		2754	

U.S. ATOMIC ENERGY COMMISSION **MAIL CONTROL FORM** FORM AEC-32(
(8-60)

U.S. GOVERNMENT PRINTING OFFICE: 1968-290-615

A-6

DOCKET NO. 40-665

THE ANACONDA COMPANY

Regulatory Suppl File Cy.

New Mexico Operations

P. O. Box 638, Grants, New Mexico

A. J. FITCH
MANAGER

July 31, 1968

United States Atomic Energy Commission
Washington, D.C. 20545

Attention: Director, Division of Materials Licensing

Gentlemen:

Under cover of my letter of July 2, 1968, I submitted to you our application for renewal of our Source Material License No. SUA-647.

We now wish to amend that application to include an additional address under Item No. 4 and an additional date to the references under Item No. 11. I am, therefore, enclosing Form No. AEC-2 which includes these additions.

This amended application is made as a result of an inspection of our operations on July 10 and 11, 1968, by the AEC Division of Compliance.

Enclosed, in quadruplicate and in support of this amended application, are the following:

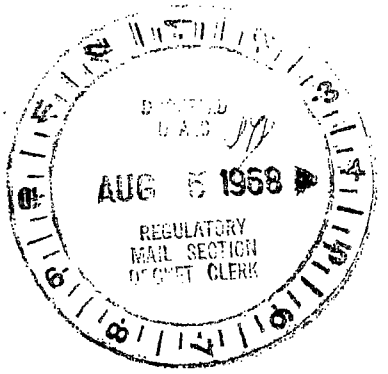
1. Our General Drawing No. 122-22, Jackpile Mine Crushing Plant.

2. A memorandum dated July 30, 1968 showing the results of air sampling survey at the Jackpile Mine Crushing Plant.

3. A memorandum dated July 30, 1968, showing the results of air sampling survey during changing of scraper blade in yellow cake dryer.

Yours very truly,

A. J. FITCH



AJF:hw

cc: Mr. Donald J. Walker, Director (w/enclosures)
Division of Compliance, Region IV
U. S. Atomic Energy Commission

154

C-2

DOCKET NO. 40-665

FORM APPROVED
BUREAU OF BUDGET NO. 38-R0002.

UNITED STATES ATOMIC ENERGY COMMISSION Regulatory Suppl File Cy.

APPLICATION FOR SOURCE MATERIAL LICENSE Suppl File Cy.

ant to the regulations in Title 10, Code of Federal Regulations, Chapter 1, Part 40, application is hereby for a license to receive, possess, use, transfer, deliver or import into the United States, source material e activity or activities described.

one)
) New license
) Amendment to License No. ____
) Renewal of License No. SUA-647
) Previous License No. ____

2. NAME OF APPLICANT
The Anaconda Company

3. PRINCIPAL BUSINESS ADDRESS
P.O. Box 638, Grants, New Mexico 87020

THE ADDRESS(ES) AT WHICH SOURCE MATERIAL WILL BE POSSESSED OR USED
Anaconda Company, Jackpile Mine, near Paguate, New Mexico, addressed as above.
Anaconda Company, Bluewater Plant, near Bluewater, New Mexico, addressed as above.

ESS OR OCCUPATION
ng and Milling Uranium Ore.

6. (a) IF APPLICANT IS AN INDIVIDUAL, STATE CITIZENSHIP

(b) AGE

IBE PURPOSE FOR WHICH SOURCE MATERIAL WILL BE USED
Feed material to hydrometallurgical milling processes for the recovery and entration of natural uranium into a precipitated and dried concentrate only known as "yellow cake".

THE TYPE OR TYPES, CHEMICAL FORM OR FORMS, AND QUANTITIES OF SOURCE MATERIAL YOU PROPOSE TO RECEIVE, SS, USE, OR TRANSFER UNDER THE LICENSE

) TYPE	(b) CHEMICAL FORM	(c) PHYSICAL FORM (*Including % U or Th.*)	(d) MAXIMUM AMOUNT AT ANY ONE TIME (*in pounds*)
AL URANIUM	Uraninite type minerals	Crude Ore 0.31% U	130,000 lbs. U
	Uranyl Sulphate or Hydrate	Concentrate 75% U	485,000 lbs. U
DEPLETED IN I ISOTOPE			
M (ISOTOPE)			

KIMUM TOTAL QUANTITY OF SOURCE MATERIAL YOU WILL HAVE ON HAND AT ANY TIME (*in pounds*)
ventory, in-process pulps and solutions, and concentrate, equiv. to 635,000 lbs. U.

BE THE CHEMICAL, PHYSICAL, METALLURGICAL, OR NUCLEAR PROCESS OR PROCESSES IN WHICH THE SOURCE MATERIAL WILL D, INDICATING THE MAXIMUM AMOUNT OF SOURCE MATERIAL INVOLVED IN EACH PROCESS AT ANY ONE TIME, AND PROVIDING ROUGH EVALUATION OF THE POTENTIAL RADIATION HAZARDS ASSOCIATED WITH EACH STEP OF THOSE PROCESSES.
ng, grinding, sulphuric acid leaching, and clarification for RIP ion-exchange ry of natural uranium and subsequent elution and concentration by precipitation nyl hydrate with drying and drum-packaging of this concentrate commonly known llow cake". Up to 10,200 lb. U at one step in process.

RIBE THE MINIMUM TECHNICAL QUALIFICATIONS INCLUDING TRAINING AND EXPERIENCE THAT WILL BE REQUIRED OF AP- NT'S SUPERVISORY PERSONNEL INCLUDING PERSON RESPONSIBLE FOR RADIATION SAFETY PROGRAM (OR OF APPLICANT IF CANT IS AN INDIVIDUAL).
to letter and attachments submitted January 30, 1961 giving organization and lications of supervisory group and technical personnel responsible for radiation program.

RIBE THE EQUIPMENT AND FACILITIES WHICH WILL BE USED TO PROTECT HEALTH AND MINIMIZE DANGER TO LIFE OR PROPERTY ELATE THE USE OF THE EQUIPMENT AND FACILITIES TO THE OPERATIONS LISTED IN ITEM 9; INCLUDE: (a) RADIATION DETECTION ELATED INSTRUMENTS (including film badges, dosimeters, counters, air sampling, and other survey equipment as appropriate. The description of n detection instruments should include the instrument characteristics such as type of radiation detected, window thickness, and the range(s) of each in- nt).
to letters and attached reports and details for this item as well as items 10 submitted on January 30, 1961; April 19, 1961; August 17, 1961; October 14, 1961; , 1962; July 11, 1962; July 31, 1962.

ETHOD, FREQUENCY, AND STANDARDS USED IN CALIBRATING INSTRUMENTS LISTED IN (a) ABOVE, INCLUDING AIR SAMPLING UIPMENT (for film badges, specify method of calibrating and processing, or name supplier).

ove references for this part.

NTILATION EQUIPMENT WHICH WILL BE USED IN OPERATIONS WHICH PRODUCE DUST, FUMES, MISTS, OR GASES, INCLUDING AN VIEW SHOWING TYPE AND LOCATION OF HOOD AND FILTERS, MINIMUM VELOCITIES MAINTAINED AT HOOD OPENINGS AND PROCEDURES FOR TESTING SUCH EQUIPMENT.

above references for this part.

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above references for this part and parts (b) and (c) below.

MERGENCY PROCEDURES IN THE EVENT OF ACCIDENTS WHICH MIGHT INVOLVE SOURCE MATERIAL.

TAILED DESCRIPTION OF RADIATION SURVEY PROGRAM AND PROCEDURES.

TE PRODUCTS. *If none will be generated, state "None" opposite (a), below. If waste products will be generated, check here* ☐ *and explain on a supplemental sheet:*

) Quantity and type of radioactive waste that will be generated. **Mill tailing effluent.**

) Detailed procedures for waste disposal. **Refer to reports submitted July 5, 1960 and July 11, 1962.**

RODUCTS FOR DISTRIBUTION TO THE GENERAL PUBLIC UNDER AN EXEMPTION CONTAINED IN CFR 40 ARE TO BE MANUFACTURED, USE A SUPPLEMENTAL SHEET TO FURNISH A DETAILED SCRIPTION OF THE PRODUCT, INCLUDING:

PERCENT SOURCE MATERIAL IN THE PRODUCT AND ITS LOCATION IN THE PRODUCT.

PHYSICAL DESCRIPTION OF THE PRODUCT INCLUDING CHARACTERISTICS, IF ANY, THAT WILL PREVENT INHALATION OR INGESTION OF SOURCE MATERIAL THAT MIGHT BE SEPARATED FROM THE PRODUCT.

BETA AND BETA PLUS GAMMA RADIATION LEVELS (*Specify instrument used, date of calibration and calibration technique used*) AT THE SURFACE OF THE PRODUCT AND AT 12 INCHES.

METHOD OF ASSURING THAT SOURCE MATERIAL CANNOT BE DISASSOCIATED FROM THE MANUFACTURED PRODUCT.

CERTIFICATE

(*This item must be completed by applicant*)

applicant, and any official executing this certificate on behalf of the applicant named in Item 2, ify that this application is prepared in conformity with Title 10, Code of Federal Regulations, 40, and that all information contained herein, including any supplements attached hereto, is and correct to the best of our knowledge and belief.

THE ANACONDA COMPANY

(*Applicant named in Item 2*)

July 31, 1962

BY: A. J. Pitch

(*Print or type name under signature*)

A. J. Pitch

Manager

(*Title of certifying official authorized to act on behalf of the applicant*)

NG: 18 U.S.C. Section 1001; Act of June 25, 1948; 62 Stat. 749; makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

☆ U.S. GOVERNMENT PRINTING OFFICE : 1968—O-295-054

40-665

Regulatory Support File (27)

July 30, 1968

MEMORANDUM TO: A. J. Fitch, Manager

FROM : R. M. Wilde, Radiation Safety Director

SUBJECT : Results of Air Sampling Survey at the Jackpile Mine Crushing Plant.

On July 19, 1968, an air sampling survey was made at the Jackpile Mine Crushing Plant. The crusher was in normal operation during the survey with truckloads of ore being dumped every 3 to 4 minutes. The ore was damp with an apparent moisture content of 8 to 10 percent. During the survey the wind was light and variable from the southwest at 5 to 8 miles per hour.

The results obtained in this air sampling survey are as follows:

Sample No.	Description of Location	Air Concentration Uranium -uc/ml x 10^{-9}	Percent of MPC
8192	Conveyor Floor, South Side	0.31	0.12
8193	Conveyor Floor, North Side	0.23	0.09
8194	Crusher Floor, South Side	0.25	0.10
8195	Crusher Floor, North Side	0.25	0.10
8196	Feeder Floor, South Side	0.35	0.14
8197	Feeder Floor, North Side	0.32	0.13
8198	Poking Floor, South Side Walkway	0.21	0.08
8199	Poking Floor, South Side of Bin	0.08	0.03
8200	Poking Floor, North Side Walkway	0.13	0.05
8201	Poking Floor, North Side of Bin	0.15	0.06
8202	Operator's Station	0.10	0.04

The air-borne uranium concentrations of all of the general area samples that were taken in this survey were well below MPC. We will include the Jackpile Mine Crushing Plant as one of the areas that will be sampled in our routine quarterly air sampling surveys.

Included with this memorandum is a print of drawing No. 122-22, Jackpile Mine Crushing Plant General Drawing, that shows the layout and location of the equipment in the crushing plant.

Ralph M. Wilde

RALPH M. WILDE

RMW:hw

Attachment

cc: E. C. Peterson
J. P. Herndon
AEC-DLI File (2)

40-665

Regulatory Support File

BQ-9401
(9-66)

INTERMEDIATE ACTION FORM

REFERENCE NUMBERS

Source & SNM Licenses

01. PROG. CODE	03. DOCKET NO.	09. TASK	42. PURPOSE OF TASK	12. CONTROL NO.	15. LICENSE NUMBER
02	40-665	2428	renewal	2428	SUA-647

18. APPLICANT	54. AM. NO. RESULTING FROM TASK
The Anaconda Company	

21. STREET & BUILDING	45. CLASSIFICATION	63. ASG. TO:
P.O. Box 638	U	

24. CITY	27. STATE	30. ZIP	33. RECEIVED YR.	MO.	DAY	36. ISSUED YR.	MO.	DAY	39. EXPIRED YR.	MO.	DAY
Grant	NM	87020	68	07	08						

57. APPLICANT'S COMMUNICATION DATED	YR.	MO.	DAY
	68	07	02

59. ENCLOSURES

(4 cys.)

Form AEC-2

58. DESCRIPTION (MUST BE UNCLASSIFIED)

Ltr trans:

60. DISTRIBUTION

1-PDR cy.
1-compliance cy. (Region)

INTERMEDIATE ACTIONS

TYPE	ON YR.	ON MO.	ON DAY	ACTIV. 92	RETURNED YR. 93	RETURNED MO.	RETURNED DAY
ADDL. INFO. REQUESTED FROM APPLICANT	91			1			
REFERRED TO:	94			2	96		
REFERRED TO:							

OTHER REFERRALS

	DATE YR.	MO.	DAY
[redacted] Nussbaumer w/ file cy. file	68	07	08

DO NOT REMOVE

ACKNOWLEDGED

DOCKET NO. 40-665

Regulatory Suppl File Cy.

THE ANACONDA COMPANY

New Mexico Operations

P. O. Box 638, Grants, New Mexico

A. J. FITCH
MANAGER

July 2, 1968

United States Atomic Energy Commission
Washington, D.C. 20545

Attention: Director, Division of Materials Licensing

Gentlemen:

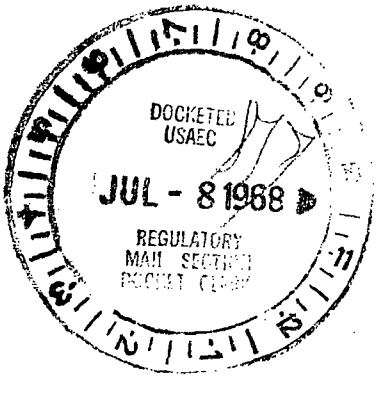
Herewith is our application, in quadruplicate on Form AEC-2, for renewal of our Source Material License No. SUA-647, which is due to expire August 31, 1968.

Yours very truly,

A. J. FITCH

AJF:hw

Enclosure



RECEIVED
1968 JUL 8 AM 8 27
U.S. ATOMIC ENERGY COMM.
REGULATORY
MAIL & RECORDS SECTION

ACKNOWLEDGED

Cont No 489836

C-2

DOCKET NO. 40-665

FORM APPROVED
BUREAU OF BUDGET NO. 38-R0002.

UNITED STATES ATOMIC ENERGY COMMISSION

APPLICATION FOR SOURCE MATERIAL LICENSE

ant to the regulations in Title 10, Code of Federal Regulations, Chapter 1, Part 40, application is hereby for a license to receive, possess, use, transfer, deliver or import into the United States, source material e activity or activities described.

one)
) New license
) Amendment to License No. _____
) Renewal of License No. SUA-647
) Previous License No. _____

2. NAME OF APPLICANT
The Anaconda Company

3. PRINCIPAL BUSINESS ADDRESS
P.O. Box 638, Grants, New Mexico 87020

THE ADDRESS(ES) AT WHICH SOURCE MATERIAL WILL BE POSSESSED OR USED

Anaconda Company, Bluewater Plant, near Bluewater, New Mexico, addressed as above.

SS OR OCCUPATION	6. (a) IF APPLICANT IS AN INDIVIDUAL, STATE CITIZENSHIP	(b) AGE
ng and Milling Uranium Ore		

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	Uranyl Sulphate or Hydrate	Concentrate 75% U	485,000 Lbs. U
DEPLETED IN ISOTOPE			
M (ISOTOPE)			

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inventory, in-process pulps and solutions, and concentrate, equiv. to 635,000 Lbs. U.

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THOD, FREQUENCY, AND STANDARDS USED IN CALIBRATING INSTRUMENTS LISTED IN (a) ABOVE, INCLUDING AIR SAMPLING UIPMENT; (for film badges, specify method of calibrating and processing, or name supplier).

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MERGENCY PROCEDURES IN THE EVENT OF ACCIDENTS WHICH MIGHT INVOLVE SOURCE MATERIAL.

RECEIVED
1968 JUL 8 AM 8 27
U.S. ATOMIC ENERGY COMM.
REGULATORY
MAIL & RECORDS SECTION

TAILED DESCRIPTION OF RADIATION SURVEY PROGRAM AND PROCEDURES.

TE PRODUCTS: *If none will be generated, state "None" opposite (a), below. If waste products will be gener-d, check here* ☒ *and explain on a supplemental sheet:*

) Quantity and type of radioactive waste that will be generated. Mill tailing effluent.

) Detailed procedures for waste disposal. Refer to reports submitted July 5, 1960 and July 11, 1962.

RODUCTS FOR DISTRIBUTION TO THE GENERAL PUBLIC UNDER AN EXEMPTION CONTAINED IN CFR 40 ARE TO BE MANUFACTURED, USE A SUPPLEMENTAL SHEET TO FURNISH A DETAILED SCRIPTION OF THE PRODUCT, INCLUDING:

PERCENT SOURCE MATERIAL IN THE PRODUCT AND ITS LOCATION IN THE PRODUCT.

PHYSICAL DESCRIPTION OF THE PRODUCT INCLUDING CHARACTERISTICS, IF ANY, THAT WILL PREVENT INHALATION OR INGESTION OF SOURCE MATERIAL THAT MIGHT BE SEPARATED FROM THE PRODUCT.

BETA AND BETA PLUS GAMMA RADIATION LEVELS (*Specify instrument used, date of calibration and calibration technique used*) AT THE SURFACE OF THE PRODUCT AND AT 12 INCHES.

METHOD OF ASSURING THAT SOURCE MATERIAL CANNOT BE DISASSOCIATED FROM THE MAN-UFACTURED PRODUCT.

CERTIFICATE

(*This item must be completed by applicant*)

applicant, and any official executing this certificate on behalf of the applicant named in Item 2, fy that this application is prepared in conformity with Title 10, Code of Federal Regulations, 40, and that all information contained herein, including any supplements attached hereto, is and correct to the best of our knowledge and belief.

DOCKET NO. UFA
JUL - 8 1968

THE ANACONDA COMPANY
(*Applicant named in Item 2*)

July 2, 1968 BY: A. J. Fitch
(*Print or type name under signature*)
A. J. Fitch

Manager
(*Title of certifying official authorized to act on behalf of the applicant*)

NG: 18 U.S.C. Section 1001; Act of June 25, 1948; 62 Stat. 749; makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

☆ U.S. GOVERNMENT PRINTING OFFICE : 1968—O-295-054

FORM APPROVED
BUREAU OF BUDGET NO. 38-R0002.

UNITED STATES ATOMIC ENERGY COMMISSION

APPLICATION FOR SOURCE MATERIAL LICENSE

ınt to the regulations in Title 10, Code of Federal Regulations, Chapter 1, Part 40, application is hereby or a license to receive, possess, use, transfer, deliver or import into the United States, source material activity or activities described.

ɔne)	2. NAME OF APPLICANT
New license Amendment to License No. ____ Renewal of License No. SUA-947 Previous License No. ____	The Anaconda Company 3. PRINCIPAL BUSINESS ADDRESS P.O. Box 638, Grants, New Mexico 87020

THE ADDRESS(ES) AT WHICH SOURCE MATERIAL WILL BE POSSESSED OR USED

aconda Company, Bluewater Plant, near Bluewater, New Mexico, addressed as above.

SS OR OCCUPATION	6. (a) IF APPLICANT IS AN INDIVIDUAL, STATE CITIZENSHIP	(b) AGE
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MAIL & RECORDS SECTION

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PERCENT SOURCE MATERIAL IN THE PRODUCT AND ITS LOCATION IN THE PRODUCT.

PHYSICAL DESCRIPTION OF THE PRODUCT INCLUDING CHARACTERISTICS, IF ANY, THAT WILL PREVENT INHALATION OR INGESTION OF SOURCE MATERIAL THAT MIGHT BE SEPARATED FROM THE PRODUCT.

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CERTIFICATE

(*This item must be completed by applicant*)

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RECEIVED
JUL - 8 1968
REGULATORY
MAIL SECTION
DOCKET CLERK

July 2, 1968

BY: **THE ANACONDA COMPANY**

(*Applicant named in Item 2*)

(*Print or type name under signature*)

A. J. Fitch

Manager

(*Title of certifying official authorized to act on behalf of the applicant*)

NG: 18 U.S.C. Section 1001; Act of June 25, 1948; 62 Stat. 749; makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

☆ U.S. GOVERNMENT PRINTING OFFICE : 1968—O-295-054

SEP 8 1965

:DFH
665
-647, as renewed

The Anaconda Company
P. O. Box 638
Grants, New Mexico 87020

Attention: Mr. A. J. Fitch
Manager

Gentlemen:

Enclosed is AEC Source Material License No. SUA-647, as renewed.

Very truly yours,

Donald A. Nussbaumer, Chief
Source and Special Nuclear Materials
Branch
Division of Materials Licensing

Enclosure:
SUA-647, as renewed

DISTRIBUTION:
Doc. Rm.
Br. & Div. rfs
Compliance IV
Suppl.
State Health
N. Doulos (3) ML
E. C. VanBlarcom, RM (2)

OFFICE ▶	ML	ML				
NAME ▶	DHarmon/jc	DNussbaumer				
	9/7/65	9/8/65				

COPY

Form AEC—410
(1-61)

UNITED STATES
ATOMIC ENERGY COMMISSION

SOURCE MATERIAL LICENSE

Pursuant to the Atomic Energy Act of 1954, and Title 10, Code of Federal Regulations, Chapter 1, Part 40, "Licensing of Source Material," and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, possess and import the source material designated below; to use such material for the purpose(s) and at the place(s) designated below; and to deliver or transfer such material to persons authorized to receive it in accordance with the regulations in said Part. This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954 and is subject to all applicable rules, regulations, and orders of the Atomic Energy Commission, now or hereafter in effect, including Title 10, Code of Federal Regulations, Chapter 1, Part 20, "Standards for Protection Against Radiation," and to any conditions specified below.

Licensee	3. License No.
1. Name The Anaconda Company	SUA-647, as renewed
2. Address P. O. Box 638 Grants, New Mexico	4. Expiration Date August 31, 1968
	5. Docket No. 40-665

6. Source Material	7. Maximum quantity of source material which licensee may possess at any one time under this license
Uranium	Unlimited

CONDITIONS

8. Authorized use (Unless otherwise specified, the authorized place of use is the licensee's address stated in Item 2 above.)

For processing uranium ore in accordance with the procedures described in the licensee's application dated February 3, and October 9, 1959; May 18, July 5 and December 28, 1960, January 30, April 19, August 17 and October 14, 1961; June 6 and July 11, 1962; and July 21, 1965.

9. Authorized Place of Use: The licensee's uranium processing facility located near Grants, New Mexico.

10. The licensee is hereby exempt from the requirements of Section 20.302(e)(2) and 20.203 (f)(2), 10 CFR 20, for areas and containers within the mill provided all entrances to the mill are conspicuously posted in accordance with Section 20.203(e)(2) and with the words, "Any area or container within this mill may contain radioactive material."

SOURCE
MATERIAL LICENSE
Supplementary Sheet

License Number SUA-647

. The licensee shall immediately notify the Director, Region IV, Division of Compliance, USAEC, Denver Colorado, by telephone and telegraph of any failure in an earth dam retention system which results in a release of radioactive material into unrestricted areas. This requirement is in addition to the requirements of 10 CFR 20.

. The licensee is hereby authorized to incinerate discarded wooden equipment containing source material and return the ashes to process for recovery of the contained uranium in accordance with the procedures described in his application dated October 14, 1961.

. The licensee is hereby authorized to dispose of radioactive liquid waste resulting from uranium processing operations into a subterranean disposal well according to the procedures described in his application dated July 5, 1960, and subject to the following conditions:

(a) Records shall be maintained of the volume of waste disposed, the average concentration of the radioactive constituents and the natural water head pressures and injection rates.

(b) Increases in injection pressure above that produced by the natural water head of the waste effluent stream is not authorized.

(c) A yearly summary report shall be submitted to the Division of Materials Licensing, USAEC, Washington, D. C., describing the status of the injection program, including average monthly liquid injection rates, the concentration of radioactive constituents, average concentrations of uranium, radium-226, and thorium-230 in monitored well and surface waters, and the level of the water table. Reports shall be submitted no later than August 31 of each year.

9/8/65 9/8/65

For the U. S. Atomic Energy Commission

SEP 8 1965

Division of Materials Licensing

U.S. GOVERNMENT PRINTING OFFICE: 1964 — 725-839

FROM: The Anaconde Company Grants, New Mexico	DATE OF DOCUMENT: 7-21-65	DATE RECEIVED: 7-26-65	NO.: 2522
	LTR. x & encl.	MEMO:	REPORT: OTHER:
TO: DML	ORIG.: 1	CC:	OTHER:
	ACTION NECESSARY ☐ NO ACTION NECESSARY ☐	CONCURRENCE ☐ COMMENT ☐	DATE ANSWERED: BY:
CLASSIF.:	POST OFFICE Cert. REG. NO. 051394	FILE CODE: 40-665	

DESCRIPTION: (Must Be Unclassified)

Ltr. trans:

ENCLOSURES: (4 cys.)

Appl. for renewal of SUA-647l.....

REFERRED TO	DATE	RECEIVED BY	DATE
Nussbaumer: 7-27 w/file cy. & file 1-compliance cy.			

REMARKS: Mail Room Distribution:
1-PDR Copy

ACKNOWLEDGED

U. S. ATOMIC ENERGY COMMISSION **MAIL CONTROL FORM** FORM AEC-326S (8-60)

DOCKET NO. 40-665

THE ANACONDA COMPANY

[illegible] Copy

New Mexico Operations

P. O. Box 638, Grants, New Mexico

A. J. FITCH
MANAGER

July 21, 1965

United States Atomic Energy Commission
Washington, D. C. 20545

Attention: Director, Division of Materials Licensing

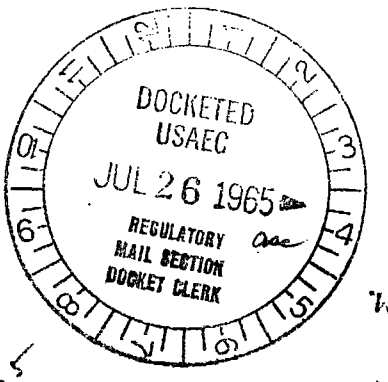
Gentlemen:

Herewith is our application, in quadruplicate on Form AEC-2, for renewal of our Source Material License No. SUA-647, which is due to expire September 30, 1965.

Yours very truly,

A. J. FITCH

AJF:MA
Encl.



U S ATOMIC ENERGY COMM.
REGULATORY
MAIL SECTION

1965 JUL 26 PM 3 33

RECEIVED

Copy Provided Compliance (lv) 7/27/65 AW

ACKNOWLEDGED

25[illegible]

FORM AEC-2
(9-64)
Previous editions are obsolete.

DOCKET NO. 40-665

FORM APPROVED
BUREAU OF BUDGET NO. 38-R002.

UNITED STATES ATOMIC ENERGY COMMISSION

File Copy

APPLICATION FOR SOURCE MATERIAL LICENSE

Pursuant to the regulations in Title 10, Code of Federal Regulations, Chapter 1, Part 40, application is hereby made for a license to receive, possess, use, transfer, deliver or import into the United States, source material for the activity or activities described.

1. (Check one)
- ☐ (a) New license
- ☐ (b) Amendment to License No. _____
- ☒ (c) Renewal of License No. SUA-647
- ☐ (d) Previous License No. _____

2. NAME OF APPLICANT

The Anaconda Company

3. PRINCIPAL BUSINESS ADDRESS

P. O. Box 638, Grants, New Mexico 87020

4. STATE THE ADDRESS(ES) AT WHICH SOURCE MATERIAL WILL BE POSSESSED OR USED

The Anaconda Company, Bluewater Plant, near Bluewater, New Mexico, addressed as above.

5. BUSINESS OR OCCUPATION

Mining and Milling Uranium Ore

6. (a) IF APPLICANT IS AN INDIVIDUAL, STATE CITIZENSHIP

(b) AGE

7. DESCRIBE PURPOSE FOR WHICH SOURCE MATERIAL WILL BE USED

For feed material to hydrometallurgical milling processes for the recovery and concentration of natural uranium into a precipitated and dried concentrate commonly known as "yellow cake."

8. STATE THE TYPE OR TYPES, CHEMICAL FORM OR FORMS, AND QUANTITIES OF SOURCE MATERIAL YOU PROPOSE TO RECEIVE, POSSESS, USE, OR TRANSFER UNDER THE LICENSE

(a) TYPE	(b) CHEMICAL FORM	(c) PHYSICAL FORM (*Including % U or Th.*)	(d) MAXIMUM AMOUNT AT ANY ONE TIME (*in pounds*)
NATURAL URANIUM	Uraninite type minerals	Crude Ore 0.31% U	150,000 lbs. U
	Uranyl Sulphate or Hydrate	Concentrate 75% U	485,000 Lbs. U
URANIUM DEPLETED IN THE U-235 ISOTOPE			
THORIUM (ISOTOPE)			

(e) MAXIMUM TOTAL QUANTITY OF SOURCE MATERIAL YOU WILL HAVE ON HAND AT ANY TIME (*in pounds*)

Ore inventory, in-process pulps and solutions, and concentrate, equiv. to 635,000 Lbs. U

9. DESCRIBE THE CHEMICAL, PHYSICAL, METALLURGICAL, OR NUCLEAR PROCESS OR PROCESSES IN WHICH THE SOURCE MATERIAL WILL BE USED, INDICATING THE MAXIMUM AMOUNT OF SOURCE MATERIAL INVOLVED IN EACH PROCESS AT ANY ONE TIME, AND PROVIDING A THOROUGH EVALUATION OF THE POTENTIAL RADIATION HAZARDS ASSOCIATED WITH EACH STEP OF THOSE PROCESSES.

Crushing, grinding, sulphuric acid leaching, and classification for RIP ion-exchange recovery of natural uranium and subsequent elution and concentration by precipitation as uranyl hydrate with drying and drum-packaging of this concentrate commonly known as yellow cake. Up to 10,200 Lbs. U at one step in process.

10. DESCRIBE THE MINIMUM TECHNICAL QUALIFICATIONS INCLUDING TRAINING AND EXPERIENCE THAT WILL BE REQUIRED OF APPLICANT'S SUPERVISORY PERSONNEL INCLUDING PERSON RESPONSIBLE FOR RADIATION SAFETY PROGRAM (OR OF APPLICANT IF APPLICANT IS AN INDIVIDUAL).

Refer to letter and attachments submitted January 30, 1961 giving organization and qualifications of supervisory group and technical personnel responsible for radiation safety program.

11. DESCRIBE THE EQUIPMENT AND FACILITIES WHICH WILL BE USED TO PROTECT HEALTH AND MINIMIZE DANGER TO LIFE OR PROPERTY AND RELATE THE USE OF THE EQUIPMENT AND FACILITIES TO THE OPERATIONS LISTED IN ITEM 9; INCLUDE: (a) RADIATION DETECTION AND RELATED INSTRUMENTS (including film badges, dosimeters, counters, air sampling, and other survey equipment as appropriate. The description of radiation detection instruments should include the instrument characteristics such as type of radiation detected, window thickness, and the range(s) of each instrument).

Refer to letters and attached reports and details for this item as well as items 10 and 12 submitted on January 30, 1961; April 19, 1961; August 17, 1961; October 14, 1961; June 6, 1962; July 11, 1962; February 11, 1963; February 11, 1964; February 5, 1965.

(b) METHOD, FREQUENCY, AND STANDARDS USED IN CALIBRATING INSTRUMENTS LISTED IN (a) ABOVE, INCLUDING AIR SAMPLING EQUIPMENT (for film badges, specify method of calibrating and processing, or name supplier).

See above.

25

NTILATION EQUIPMENT WHICH WILL BE USED IN OPERATIONS WHICH PRODUCE DUST, FUMES, MISTS, OR GASES, INCLUDING AN VIEW SHOWING TYPE AND LOCATION OF HOOD AND FILTERS, MINIMUM VELOCITIES MAINTAINED AT HOOD OPENINGS AND PRO-DURES FOR TESTING SUCH EQUIPMENT.

above.

RIBE PROPOSED PROCEDURES TO PROTECT HEALTH AND MINIMIZE DANGER TO LIFE AND PROPERTY AND RELATE THESE PRO-IRES TO THE OPERATIONS LISTED IN ITEM 9; INCLUDE: (a) SAFETY FEATURES AND PROCEDURES TO AVOID NONNUCLEAR ACCI-'S, SUCH AS FIRE, EXPLOSION, ETC., IN SOURCE MATERIAL STORAGE AND PROCESSING AREAS.

above references for this part and parts (b) and (c).

MERGENCY PROCEDURES IN THE EVENT OF ACCIDENTS WHICH MIGHT INVOLVE SOURCE MATERIAL.

ETAILED DESCRIPTION OF RADIATION SURVEY PROGRAM AND PROCEDURES.

TE PRODUCTS: *If none will be generated, state "None" opposite (a), below. If waste products will be gener-ed, check here* ☐ *and explain on a supplemental sheet:*

) Quantity and type of radioactive waste that will be generated. Mill tailing effluent.

) Detailed procedures for waste disposal. Refer to reports submitted July 5, 1960 and July 11, 1962.

RODUCTS FOR DISTRIBUTION TO THE GENERAL PUBLIC UNDER AN EXEMPTION CONTAINED IN CFR 40 ARE TO BE MANUFACTURED, USE A SUPPLEMENTAL SHEET TO FURNISH A DETAILED ESCRIPTION OF THE PRODUCT, INCLUDING:

PERCENT SOURCE MATERIAL IN THE PRODUCT AND ITS LOCATION IN THE PRODUCT.

PHYSICAL DESCRIPTION OF THE PRODUCT INCLUDING CHARACTERISTICS, IF ANY, THAT WILL PREVENT INHALATION OR INGESTION OF SOURCE MATERIAL THAT MIGHT BE SEPARATED FROM THE PRODUCT.

BETA AND BETA PLUS GAMMA RADIATION LEVELS (*Specify instrument used, date of calibration and calibration technique used*) AT THE SURFACE OF THE PRODUCT AND AT 12 INCHES.

METHOD OF ASSURING THAT SOURCE MATERIAL CANNOT BE DISASSOCIATED FROM THE MAN-UFACTURED PRODUCT.

CERTIFICATE

(*This item must be completed by applicant*)

applicant, and any official executing this certificate on behalf of the applicant named in Item 2, ify that this application is prepared in conformity with Title 10, Code of Federal Regulations, t 40, and that all information contained herein, including any supplements attached hereto, is and correct to the best of our knowledge and belief.

THE ANACONDA COMPANY
(*Applicant named in Item 2*)

July 21, 1965

BY
(*Print or type name under signature*)
A. J. Fitch

Manager
(*Title of certifying official authorized to act on behalf of the applicant*)

ING: 18 U.S.C. Section 1001; Act of June 25, 1948; 62 Stat. 749; makes it a criminal offense to make a willfully false state-ment or representation to any department or agency of the United States as to any matter within its jurisdiction.

U.S. GOVERNMENT PRINTING OFFICE: 1964—O-706-977

EC–2
)
ditions
lete.

FORM APPROVED
BUREAU OF BUDGET NO. 38-R002.

UNITED STATES ATOMIC ENERGY COMMISSION

APPLICATION FOR SOURCE MATERIAL LICENSE

ıant to the regulations in Title 10, Code of Federal Regulations, Chapter 1, Part 40, application is hereby for a license to receive, possess, use, transfer, deliver or import into the United States, source material ıe activity or activities described.

k one)
ı) New license
) Amendment to License No. ____
:) Renewal of License No. SUA-647
f) Previous License No. ____

2. NAME OF APPLICANT
The Anaconda Company

3. PRINCIPAL BUSINESS ADDRESS
P. O. Box 638, Grants, New Mexico 87020

E THE ADDRESS(ES) AT WHICH SOURCE MATERIAL WILL BE POSSESSED OR USED
naconda Company, Bluewater Plant, near Bluewater, New Mexico, addressed as above.

IESS OR OCCUPATION
g and Milling Uranium Ore

6. (a) IF APPLICANT IS AN INDIVIDUAL, STATE CITIZENSHIP

(b) AGE

RIBE PURPOSE FOR WHICH SOURCE MATERIAL WILL BE USED
load material to hydrometallurgical milling processes for the recovery and extraction of natural uranium into a precipitated and dried concentrate commonly n as "yellow cake."

E THE TYPE OR TYPES, CHEMICAL FORM OR FORMS, AND QUANTITIES OF SOURCE MATERIAL YOU PROPOSE TO RECEIVE, SS, USE, OR TRANSFER UNDER THE LICENSE

ı) TYPE	(b) CHEMICAL FORM	(c) PHYSICAL FORM (*Including % U or Th.*)	(d) MAXIMUM AMOUNT AT ANY ONE TIME (*in pounds*)
AL URANIUM	Ammonium type diuranate Uranyl Sulphate or Hydrate	Crude Ore 0.2% U Concentrate 75% U	190,000 lbs. U 435,000 lbs. U
DEPLETED IN 5 ISOTOPE			
JM (ISOTOPE)			

XIMUM TOTAL QUANTITY OF SOURCE MATERIAL YOU WILL HAVE ON HAND AT ANY TIME (*in pounds*)
Inventory, in-process pulps and solutions, and concentrate, equiv. to 625,000 lbs. U

IIBE THE CHEMICAL, PHYSICAL, METALLURGICAL, OR NUCLEAR PROCESS OR PROCESSES IN WHICH THE SOURCE MATERIAL WILL ED, INDICATING THE MAXIMUM AMOUNT OF SOURCE MATERIAL INVOLVED IN EACH PROCESS AT ANY ONE TIME, AND PROVIDING ROUGH EVALUATION OF THE POTENTIAL RADIATION HAZARDS ASSOCIATED WITH EACH STEP OF THOSE PROCESSES.
ding, grinding, sulphuric acid leaching, and clarification for RIP ion-exchange very of natural uranium and subsequent elution and concentration by precipitation nyl hydrate with drying and drum-packaging of this concentrate commonly known llow cake. Up to 10,200 lbs. U at one step in process.

RIBE THE MINIMUM TECHNICAL QUALIFICATIONS INCLUDING TRAINING AND EXPERIENCE THAT WILL BE REQUIRED OF AP- ANT'S SUPERVISORY PERSONNEL INCLUDING PERSON RESPONSIBLE FOR RADIATION SAFETY PROGRAM (OR OF APPLICANT IF ICANT IS AN INDIVIDUAL).
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bove.

NTILATION EQUIPMENT WHICH WILL BE USED IN OPERATIONS WHICH PRODUCE DUST, FUMES, MISTS, OR GASES, INCLUDING AN VIEW SHOWING TYPE AND LOCATION OF HOOD AND FILTERS, MINIMUM VELOCITIES MAINTAINED AT HOOD OPENINGS AND PRO-DURES FOR TESTING SUCH EQUIPMENT.

above.

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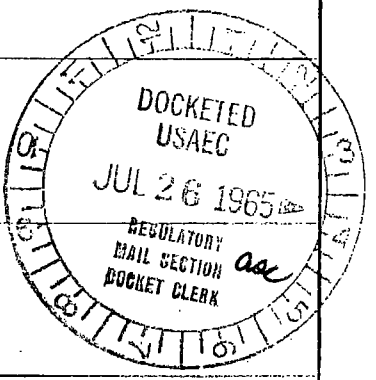
above references for this part and parts (b) and (c).

MERGENCY PROCEDURES IN THE EVENT OF ACCIDENTS WHICH MIGHT INVOLVE SOURCE MATERIAL.



ETAILED DESCRIPTION OF RADIATION SURVEY PROGRAM AND PROCEDURES.

TE PRODUCTS: *If none will be generated, state "None" opposite (a), below. If waste products will be gener-ed, check here* ☐ *and explain on a supplemental sheet:*

) Quantity and type of radioactive waste that will be generated. Mill tailing effluent.

) Detailed procedures for waste disposal. Refer to reports submitted July 5, 1960 and July 11, 1962.

RODUCTS FOR DISTRIBUTION TO THE GENERAL PUBLIC UNDER AN EXEMPTION CONTAINED IN CFR 40 ARE TO BE MANUFACTURED, USE A SUPPLEMENTAL SHEET TO FURNISH A DETAILED ESCRIPTION OF THE PRODUCT, INCLUDING:

PERCENT SOURCE MATERIAL IN THE PRODUCT AND ITS LOCATION IN THE PRODUCT.

PHYSICAL DESCRIPTION OF THE PRODUCT INCLUDING CHARACTERISTICS, IF ANY, THAT WILL PREVENT INHALATION OR INGESTION OF SOURCE MATERIAL THAT MIGHT BE SEPARATED FROM THE PRODUCT.

BETA AND BETA PLUS GAMMA RADIATION LEVELS (*Specify instrument used, date of calibration and calibration technique used*) AT THE SURFACE OF THE PRODUCT AND AT 12 INCHES.

METHOD OF ASSURING THAT SOURCE MATERIAL CANNOT BE DISASSOCIATED FROM THE MAN-UFACTURED PRODUCT.

CERTIFICATE

(*This item must be completed by applicant*)

applicant, and any official executing this certificate on behalf of the applicant named in Item 2, ify that this application is prepared in conformity with Title 10, Code of Federal Regulations, 40, and that all information contained herein, including any supplements attached hereto, is and correct to the best of our knowledge and belief.

THE ANACONDA COMPANY
(*Applicant named in Item 2*)

July 21, 1965

BY: A. J. Fitch
(*Print or type name under signature*)

Manager
(*Title of certifying official authorized to act on behalf of the applicant*)

NG: 18 U.S.C. Section 1001; Act of June 25, 1948; 62 Stat. 749; makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

U3A13558

U.S. GOVERNMENT PRINTING OFFICE: 1964—O-706-977

40-665

Received w/Ltr Dated 5-6-69

December 26, 1968

Regulatory File Cy.

Beginning on January 1, 1969 film badges will be assigned to 45 persons in various departments of the plant in our continuing program of radiation surveillance and control.

The purpose of this notice is to inform you that you will be wearing a film badge during the coming year and to provide you with instructions concerning the proper use of the film badge so that accurate and reliable results will be obtained from our film badge survey.

The film badges are to be worn whenever you are on shift. The film badge should be worn completely uncovered and facing outward. The badges are supplied with a clip so that they may be conveniently attached to a breast pocket.

The film badge must be protected against excessive heat, pressure and moisture. The film badge will be enclosed in a polyethylene sack to prevent moisture damage.

It is most important that you do not remove the film packet from the film badge or take the film badge apart. There are filters contained in the film badge that must be accurately positioned with relation to the film packet. Any movement of the film packet might result in an incorrect evaluation of radiation exposure.

The film badges will be distributed by the guards at the main gate. It will be necessary for you to stop at the gate and pick up your film badge from the guards at the start of the shift. The film badge is to be worn during the shift and returned to the guards at the gate at the end of the shift. A record will be kept by the guards of the issues and returns.

The film badge program is being conducted to evaluate the external radiation to which employees may be exposed and thereby to prevent any possible overexposure. Therefore, if you are wearing a film badge, it is in your own best interest to protect the film badge from damage or loss and to follow the instructions that have been given for the use and wearing of film badges.

Ralph M. Wilde

RALPH M. WILDE
Radiation Safety Director

RMW:hw

c: A. J. Fitch
E. C. Peterson

HQ 9401
(9-66)

INTERMEDIATE ACTION FORM

REFERENCE NUMBERS

Source & SNM Licenses

01. PROG. CODE	09. DOCKET NO.	09. TASK	42. PURPOSE OF TASK	12. CONTROL NO.	15. LICENSE NUMBER
62	40-665	1562	renewal	1562	SUA-647

18. APPLICANT	54. AM. NO. RESULTING FROM TASK
The Anaconda Company	

21. STREET & BUILDING	45. CLASSIFICATION	63. ASG. TO:
P. O. Box 638	U	

24. CITY	27. STATE	30. ZIP	33. RECEIVED YR.	MO.	DAY	36. ISSUED YR.	MO.	DAY	39. EXPIRED YR.	MO.	DAY
Grants	NMEX	87020	69	05	12						

57. APPLICANT'S COMMUNICATION DATED	YR.	MO.	DAY
	69	05	06

59. ENCLOSURES (4 cys rec'd)

w/ten enclosures

58. DESCRIPTION (MUST BE UNCLASSIFIED)

Ltr. req renewal of lic. SUA-647 and trans:

60. DISTRIBUTION

1-PDR cy
1-Compliance(Region)

INTERMEDIATE ACTIONS

TYPE	ON YR.	ON MO.	ON DAY	ACTIV. 92	RETURNED YR.	RETURNED MO.	RETURNED DAY
ADDL. INFO. REQUESTED FROM APPLICANT	91			1	93		
REFERRED TO:	94			2 95	96		
REFERRED TO:							

OTHER REFERRALS

Nussbaumer
w/file cy & folder

DO NOT REMOVE
ACKNOWLEDGED

DATE YR.	MO.	DAY
69	05	13

THE ANACONDA COMPANY

New Mexico Operations

P. O. Box 638, Grants, New Mexico

DOCKET NO. 40-665

Regulatory File Cy.

A. J. FITCH
MANAGER

May 6, 1969

Mr. Donald A. Nussbaumer, Chief
Source & Special Nuclear Materials Branch
Division of Materials Licensing
United States Atomic Energy Commission
Washington, D.C. 20545

Dear Mr. Nussbaumer:

Herewith we are resubmitting our application for renewal of Source Material License No. SUA-647, which is due to expire on July 31, 1969. In accordance with the instructions contained in your letter of December 20, 1968 and the discussions we had with Mr. Don F. Harmon during his visit to our mill on November 20, 1968, we have completed Items 1 through 8 of Form AEC-2. In lieu of the information requested in Items 9 through 14 of Form AEC-2 we have provided the information requested in the "Supplemental Sheet", where applicable. As you have suggested, we have attempted to avoid including exact engineering and construction details.

We have attempted to eliminate, insofar as possible, references to previous applications. However, we feel that the information contained in our application of July 5, 1960, concerning the disposal of radioactive liquid waste into a subterranean disposal well is essential to the evaluation of this project and should be considered as a part of our present application for license renewal.

With reference to our present license, we would like to retain the exemptions and authorizations contained in Items 10, 11, 12 and 13 of the License Conditions.

We have not replied to your request for our plans for controlling exposures to all sources of airborne radioactivity in those areas of the mill where chemical processing is being done. We have not as yet received from you a definitive statement as to how the concentration limits should be applied in these areas. We believe the guidelines that have been followed by the Division

DOCKETED USAEC MAY 12 1969 REGULATORY MAIL SECTION DOCKET CLERK

ACKNOWLEDGED

of Compliance for the past eight years have provided adequate protection for uranium mill workers and should continue to be applied as they have in the past.

If you require any additional information in support of our license application please let me know.

Yours very truly,

A. J. FITCH

AJF:hw

Attachment

EC-2
litions
ete.

FORM APPROVED
BUREAU OF BUDGET NO. 38-R002.

UNITED STATES ATOMIC ENERGY COMMISSION

APPLICATION FOR SOURCE MATERIAL LICENSE

iant to the regulations in Title 10, Code of Federal Regulations, Chapter 1, Part 40, application is hereby for a license to receive, possess, use, transfer, deliver or import into the United States, source material ie activity or activities described.

DOCKET NO. 40-665

one)
) New license
) Amendment to License No. _____
) Renewal of License No. SUA-647
) Previous License No. _____

2. NAME OF APPLICANT
THE ANACONDA COMPANY

Received w/Ltr Dated 5-6-69

3. PRINCIPAL BUSINESS ADDRESS
P.O. Box 638, Grants, New Mexico 87020

Regulatory File Cy.

THE ADDRESS(ES) AT WHICH SOURCE MATERIAL WILL BE POSSESSED OR USED
Anaconda Company, Jackpile Mine, near Paguate, N.M., addressed as above.
Anaconda Company, Bluewater Plant, near Bluewater, New Mexico, addressed as above.

ESS OR OCCUPATION	6 (a) IF APPLICANT IS AN INDIVIDUAL, STATE CITIZENSHIP	(b) AGE
ing and Milling Uranium Ore		

RIBE PURPOSE FOR WHICH SOURCE MATERIAL WILL BE USED

feed material to hydrometallurgical milling processes for the recovery and centration of natural uranium into a precipitated and dried concentrate nonly known as "yellow cake".

THE TYPE OR TYPES, CHEMICAL FORM OR FORMS, AND QUANTITIES OF SOURCE MATERIAL YOU PROPOSE TO RECEIVE, SS, USE, OR TRANSFER UNDER THE LICENSE

i) TYPE	(b) CHEMICAL FORM	(c) PHYSICAL FORM (*Including % U or Th.*)	(d) MAXIMUM AMOUNT AT ANY ONE TIME (*in pounds*)
AL URANIUM	Uraninite type minerals	Crude Ore 0.31% U	150,000 lb. U
	Uranyl Sulphate or Hydrate	Concentrate 75% U	485,000 lb. U
DEPLETED IN 5 ISOTOPE			
JM (ISOTOPE)			

XIMUM TOTAL QUANTITY OF SOURCE MATERIAL YOU WILL HAVE ON HAND AT ANY TIME (*in pounds*)

inventory, in-process pulps and solutions, and concentrate, equiv. to 635,000 lb. U.

IBE THE CHEMICAL, PHYSICAL, METALLURGICAL, OR NUCLEAR PROCESS OR PROCESSES IN WHICH THE SOURCE MATERIAL WILL ED, INDICATING THE MAXIMUM AMOUNT OF SOURCE MATERIAL INVOLVED IN EACH PROCESS AT ANY ONE TIME, AND PROVIDING ROUGH EVALUATION OF THE POTENTIAL RADIATION HAZARDS ASSOCIATED WITH EACH STEP OF THOSE PROCESSES.

RIBE THE MINIMUM TECHNICAL QUALIFICATIONS INCLUDING TRAINING AND EXPERIENCE THAT WILL BE REQUIRED OF AP- ANT'S SUPERVISORY PERSONNEL INCLUDING PERSON RESPONSIBLE FOR RADIATION SAFETY PROGRAM (OR OF APPLICANT IF ICANT IS AN INDIVIDUAL).

RIBE THE EQUIPMENT AND FACILITIES WHICH WILL BE USED TO PROTECT HEALTH AND MINIMIZE DANGER TO LIFE OR PROPERTY RELATE THE USE OF THE EQUIPMENT AND FACILITIES TO THE OPERATIONS LISTED IN ITEM 9; INCLUDE: (a) RADIATION DETECTION RELATED INSTRUMENTS (including film badges, dosimeters, counters, air sampling, and other survey equipment as appropriate. The description of on detection instruments should include the instrument characteristics such as type of radiation detected, window thickness, and the range(s) of each in- nt).

ETHOD, FREQUENCY, AND STANDARDS USED IN CALIBRATING INSTRUMENTS LISTED IN (a) ABOVE, INCLUDING AIR SAMPLING QUIPMENT (for film badges, specify method of calibrating and processing, or name supplier).

:NTILATION EQUIPMENT WHICH WILL BE USED IN OPERATIONS WHICH PRODUCE DUST, FUMES, MISTS, OR GASES, INCLUDING AN VIEW SHOWING TYPE AND LOCATION OF HOOD AND FILTERS, MINIMUM VELOCITIES MAINTAINED AT HOOD OPENINGS AND PRO-DURES FOR TESTING SUCH EQUIPMENT.

:RIBE PROPOSED PROCEDURES TO PROTECT HEALTH AND MINIMIZE DANGER TO LIFE AND PROPERTY AND RELATE THESE PRO-JRES TO THE OPERATIONS LISTED IN ITEM 9; INCLUDE: (a) SAFETY FEATURES AND PROCEDURES TO AVOID NONNUCLEAR ACCI-'S, SUCH AS FIRE, EXPLOSION, ETC., IN SOURCE MATERIAL STORAGE AND PROCESSING AREAS.

MERGENCY PROCEDURES IN THE EVENT OF ACCIDENTS WHICH MIGHT INVOLVE SOURCE MATERIAL.

ETAILED DESCRIPTION OF RADIATION SURVEY PROGRAM AND PROCEDURES.

:TE PRODUCTS: *If none will be generated, state "None" opposite (a), below. If waste products will be gener-ed, check here* ☐ *and explain on a supplemental sheet:*

) Quantity and type of radioactive waste that will be generated.

) Detailed procedures for waste disposal.

'RODUCTS FOR DISTRIBUTION TO THE GENERAL PUBLIC UNDER AN EXEMPTION CONTAINED IN CFR 40 ARE TO BE MANUFACTURED, USE A SUPPLEMENTAL SHEET TO FURNISH A DETAILED :SCRIPTION OF THE PRODUCT, INCLUDING:

) PERCENT SOURCE MATERIAL IN THE PRODUCT AND ITS LOCATION IN THE PRODUCT.

) PHYSICAL DESCRIPTION OF THE PRODUCT INCLUDING CHARACTERISTICS, IF ANY, THAT WILL PREVENT INHALATION OR INGESTION OF SOURCE MATERIAL THAT MIGHT BE SEPARATED FROM THE PRODUCT.

BETA AND BETA PLUS GAMMA RADIATION LEVELS (*Specify instrument used, date of calibration and calibration technique used*) AT THE SURFACE OF THE PRODUCT AND AT 12 INCHES.

) METHOD OF ASSURING THAT SOURCE MATERIAL CANNOT BE DISASSOCIATED FROM THE MAN-UFACTURED PRODUCT.

CERTIFICATE

(*This item must be completed by applicant*)

applicant, and any official executing this certificate on behalf of the applicant named in Item 2, ify that this application is prepared in conformity with Title 10, Code of Federal Regulations, t 40, and that all information contained herein, including any supplements attached hereto, is e and correct to the best of our knowledge and belief.

THE ANACONDA COMPANY
(*Applicant named in Item 2*)

BY: A. J. Fitch
(*Print or type name under signature*)
A. J. Fitch

Manager
(*Title of certifying official authorized to act on behalf of the applicant*)

ING: 18 U.S.C. Section 1001; Act of June 25, 1948; 62 Stat. 749; makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

U.S. GOVERNMENT PRINTING OFFICE: 1964—O-706-977

DOCKET NO. 40-665

Received w/Ltr Dated 5-6-69

DESCRIPTION OF OUR ORGANIZATION

A current organization chart of line management in Anaconda's New Mexico Operations is attached. This presents the line and level divisions of authority for the respective descriptive titles of position and indicated areas of responsibility. These are believed to be self-evident.

Regulatory File Cy.

QUALIFICATIONS AND EXPERIENCE OF PERSONNEL RESPONSIBLE FOR ADMINISTRATION OF THE RADIATION SAFETY PROGRAM

The Radiation Safety Director is responsible for the administration of the radiation safety program for the mill. The education and experience requirements for this position are four years of college, two years general experience, one year of technical experience and one year of directed training.

DESCRIPTION OF THE AREA IN WHICH THE MILL IS LOCATED

The Bluewater Mill of The Anaconda Company is located in Section 24, Township 12 North, Range 11 West, New Mexico Principal Meridian. The millsite is just north of Route US-66, approximately nine and one-half miles northwest of Grants, New Mexico. Surface ownership in the immediate vicinity of the mill rests with The Anaconda Company. The centers of population in the area include (1) the town of Grants, population 11,000, nine and one-half miles southeast of the mill; (2) the village of Milan, population 2,400, seven miles southeast of the mill; (3) the village of Bluewater, population 550, two miles west of the mill; and (4) The Anaconda Company housing area, population 250, one-half mile south of the mill. Outside of the above mentioned communities the area is only sparsely populated.

There are no continuously flowing streams in the immediate area of the mill. The nearest drainage system, the San Jose River and its tributaries, is intermittent with surface flow occurring only after thundershowers.

The water for mill use is pumped from underground sources. The bulk of all water for industrial, agricultural and domestic uses in the area is appropriated from underground supplies.

The location of the mill, the surface drainage in the area, and the location of many of the wells in the area are shown on the attached map. (Drawing No. 5-D-51).

METHOD OF RESTRICTING MILL AND TAILINGS AREA FROM UNAUTHORIZED ENTRY

The Mill and tailings pond areas are fenced and posted with radiation caution signs as a restricted area. All access gates are either locked or guarded. A supervised guard detail, working under contract from a nationally recognized plant security agency, controls entry to the mill area at all times. Periodic patrols are made by the guards to make certain that the unguarded access gates are locked and that no unauthorized persons enter or remain in the restricted area.

DESCRIPTION OF WASTE DISPOSAL SYSTEM

The tailing disposal at the Bluewater Mill of The Anaconda Company is into a natural basin to the north of the plant area.

This basin was formed by a high lava flow escarpment across the west and south boundaries of a limited catchment area and by higher mesa formations on the north and east. Before being utilized for tailings disposal, two small lakes formed seasonally in the depression from runoff accumulations. Overflow drainage from this natural basin was to the southeast through a very narrow draw that in the beginning of tailings disposal was dammed off and backfilled with the deposit of sand tailing and of such extent as now to preclude any possible outflow or overflow.

The capability and integrity of retention of tailings within this basin are extremely high if not impregnable. Retaining dams on the southwest, south, east, and north sides of the tailings area are used for the purpose of restriction within the basin, to form a more impermeable slime-sealed bottom and periphery, and to control the collection of drained supernatant water for removal and deep-well disposal. These retaining dams were built using accepted engineering and construction methods.

Our greater concern in the retention of tailings has been that of tailings water seepage into the underlying alluvium and rock formations. The objective of our decantation and deep-well disposal system for tailings water has been to present a minimal seepage area by regulation of the level and areal extent of the water collection pond within the retention area. It is believed that seepage will be somewhere between 7% to nil of the total water discarded to tailings. This is indicated by water balances to be less than 50 gpm.

The tailings disposal area is only a small part of a greater containment basin and all within an even larger surrounding restricted area of the plant site. We cannot visualize any condition that might lead to accidental release of waste. Any breach of the confinement area would still have retention within the basin. Even outside and beyond the basin, there are no continually flowing streams in the water courses of this arid region.

Attached is a sketch (Drawing No. 15 TS-53A) of the tailing disposal area showing by contours the general geomorphic features; the containment dam and dikes; the classified and segregated areas of sands, slime, and pond; and the breakwater, decanter, and filter building for the removal, treatment, and deep-well disposal of water. The pre-pond and present drainages are indicated.

Also attached is a sketch (Drawing No. 5-D-48a) showing the restricted area boundaries at the plant site and, within this boundary, the relationship of the mill and the general tailing area.

Description of Waste Disposal System (continued)

We would like to obtain continued authorization to dispose of radioactive liquid waste resulting from our uranium processing operations into a subterranean disposal well according to the procedures described in our application dated July 5, 1960, and subject to the same conditions as are contained in Item No. 13 of our present source material license. The data submitted in our application of July 5, 1960 describes in detail the geology and hydrology in the area of the mill and disposal well, the method of disposal and the procedures to be observed to minimize the risk of contamination to the underground water supplies of the area.

The disposal well reservoir was originally calculated to have a life expectancy of from 10 to 20 years at a continuous injection rate of 400 gallons per minute. The indicated volume of injected fluid that the reservoir would accept was from 2×10^9 gallons to 4×10^9 gallons. In the last 9 years, from January 20, 1960 to December 31, 1968, we have injected only 6×10^8 gallons. Using the more conservative estimate of reservoir capacity, it appears that we have used only about 30 percent of the available volume and that the reservoir will accept at least an additional 1.4×10^9 gallons. In the year 1968 the total volume of solution injected was 5×10^7 gallons. If we continue to inject at this rate, 5×10^7 gallons per year, the disposal well has a calculated life expectancy of another 28 years.

The disposal system is continuously monitored to ensure that it does not become a threat to public health by contamination of the local fresh water supplies. The monitor program consists of three phases: (1) direct observation of the behavior of the disposal well; (2) samples taken from the major fresh water aquifer in the vicinity of the disposal well; and (3) routine sampling of regional fresh water sources.

Daily measurements are made of the operating water level in the disposal well, and occasional recovery measurements are made when the well is shut down. Analyses of these pressure data to date have revealed no cause to suspect significant transformational leakage of the injected fluid from the disposal reservoir.

The analysis of samples from Monitor Well No. 1 and from the other wells in our monitoring program have not shown any evidence of contamination, either chemical or radiological of the fresh water aquifers by the injected fluid.

All of the evidence available to date indicates that the disposal well has proven to be a satisfactory method of waste disposal and that the well has a useful life expectancy greatly in excess of an additional five years.

DESIGN OF LIQUID EFFLUENT SURVEY PROGRAM

The Anaconda Company began a regional monitoring program of fresh water sources in 1956. The original monitoring program has been expanded and revised and now serves as our liquid effluent survey program. Some 40 to 50 water sources are sampled and analyzed for their chemical contents at monthly, bimonthly or semiannual intervals and for radioactive contents at semiannual intervals. The water sources that are sampled include 3 springs, 2 ponds, and domestic, industrial, agricultural, and municipal wells that withdraw water from one or more of all of the known fresh-water aquifers within an area of about 200 square miles. The location of the wells, springs and ponds that are currently being monitored are shown on the attached map (Drawing No. 5-D-51).

Included in the water monitoring program is one well that was drilled to monitor the fresh-water aquifer in the immediate vicinity of the disposal well. This well is referred to as Monitor Well No. 1 and was completed at a depth of 628 feet in the San Andres fresh-water aquifer, 300 feet southeast of the disposal well, in the direction of the hydraulic gradient in that formation. Water samples from this well are analyzed weekly for their chemical content and semiannually for their radioactive content to detect any leakage that might occur in or near the immediate vicinity of the disposal well where reservoir pressures are the greatest.

Most of the wells that are sampled in our water monitoring program are not owned or controlled by The Anaconda Company. The routine sampling of these wells is therefore dependent on the cooperation of the well owners and the availability of the wells for sampling. It may be necessary to make periodic revisions of the sampling locations. We will, however, make every effort to maintain an adequate monitoring program.

Standard methods of chemical analysis are used for determining the chemical constituents of the water samples. The methods for determination of natural uranium, radium and thorium are essentially those developed by Claude W. Sill, Health and Safety Division, U.S.A.E.C., Idaho Falls, Idaho.

AREAS OF DUST GENERATION, DESCRIPTION OF DUST COLLECTION AND VENTILATION EQUIPMENT AND DESCRIPTION OF MILL DISCHARGE STACK EFFLUENTS

Attached are a flow diagram of the mill production operation and a drawing (Dwg. No. 20 MS-5) of the plant layout. Dust generation is generally limited to areas of the crushing plant, ore sample tower, fine ore bins, Yellow Cake Section and the Bucking Room. Local exhaust ventilation is provided at points of major dust generation and for dust producing operations and equipment. Capture and transport velocities are maintained sufficiently high to provide effective contamination control. Adequate dust collection and ventilation equipment will be provided and maintained for all areas of the mill.

The effluents from the dust collection systems for the crushing plant, ore sample tower and fine ore bins pass through wet orifice-type dust collectors. These collectors are more than 90% efficient in removing dust particles from the effluent stream. The effluent from the bucking room passes through a plenum settling chamber before discharge. This plenum chamber is designed to remove only the larger particles of dust. The effluents from the Yellow Cake Section pass through wet impact-type collectors. These collectors are more than 95% efficient in removing dust particles.

The concentrations of radioactive material in the stack effluents from the dust collection system are given in the following table.

Stack Location	Effluent Concentration uc U-nat/ml
Crushing Plant	5×10^{-12}
Ore Sample Tower	5×10^{-13}
Fine Ore Bins	5×10^{-13}
Bucking Room	5×10^{-12}
Yellow Cake Dryers	1×10^{-9}
Yellow Cake Packaging & Sampling	1×10^{-11}

The above concentrations are approximately typical of the effluents that are discharged during normal operation. The actual concentrations may vary from these values depending on the dust load in the collection system.

Our environmental air sampling survey program is conducted in accordance with the U.S. AEC document entitled "An Acceptable Basis for Surveying to Determine Concentrations of Radioactive Material Discharged as Air Effluents from Uranium Mills". Air samples are taken periodically of the six stack effluents to determine the concentrations of radioactive material that are being discharged. The results of these surveys have shown that the air effluents from the Yellow Cake Section stacks are the most likely source of environmental contamination. For this reason the environmental air samples are taken mainly in a downwind direction from the Yellow Cake Section stacks. Air effluents containing ore dust are usually also being discharged from the other four stacks during the sampling periods and the sampling locations are also generally downwind from these stacks. Samples are also taken under calm conditions at the perimeter of the restricted area.

DESCRIPTION OF AIR SAMPLING SURVEY PROGRAM

In the sections of the mill where the air-borne radioactivity is more or less uniformly distributed, general area samples are taken in the areas frequented by the operating personnel. Where personnel are working at operations or in locations where dust generation is possible, breathing zone samples are taken to determine the air-borne concentration for the specific operation or location. Air samples are also taken to investigate any operations which might be suspected of producing air-borne radioactivity.

The results of past air sampling surveys will be used to determine the frequency of sampling in the various areas of the mill. In those areas where the concentrations of air-borne radioactive material are less than 25% of MPC, surveys will be made at 9-month intervals. In those areas where concentrations are greater than 25% but less than 50% of MPC, surveys will be made at 3-month intervals. In those areas where concentrations exceed 50% but are less than 100% of MPC, surveys will be made monthly. In the event that concentrations exceed MPC, sufficient samples will be taken to determine the average exposure of the employees who may occupy this area.

A sufficient number of samples will be taken in each area to insure that an adequate evaluation can be made of potential exposures within the area.

The sampling devices that will be used in the survey program will include a high volume sampler that is capable of sampling at a rate of approximately 500 liters per minute, a smaller portable sampler that is capable of sampling at a rate of approximately 15 liters per minute, and a battery-powered personal type sampler that can be worn by an employee.

The air-dust samples will be analyzed for uranium by the fluorometric method of Claude W. Sill.

PROCEDURE FOR DETERMINING AVERAGE EXPOSURES OF EMPLOYEES WHO ARE EXPOSED TO AIR CONTAMINATION GREATER THAN MPC

Working-place time-distribution studies have been made for the employees who, in the performance of their jobs, are required to occupy areas where they may be exposed to concentrations of air-borne radioactivity in excess of the MPC. Air sampling surveys are made periodically in these areas to determine the concentrations of air-borne radioactivity. These surveys include both general area and breathing zone samples. If any of these samples exceed MPC the average exposure of the employee is calculated from the concentrations as determined in the air sampling surveys and the time studies.

USE OF RESPIRATORS TO CONTROL EXPOSURES

Respirators are not routinely used in our operation to control exposures of personnel. Respirators are available for emergency use in all areas of the mill.

DESCRIPTION OF THE METHOD FOR DETERMINING EXPOSURES OF EMPLOYEES TO EXTERNAL RADIATION

Film badges are used for determining the exposure of employees to external radiation. Beta-gamma type film badges are used. The film packets are changed and read at monthly intervals. The film badges are reported by our supplier to be sensitive enough to be read to a minimum of 10 mr of gamma or 10 mrem of beta radiation.

Previous film badge surveys have indicated that no employee in any area of our mill is likely to receive a dose of external radiation in excess of 25 percent of the applicable values specified in 10 CFR Part 20. The areas of highest potential exposure in our mill are the Yellow Cake Section and the clarification press area. Film badges are also worn by at least one person in each area or job-classification in the mill.

In addition to the film badge surveys, periodic surveys of radiation levels in all plant areas are made with a beta-gamma survey meter. These surveys are made to detect any significant changes which may occur in radiation levels in the various areas of the mill and to delineate any areas of potentially high exposure to external radiation.

RADIOLOGICAL SAFETY INSTRUCTIONS

A copy of the Safety Manual of the New Mexico Operations of The Anaconda Company is attached. This manual contains instructions for personal hygiene and instructions for dust control and clean up of spills within the plant. Please refer to pages 15, 17, 21, 23, 25, 37, 38, 41, 42, 43, 44, 53, 83, 85 and 89 for specific radiological safety instructions. A copy of this Safety Manual is given to each employee in our mill.

Also enclosed is a copy of a letter of instructions for wearing film badges. These instructions are given to each person who wears a film badge.

In addition to the above items, specific instructions are recorded in the supervisor's log books concerning other operating procedures dealing with radiological health and safety. These instructions are given verbally during job training and whenever necessary during routine operations.

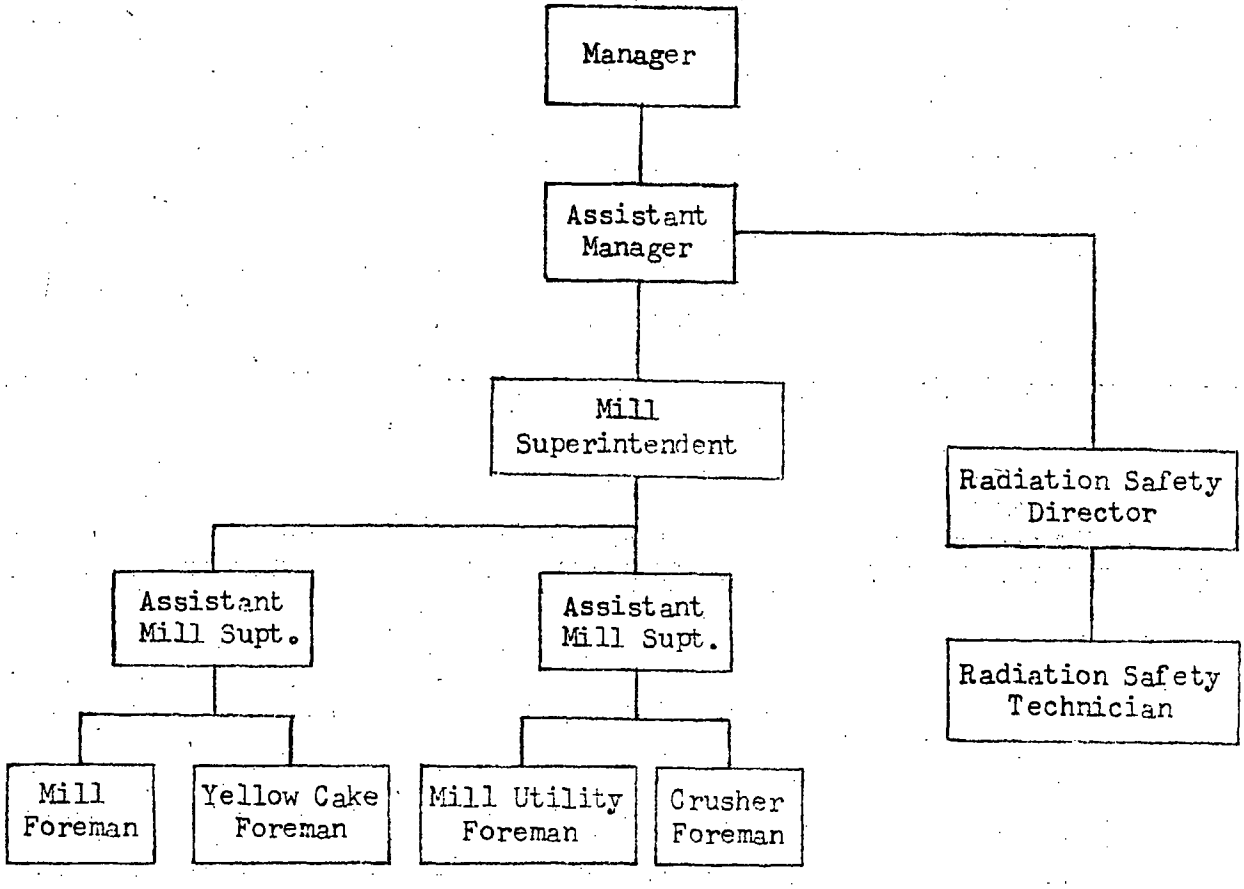
DOCKET NO. 40-665

THE ANACONDA COMPANY
New Mexico Operations

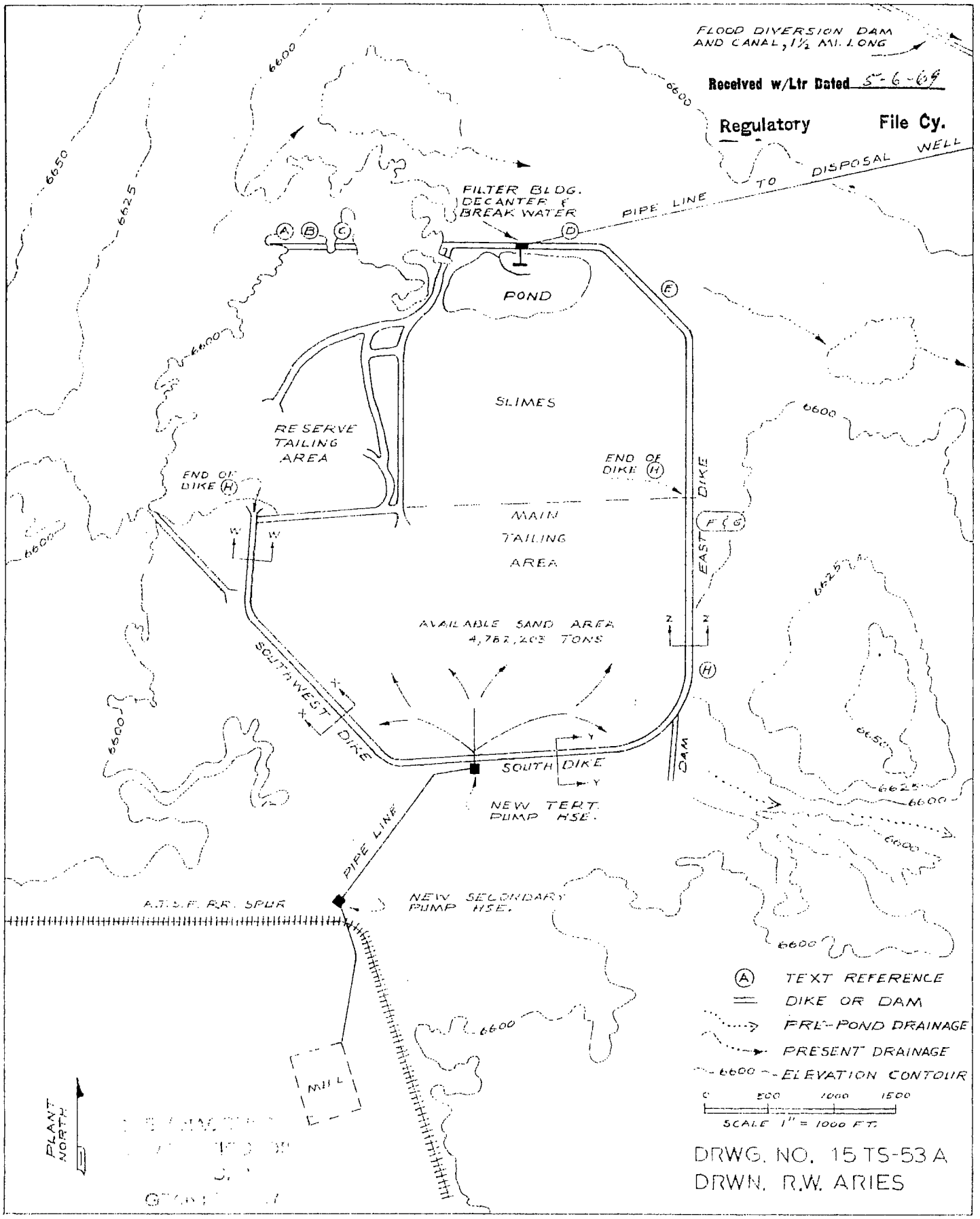
Received w/Ltr Dated 5-6-69

Organization Chart

Regulatory File Cy.



DOCKET NO. 70-665



REFERENCES: 15 TS-53 B, C, D, E

BY_____ DATE 5/16/69 SUBJECT ANACONDA URANIUM SHEET NO._____ OF_____

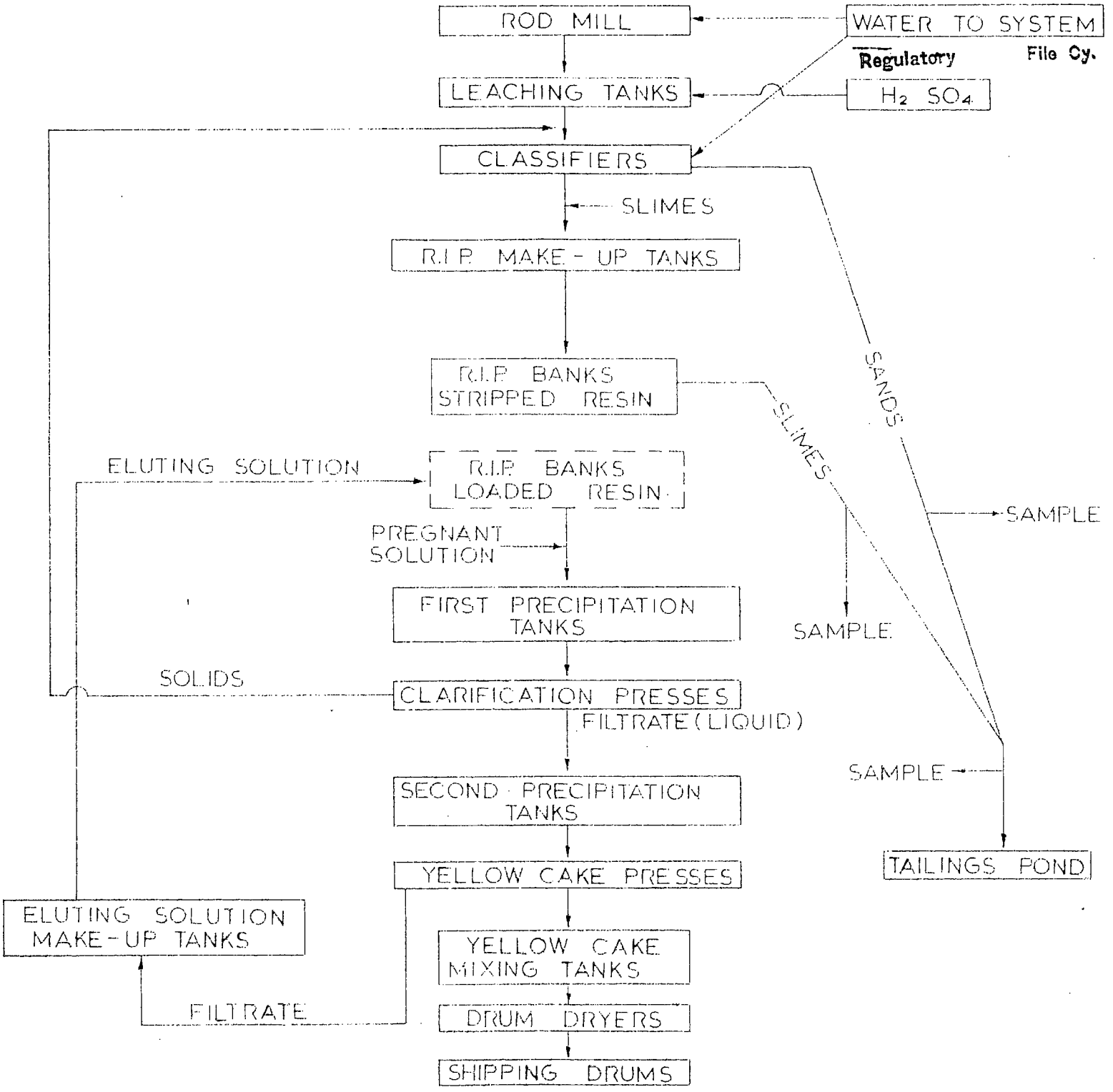
CHKD. BY_____ DATE_____ OXIDE LEACHING MILL JOB NO._____

TRACED: R.W.A. 1/20/69 (FLOW DIAGRAM)

ACID PROCESS - CHLORIDE ELUTION

DOCKET NO. 40-~~8005~~

Received w/Ltr Dated 5-20-69

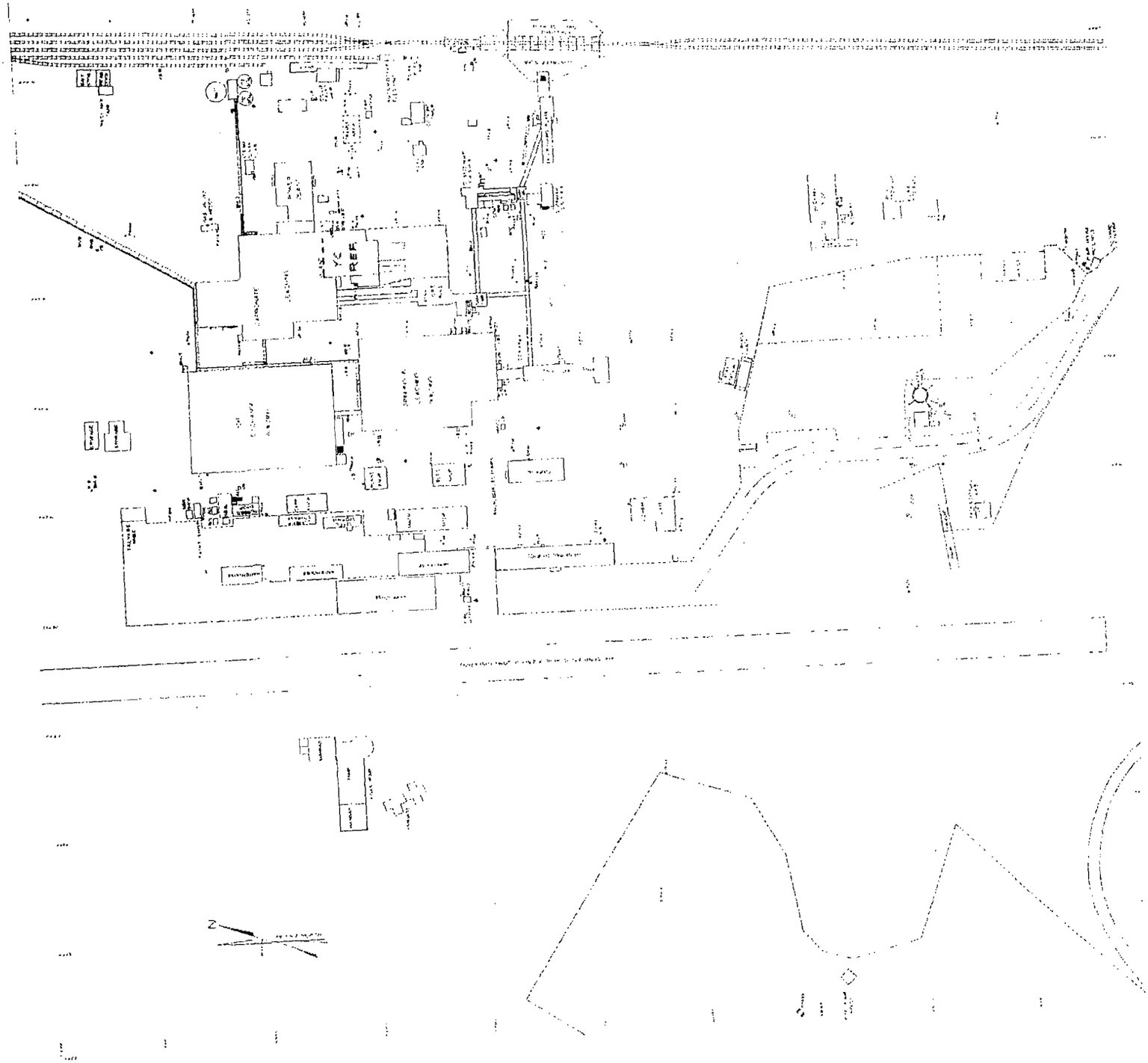


DOCKET NO. 40-665

Received w/Ltr Dated 5-20-69

Regulatory File Cy.

GENERAL LAYOUT
PLANT SITE GRID 12E
DWG NO 20155



Form AEC—410
(1-61)

UNITED STATES
ATOMIC ENERGY COMMISSION

SOURCE MATERIAL LICENSE

Pursuant to the Atomic Energy Act of 1954, and Title 10, Code of Federal Regulations, Chapter 1, Part 40, "Licensing of Source Material," and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, possess and import the source material designated below; to use such material for the purpose(s) and at the place(s) designated below; and to deliver or transfer such material to persons authorized to receive it in accordance with the regulations in said Part. This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954 and is subject to all applicable rules, regulations, and orders of the Atomic Energy Commission, now or hereafter in effect, including Title 10, Code of Federal Regulations, Chapter 1, Part 20, "Standards for Protection Against Radiation," and to any conditions specified below.

Licensee	3. License No.
1. Name The Anaconda Company	SUA-647
2. Address P. O. Box 638 Grants, New Mexico 87020	4. Expiration Date February 29, 1976
	5. Docket No. 40-665

6. Source Material	7. Maximum quantity of source material which licensee may possess at any one time under this license
Uranium	Unlimited

CONDITIONS

8. Authorized use (Unless otherwise specified, the authorized place of use is the licensee's address stated in Item 2 above.)

This license authorizes uranium ore processing at the licenses's uranium milling facility at a nominal throughput of four thousand (4000) tons per day and ore crushing at the licensee's Jackpile Mine in accordance with the procedures described in the licensee's application dated May 6, 1969.

9. Authorized Place of Use: The licensee's uranium milling facility located near Grants, New Mexico and the licensee's Jackpile Mine located near Paguate, New Mexico.

License Number SUA-647

MATERIAL LICENSE

Supplementary Sheet

10. The licensee is hereby exempt from the requirements of Section 20.302(e)(2), 10 CFR 20, for areas within the mill provided all entrances to the mill are conspicuously posted in accordance with Section 20.203(e)(2) of Part 20 and with the words, "Any area within this mill may contain radioactive material."

11. The licensee shall immediately notify the Director, Region IV, Division of Compliance, USAEC, Denver, Colorado, by telephone and telegraph of any failure in an earth dam retention system which results in a release of radioactive material into unrestricted areas. The requirement is in addition to the requirements of 10 CFR 20.

12. The licensee is hereby authorized to incinerate discarded wooden equipment containing source material and return the ashes to process for recovery of the contained uranium in accordance with the procedures described in his application dated October 14, 1961.

13. The licensee is hereby authorized to dispose of radioactive liquid waste resulting from uranium processing operations into a subterranean disposal well according to procedures described in his application dated July 25, 1960, and subject to the following conditions:

(a) Records shall be maintained of the volume of waste disposal, the average concentration of the radioactive constituents, the natural water head pressures and injection rates.

(b) Increases in injection pressure above that produced by the natural water head of the waste effluent stream is not authorized.

(c) A yearly summary report shall be submitted to the Division of Materials Licensing, USAEC, Washington, D. C., describing the status of the injection program, including average monthly liquid injection rates, the concentration of radioactive constituents, average concentrations of uranium, radium-226, and thorium-230 in monitored well and surface waters, and the level of the water table. Reports shall be submitted no later than August 31 of each year.

License Number SUA-647

MATERIAL LICENSE

Supplementary Sheet

14. The licensee shall determine that employees leaving work are not contaminated with radioactive materials. When an employee has showered and changed clothes prior to leaving work, he may be assumed to be free of contamination.

15. Changes in the mill circuit or equipment, including maintenance activities, shall be approved in writing by the Manager or Assistant Manager. During such changes and activities, radiation safety surveys shall be conducted to determine employee exposures to radioactive materials.

For the U. S. Atomic Energy Commission

ORIGINAL SIGNED

JAMES [illegible]

by Materials Branch

Division of Materials Licensing
Washington, D. C. 20545

Date

MEMO ROUTE SLIP

Form AEC-93 (Rev. May 14, 1947)

☐ See me about this. ☐ Note and return. ☐ For concu[illegible]e. ☐ For signature. ☐ For action. ☐ For information.

TO (Name and unit)	INITIALS	REMARKS
1- J. A. Mouridc		RE: THE ANACONDA COMPANY
[illegible] D A Nussbaumer	DATE	GRANTS, NEW MEXICO
		LICENSE NO. SUA-647
TO (Name and unit)	INITIALS	REMARKS
2- R. F. Barker [illegible]		Attached for your information is a copy of memo from J. J. Ward, Region IV to files, informing us of the radioactive contamination of a railroad car involved in a transportation accident.
SS [illegible]	DATE	
3- Dr. Lubenau [illegible]		
TO (Name and unit)	INITIALS	REMARKS
4 - Files		
	DATE	
FROM (Name and unit)		REMARKS
R. Handler SLR:EB		Attachment: Copy ofmemo
PHONE NO. 7422	DATE 10-26-65	

USE OTHER SIDE FOR ADDITIONAL REMARKS

U. S. GOVERNMENT PRINTING OFFICE : 1957—O-422007

File

October 19, 1965

John J. Ward, Investigation Specialist
Region IV, Division of Compliance, Denver

Original Signed By
John J. Ward

COMPLIANCE INQUIRY MEMORANDUM - THE ANACONDA COMPANY
GRANTS, NEW MEXICO, LICENSE NO. SUA-647 - TRANSPORTATION
OCCURRENCE

At 3:40 PM MDT, October 18, 1965, R. J. Gidney, Director, Construction and Supply Division, GJO, telephoned D. I. Walker, Region IV, to report an incident just brought to his attention by the Anaconda Company, as follows:

On Friday, October 15, 1965, at 7:00 AM, local time, a railroad car containing 109 drums of yellow cake being shipped from Anaconda to Mallinckrodt, Weldon Springs, Missouri, by the MKT Railroad, was derailed one and one half miles east of Portland, Missouri. Anaconda was notified by the railroad on October 16, and two Anaconda employees, Ralph Wilde and Fred Mills, both went to the scene of the accident. They reported there was no spillage from the car, but the lids of two drums were popped and yellow cake was spilled in the car.

Walker telephoned R. C. Hageman and J. Allan of Region III at 3:50 PM to pass this information on for their contact with Mallinckrodt and St. Louis Area Office. At 4:10 PM, Allan called Region IV to report that his contact with M. G. Mason of Mallinckrodt had developed that they and AEC were on top of the situation. There will be a meeting October 19, with railroad personnel, to arrange removal and decontamination of the car and contents. Either the car will be placed on new trucks for transport to Weldon Springs or the drums will be off-loaded to a trailer for truck transport to Weldon Springs. In either case the car will be decontaminated by Mallinckrodt prior to its being released to the railroad. Mason advised Allan that only about 20 to 30 pounds of yellow cake was spilled. No exposures are involved, and no publicity has occurred. The car was dented at both ends and apparently had its trucks damaged. The door seals were not broken.

cc: R.G. Page, DS&LR
J.R. Roeder, CO-HQ
J. Allan, CO:III
R.J. Gidney, GJO
J.P. Morgan, STL

Although the incident is not considered a reportable incident, Walker suggested to Gidney that Anaconda be told to advise the Director of Regulation of the incident as a matter of information. Region III and Region IV both notified Compliance Headquarters of the incident by telephone on October 19.

Action is being taken by Mallinckrodt and St. Louis Area Office. No action contemplated by Region IV.

OPTIONAL FORM NO. 10
MAY 1962 EDITION
GSA GEN. REG. NO. 27

5010-106

UNITED STATES GOVERNMENT

Memorandum

TO : Lyall E. Johnson, Acting Director
Division of Materials Licensing

DATE: JUN 22 1964

FROM : Leo Dubinski, Assistant Director for Materials
Division of Compliance

SUBJECT: RADIOACTIVITY IN WATER IN GRANTS, NEW MEXICO AREA

CO:RCP 40-665

Attached for your information is a copy of a memorandum dated June 12, 1964, to the Files from Donald I. Walker, Region IV, Division of Compliance, which presents information relative to the above subject. The memorandum also contains information on the Kermac Nuclear Fuels lignite operation and the ion exchange treatment of uranium mine water by Kermac and Homestake-Sapin.

Attachment:
Cpy memo to Files fm Walker, CO:IV,
dtd 6/12/64

cc: E. R. Price, SLR, w/att
E. C. Van Blarcom, RM, w/att
D. I. Walker, CO:IV, w/o att

Anaconda Co. Pd 40 mill docket

files - 40.665

File June 14, 1964

Donald I. Walker, Director, Region IV
Division of Compliance, Denver

Original Signed by
Donald L. Walker

TALK WITH R. C. PAULUS, CO:HQ - JUNE 11, 1964

Ralph Wilde, Anaconda, reported that radioactivity in potable water supplies in the Grants area is increasing (via Van Biercom). Thought possibly to be due to waste mine waters rather than to seepage from tailings areas or from Anaconda's deep disposal well.

Pickwick, GJ, reported, August 1963, that Homestake-Sapin's operations at Section 32 and 25 mines include an IX circuit to recover U from mine waters. No information on where the IX effluent goes. The process is not licensed.

Pickwick, same report, stated that Kermac also has an IX circuit but effluent goes to mill process. Their's is not licensed, either.

Pickwick, GJ, reported, January 31, 1964, that Kermac has or will start burning lignites in North Dakota for U recovery.

I talked to Elton Youngberg on June 11, 1964. He had no information on the Grants wells. I will keep him informed on developments.

He stated that he knew HS-S had an IX circuit but didn't know where the effluents went.

He knew that Kermac also had IX but didn't believe that the mill could possibly consume all the mine water.

He stated that Kermac had started burning (roasting) lignites near Bowman, North Dakota but supposed that they had applied for and received a license for the operation.

He said that all pertinent information on Items 2, 3, and 4 in GJ will be forwarded to Region IV as soon as possible.

R. Wilde, Anaconda, will be contacted on June 12 or the earliest date possible.

JUNE 12, 1964

Talked with Wilde today. He stated that he had mentioned to Van Blarcom a steady, but slow, rise in uranium concentrations in well waters in the Grants area. The uranium increase has been noted in the sampling of wells required by the license for their deep disposal well and has been included in the results forwarded to DML periodically. He stated that, while the increase in uranium concentration is perceptible, the highest level noted is less than 0.01 of MPC, insignificant at present, but worth continued surveillance.

According to Wilde, all mining operations in the Ambrosia Lake area pump water from the mines in order to maintain working levels. The water is pumped to the surface and released into the San Mateo Creek drainage system. Prior to the start of mine pumping, San Mateo Creek has never had any flows past the foot of the Kermac tailings pond and also receives source of the effluent from Kermac's IX circuit which recovers U from the mine. Homestake-Sapin also has IX recovery from mine water.

The flow in the San Mateo system has never continued beyond a point about 10 miles north of Grants. All disappears through percolation. Wilde believes that underground flows in the creek bed from mine pumping may account for the U concentration increase. Carl Jensen, New Mexico State Health Department, has also been sampling routinely with Anaconda, but analyzing only for U whereas Anaconda has been checking gross alpha, Th-230 and Ra-226 as well. No Th-230 or Ra-226 above their detection limits has been noted.

I talked to R. C. Paulus again today to state that, upon receiving more information from GJ, we would look into the IX operations and also obtain samples from some of the wells where U increases have been noted. Paulus stated that there is some question whether the IX operations are licenseable since their material before beneficiation is less than 0.05% uranium. I forgot to mention to Paulus the precedent has already been established that, even though initial material is less than 0.05%, where resultant product is greater than 0.05%, the operation must be under an AEC license.

Later, I talked to Bill Hutchinson and Frank McGinley, who stated that United Nuclear (Homestake-Sapin) has, in addition to their IX circuit at Section 22 and 25 mines, an IX circuit operating on mine water at the former Phillips Petroleum mill. Also, Kermac's IX circuit is located at the Kermac mill and all its effluent is used in the mill process. However, not all the water pumped from their mines does not go through the IX circuit.

GJ will forward correspondence on these IX circuits and Kermac's lignite roasting.

cc: L. Dubinski

OPTIONAL FORM NO. 10
MAY 1962 EDITION
GSA GEN. REG. NO. 27

5010-107

UNITED STATES GOVERNMENT

Memorandum

TO : Those Listed Below

DATE: June 5, 1964

FROM : E. C. Van Blarcom
Division of Raw Materials

SUBJECT: RADIOACTIVITY IN UNDERGROUND WATER - GRANTS AREA

DRM:ECVB 40-665

Mr. Ralph Wilde of Anaconda Company, Grants, New Mexico, told me recently of certain observations showing that a front of increased radioactivity in underground waters is moving in a direction from the Grants mill area toward the town of Grants. He said that New Mexico State health officials are aware of the situation. He also said that he would be willing to show the information he has to a Compliance representative. I said that I would call the matter to your attention.

Addressees:
J. A. Nussbaumer, DI&R
Leo Dubinski, CO

Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan

DEC 2 0 1968

DML:DFH
40-665
SUA-647, Amendment No. 2

The Anaconda Company
P. O. Box 638
Grants, New Mexico 87020

Attention: Mr. A. J. Fitch
Manager

Gentlemen:

This is to express my appreciation for the courteous cooperation extended to Mr. Don F. Harmon of my staff during his visit to your uranium mill on November 22, 1968. This will also confirm Mr. Harmon's discussions with you concerning the renewal of your AEC Source Material License No. SUA-647.

As discussed during the visit, your initial application for this licensed was filed over ten years ago and since that time several amendments and renewals have been made to the license. Therefore, we are requesting that a new renewal application complete in itself and, insofar as possible, without reference to previous applications be submitted. We believe the submission of such a consolidated renewal application will enable the Commission staff to evaluate it and subsequent amendments to it more expeditiously. Also, we believe a consolidated application will facilitate an understanding of the terms and conditions of the license.

The application should be filed using the enclosed Form AEC-2. In lieu of the information requested in Items 9 thru 14 of Form AEC-2, the information requested in the enclosed "Supplemental Sheet" should be provided. We believe it would be to your

advantage to submit the information in such a manner so as to provide flexibility in your activities and to minimize the need for license amendments. As Mr. Harmon discussed during his visit this can be accomplished by providing the requested information in the form of performance criteria and/or technical specifications whereby changes in equipment, procedures and activities can be made without the need for a license amendment. The application should also justify the continued use for an additional five years (the term of present licenses) of your deep well disposal system since the approval of this system in 1960 was based on a 10 year capacity.

The application should also deal with your plans for controlling employee exposures to all sources of airborne radioactivity in the grind and leach building, particularly during winter months, in accordance with the requirements of paragraph 1 of the note to Appendix B, 10 CFR 20.

In view of the scope of the information requested, particularly in regard to the continued use of the deep well disposal system, we believe your renewal application should be filed no later than June 30, 1969. Accordingly, in order to permit the continuation of your present activities, the expiration date of AEC Source Material License No. SUA-647 is hereby extended until July 31, 1969.

Please let me know if you have any questions concerning the above.

FOR THE ATOMIC ENERGY COMMISSION

Original Signed by
Donald A. Nussbaumer

Donald A. Nussbaumer, Chief
Source & Special Nuclear Materials
Branch
Division of Materials Licensing

Enclosures:
1. Form AEC-2
2. Supplemental Sheet

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Compliance Region IV
N. Doulos Dml - 3
E.VanBlarcom RM
Branch Reading File
Division Reading File

DML
DFHarmon:sr

DML
DANussbaumer

AUG 29 1973

FFR:JER
-665

The Anaconda Company
ATTN: Mr. Colin C. Howard
Counsel
P. O. Box 11309
Tucson, Arizona 85734

Gentlemen:

This is in response to your letter of August 9, 1973 requesting that we confirm the information conveyed to you by Mr. Rothfleisch in a telephone discussion on July 26, 1973.

Pursuant to 10 CFR Part 40, paragraph 40.13(b), the transfer of unrefined and unprocessed uranium ore is exempt from the regulations so no authorization for this operation is required. In addition, pursuant to 10 CFR Part 40, paragraph 40.51(b)(2), any licensee may transfer source material to a specific or general licensee whose license authorizes him to receive such material. The Anaconda Company Source Material License No. SUA-647 authorizing the receipt of uranium source material covers the transfer of the yellowcake produced from the ore back to Anaconda. It should be pointed out that in compliance with 10 CFR Part 40, paragraph 40.61, "Each person who receives source material pursuant to a license issued pursuant to the regulations in this part shall keep records showing the receipt, transfer, export and disposal of such source material."

Sincerely,

Original Signed by
Leland C. Rouse

L. C. Rouse, Chief
Fuel Fabrication and Reprocessing
Branch
Directorate of Licensing

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SNAME ▶	JERothfleish:pw	LCRouse				
	8/24/73	8/29/73				

4/0 - 665

JUN 7 1973

The Anaconda Company
ATTN: Mr. A. J. Fitch
Manager, New Mexico Operations
P. O. Box 638
Grants, New Mexico 87020

Gentlemen:

This refers to your letters of January 26 and May 14, regarding your plans to install and operate additional processing equipment in the Blue Water Uranium Ore Processing Plant in order to increase the capacity of the plant.

Under the National Environmental Policy Act of 1969 (NEPA), a copy of which is enclosed, each Federal Agency is required to consult with appropriate Federal, State, and local agencies concerning major Federal Actions which may significantly affect the quality of the human environment and to prepare a detailed statement concerning the environmental impact of the proposed action. Enclosed is a published statement of general policy, 10 CFR Part 50, Appendix D, which specifies the manner in which the Commission exercises its regulatory responsibilities under the Act. As the policy statement indicates, the Commission has identified the licensing of uranium mills as an action which requires the preparation of a detailed environmental statement.

It has been determined that amendment of the Anaconda Company's license to authorize use of the additional processing equipment constitutes a major Federal action which will require preparation of an Environmental Statement. To assist us in preparing such a statement the Anaconda Company should submit a detailed Environmental Report. The Environmental Report should address in detail those subjects described by 10 CFR Part 50, Appendix D, Section A. To assist you in the preparation of the report, enclosed is a copy of the AEC Licensing Guide, "Guide to the Preparation of Environmental Reports for Uranium Mills."

You will note that paragraph 14 of Section A requires you to submit 200 copies of the report. Section 40.31 of 10 CFR Part 40, copy enclosed, requires that an environmental report be submitted 9 months prior to the construction.

JUN 7 1973

An amendment to SUA-647 is not required to increase production capacity up to 4000 tons of ore per day utilizing presently installed facilities. Thus steps taken such as initiating three work shifts do not require an environmental report.

Sincerely,

Original Signed by
Leland C. Rouse

L. C. Rouse, Chief
Fuel Fabrication and Reprocessing
Branch
Directorate of Licensing

Enclosure:
1. National Environmental Policy Act of 1969
2. 10 CFR Part 50
3. Guide to the Preparation of Uranium Mill Environmental Reports
4. 10 CFR Part 40

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RO, HQ

Letter retyped in its entirety - See previous yellow for concurrences

FICE ▶	L:MB	L:MB	OGC	L:MB	L:FFRB	
IAME ▶	DMCollins:pw	JKRendig	JMBecker	JCMalaro	LCRouse	

The Anaconda Company
ATTN: Mr. A. J. Fitch
Manager, New Mexico Operations
P.O. Box 638
Grants, New Mexico 87020

Gentlemen:

Thank you for your letter of January 26, 1973, providing details of your proposal to install and operate additional processing equipment in the Blue Water Uranium Ore Processing Plant in order to increase capacity to the currently authorized maximum of 4,000 tons of ore per day.

Under the National Environmental Policy Act of 1969 (NEPA), a copy of which is enclosed, each Federal Agency is required to consult with the appropriate Federal, State, and local agencies concerning major Federal Actions significantly affecting the quality of the human environment and to prepare a detailed statement concerning the environmental impact of the proposed action. Enclosed is a published statement of general policy, 10 CFR Part 50, Appendix D, which indicates the manner in which the Commission exercises its regulatory responsibilities under that Act. As the policy statement indicates, the Commission has identified the licensing of uranium mills as an action which requires the preparation of a detailed environmental statement.

It has been determined that amendment of the Anaconda Company's license to authorize construction and use of the additional processing equipment constitutes a major Federal action which will require preparation of an Environmental Statement. To assist us in preparing such a statement the Anaconda Company should submit a detailed Environmental Report.

To assist you in the preparation of the report, copies of 10 CFR Part 50, a copy of informal guidelines for the preparation of environmental reports for uranium mills, are enclosed. A copy of the AEC Licensing Guide, "Guide to the Preparation of Environmental Reports for Uranium Mills" should be available within 6 weeks and will be forwarded to you when available. The Environmental Report should address in detail those subjects described by 10 CFR Part 50, Appendix D, Section A.

You will note that paragraph 14 of Section A requires you to submit 200 copies of the report. Section 40.31 of 10 CFR Part 40, copy enclosed, requires that an environmental report be submitted 9 months prior to the construction.

An amendment to SUA-647 is not required to increase production capacity up to 4000 tons of ore per day utilizing presently installed facilities. Thus steps taken such as initiating three work shifts do not require an environmental report.

Sincerely,

James C. Malaro, Chief
Materials Branch
Directorate of Licensing

Enclosure:
1. National Environmental Policy Act of 1969
2. 10 CFR Part 50
3. Informal Guide to the Preparation of Uranium Mill Environmental Reports

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R IV
New Mexico Dept. of Public Health

OCT 16 1972

The Anaconda Company
ATTN: Mr. A. J. Pitch
Manager
P.O. Box 638
Grants, New Mexico 87020

Gentlemen:

This is to inform you that your license will have to be amended to authorize the increase in capacity of the Bluewater uranium processing plant as described in your letter of June 12, 1972.

Accordingly, you should submit a formal request for amendment of your license and provide the Commission with a detailed description of the following topics:

1. Proposed processing facilities.

2. Changes in procedures which result from this operation.

3. Changes to the personnel radiation safety program or additional radiation safety procedures to be established.

For the purpose of determining whether a complete environmental review is required in accordance with the National Environmental Policy Act, please provide us with the following information:

1. An estimate of the impact of the air effluents from the proposed action on the surrounding environs.

2. The life expectancy of the well used for disposal of wastes as a result of the proposed action, and the relationship of the life expectancy to the life of the mine and mill.

3. An estimate of the impact on the subterranean environment surrounding the well resulting from the proposed action.

Sincerely,

ORIGINAL SIGNED BY
JOHN F. KENDIG

John F. Kendig
Materials Branch
Directorate of Licensing

OFFICE ▶	L:MB	L:MB				
NAME ▶	JFKendig:jc	JCMalaro				
DATE ▶	10/ /72	10/ 13/72				

Docket File

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40-665

The Anaconda Company
ATTN: Mr. A. J. Fitch
Manager
P. O. Box 638
Grants, New Mexico 87020

Gentlemen:

Thank you for your letter of February 25, 1972, which provided the results of surveys required by Condition 13 of your AEC Source Material License No. SUA-647. Your cooperation is appreciated.

Sincerely,

ORIGINAL SIGNED BY
JAMES C. MALARO

James C. Malaro
Assistant Chief
Materials Branch
Division of Materials Licensing

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MB:DFH
I-665
647, Amendment No. 1

JUL 28 1971

The Anaconda Company
ATTN: Mr. A. J. Fitch
Manager
P. O. Box 638
Grants, New Mexico 87020

Gentlemen:

As requested in your letter of June 22, 1971, Item 15 of AEC Source Material License No. SUA-647 is hereby amended to read as follows:

15. Changes in the mill circuit or equipment shall be approved in writing by the Mill Manager or Assistant Mill Manager. Maintenance activities shall be approved in writing by the Mill Manager, Assistant Mill Manager or the Mill Shift Foreman.

All other conditions of this license shall remain the same.

FOR THE ATOMIC ENERGY COMMISSION

ORIGINAL SIGNED BY
JAMES C. MALARO

James C. Malaro
Assistant Chief
Materials Branch
Division of Materials Licensing

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C. Buchanan, DML (2)

OFFICE ▶	DML:MB	DML:MB				
SURNAME ▶	DF Harmon	JC Malaro				
	7/26/71	7/26/71				

MB:DFH
665

FEB 18 '71

Anaconda Company
ATTN: Mr. A. J. Fitch
Manager
P. O. Box 638
Grants, New Mexico 87020

Gentlemen:

Thank you for your letter of February 3, 1971, which provided the results of surveys required by Condition 13 of your AEC Source Material License No. SUA-647.

Your cooperation is appreciated.

Sincerely,

James C. Malaro
Assistant Chief
Materials Branch
Division of Materials Licensing

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31827						
NAME ▶	DFHarmon:jjh	JCMalaro				

:DFH
665

MAR 5 1970

The Anaconda Company
P. O. Box 638
Grants, New Mexico 87020

Attention: Mr. A. J. Fitch
Manager

Gentlemen:

Thank you for your letter of February 16, 1970, which provided results of surveys required by Condition 13 of your AEC Source Material License No. SUA-647.

Your cooperation is appreciated.

Sincerely,

Original Signed by
Donald A. Nussbaumer

Donald A. Nussbaumer, Chief
Source & Special Nuclear
Materials Branch
Division of Materials Licensing

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Compliance, Region IV
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M. A. Dean, DML
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RNAME ▶	DFHarmon/vjh	DANussbaumer				
	2/ 24 /70	3/ 4 /70				

DFH
65

MAR 4 1969

The Anaconda Company
P. O. Box 638
Grants, New Mexico 87020

Attention: Mr. A. J. Fitch
Manager

Gentlemen:

Thank you for your letter of February 21, 1969, which provided results of surveys required by Condition 13 of ABC Source Material License No. SUA-647.

Your cooperation with us is appreciated.

Sincerely,

Original Signed by
Donald A. Nussbaumer

Donald A. Nussbaumer, Chief
Source & Special Nuclear Materials
Branch
Division of Materials Licensing

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SURNAME ▶	DFHarmon:sr	DANussbaumer				
	3/4/69	3/4/69				

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

RMF:DML:ND
40-665

JUN 20 1968

The Anaconda Company
P. O. Box 638
Grants, New Mexico 87020

SUBJECT: NOTICE OF LICENSE EXPIRATION

Gentlemen: **Attention: Mr. A. J. Fitch**

Notice is given that Source Material License Number SUA-647 expires on **August 31, 1968.**

If you desire to continue your program using source material(s), an application for renewal of the license should be filed with this office. It is to your advantage to file such an application at least thirty (30) days before the expiration date of your existing license. The application should be submitted using Form AEC-2, enclosed, in accordance with the instructions provided with the form. Your program will then be covered by your existing license until action is taken on your application for license renewal. (Title 10, Code of Federal Regulations, Part 40, Section 40.43(b)). If an application is received less than 30 days prior to the expiration date of your license and cannot be processed before your existing license expires, this could result in your possessing source material without a valid license.

If you do not wish to renew your license, please complete the enclosed form "Certification of Status of Source Material Activities under United States Atomic Energy Commission Source Material License Number SUA-647", and return it to this office.

If you have obtained an amendment which has extended the expiration date of the above license or if a new license has been issued which supersedes the above license, please disregard this notice.

This notice of your license expiration is sent for your convenience and it should not be interpreted that similar notices will be sent in the future. The responsibility for timely submission of an application for license renewal remains with the licensee.

Very truly yours,

Dictated 6/20/68
Approved 6/20/68

Donald A. Nussbaumer

Donald A. Nussbaumer, Chief
Source & Special Nuclear Materials Branch
Division of Materials Licensing

Enclosures:
1. 10 CFR, 20 & 40
2. Form AEC-2
3. "Certification "

MAR 0 5 1968

:DFH
665

The Anaconda Company
P. O. Box 638
Grants, New Mexico 87020

Attention: Mr. A. J. Fitch
Manager

Gentlemen:

Thank you for your letter of January 29, 1968, which provided results of surveys required by Condition 13 of AEC Source Material License No. SUA-647.

Your cooperation with us is appreciated.

Very truly yours,

Donald A. Nussbaumer, Chief
Source & Special Nuclear Materials
Branch
Division of Materials Licensing

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N. Doulos, DML

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NAME ▶	DFHarmon:jj	DANussbaumer				
	3/7/68	3/4/68				

:DPH
665

FEB 23 1967

The Anaconda Company
P. O. Box 638
Grants, New Mexico 87020

Attention: Mr. A. J. Fitch
Manager

Gentlemen:

Thank you for your letter of February 2, 1967, which provided results of surveys required by Condition 13 of AEC Source Material License No. SUA-647.

Your cooperation with us is appreciated.

Very truly yours,

Donald A. Nussbaumer, Chief
Source & Special Nuclear Material
Branch
Division of Materials Licensing

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D. Harmon, DML

FICE ▶	DML	DML				
NAME ▶	DHarmon/jc	DNussbaumer				

L:DFH
-665
A-647, Amendment No. 1

NOV 4 - 1966

The Anaconda Company
P. O. Box 638
Grants, New Mexico 87020

Attention: Mr. A. J. Fitch
Manager

Gentlemen:

In accordance with your application dated October 3, 1966, Item 10 of AEC Source Material License No. SUA-647 is hereby amended as follows:

"10. The licensee is hereby exempt from the requirements of Section 20.203(e)(2) of 10 CFR 20 for areas within the mill provided all entrances to the mill are conspicuously posted in accordance with Section 20.203(e)(2) and with the words, "Any area within this mill may contain radioactive material."

FOR THE ATOMIC ENERGY COMMISSION

Don F. Harmon
Source & Special Nuclear Materials
Branch
Division of Materials Licensing

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N. Doulos, DML (3)
Van Blarcom, RM (2)
State Health

OFFICE ▶	DML					
NAME ▶	DHarmon/jc					
	11/2/66					

FEB 10 1966

L:DFH
-665

The Anaconda Company
P. O. Box 638
Grants, New Mexico 87020

Attention: Mr. A. J. Fitch
Manager

Gentlemen:

Thank you for your letter of January 27, 1966, which provided results of surveys required by Condition 13 of AEC Source Material License No. SUA-647.

Your cooperation with us is appreciated.

Very truly yours,

Donald A. Nussbaumer, Chief
Source & Special Nuclear Materials Branch
Division of Materials Licensing

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OFFICE ▶	DML	DML				
SNAME ▶	DFHarmon:sr	DNussbaumer				

FEB 17 1965

L:DFH
-665

The Anaconda Company
P. O. Box 638
Grants, New Mexico

Attention: Mr. A. J. Fitch
Manager

Gentlemen:

Thank you for your letter of February 5, 1965, which furnished results of surveys as required by Condition 13 of AEC Source Material License No. SUA-647. We will contact you should additional information be required.

Your cooperation with us in this matter is appreciated.

Very truly yours,

Donald A. Nussbaumer, Chief
Source & Special Nuclear Materials Branch
Division of Materials Licensing

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NAME ▶	DHarmon:ss	DNussbaumer				
	2/17/65	2/17/65				

FEB 20 1964

:DFH
665

The Anaconda Company
New Mexico Operations
P. O. Box 638
Grants, New Mexico

Attention: Mr. A. J. Fitch
Manager

Gentlemen:

Thank you for your letter of February 11, 1964, which furnished results of surveys required by Condition 13 of AEC Source Material License No. SUA-647.

Your cooperation with us is appreciated.

Very truly yours,

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Br. & Div. rfs
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D. Harmon

Donald A. Nussbaumer, Chief
Source and Special Nuclear Material Branch
Division of Licensing and Regulation

OFFICE ▶	LR	LR				
NAME ▶	Harmon/jr	DNussbaumer				

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

IN REPLY REFER TO:
IR:DH
40-665

NOV 14 1963

The Anaconda Company
P. O. Box 638
Grants, New Mexico

Attention: Mr. A. J. Fitch
Manager

Gentlemen:

The milling of uranium ore by AEC licensees has resulted in the production of large quantities of solid waste tailings.

These wastes (ore residues) normally contain by weight, about 0.02 percent uranium. They also contain small quantities of naturally occurring radioisotopes which were present in the initial ore as uranium daughter products and waste chemicals such as acids, alkalies, salts, and organics. From a radiological standpoint, the principal radioisotope presently appears to be radium-226.

These slightly radioactive tailings are located on milling properties owned or controlled by licensees. As you know, licensees are required to maintain control of the tailings in accordance with their licenses and applicable AEC regulations, particularly 10 CFR, Part 20, "Standards for Protection Against Radiation."

Recent changes in the Commission's procurement program and the depletion of ore bodies in some areas have resulted in the shutting down of a number of mills and upgraders. Other mills which are presently operating may close after present Commission contracts expire.

In response to inquiries of mill licensees, we have previously furnished such licensees with the attached contamination limits, which should be met prior to the transfer of buildings and equipment to individuals who do not hold appropriate AEC source material licenses. We have not yet, however, determined whether control of solid tailings at closed uranium mills for radiological safety purposes is within the Commission's regulatory jurisdiction;

NOV 14 1963

or if so, whether there is a need for the adoption of requirements for the control of these tailings. We have initiated survey programs to obtain data which will assist in the determination of these questions.

Accordingly, we do not plan to terminate uranium milling licenses until we have concluded our review of the tailings problem and reached a decision as to what control measures, if any, are appropriate under the circumstances.

Your cooperation with us in this matter is appreciated.

Sincerely yours,

Eber R. Price
Acting Director

Director
Division of Licensing and Regulation

Enclosure:
Contamination Limits

RADIOACTIVITY CONTAMINATION LIMITS FOR

ABANDONMENT OF URANIUM MILLS

1. The maximum amount of fixed alpha radioactivity in disintegrations per minute per 100 square centimeters on buildings or equipment is 25,000.

2. The average amount of fixed alpha radioactivity in disintegrations per minute per 100 square centimeters on buildings or equipment is 5,000.

3. The maximum amount of removable (capable of being removed by wiping the surface with a filter paper or soft absorbent paper) alpha radioactivity in disintegrations per minute per 100 square centimeters on buildings or equipment is 1,000.

4. (a) The maximum level at one centimeter from the most highly contaminated surface of a building or piece of equipment measured with an open-window beta-gamma survey meter through a tissue equivalent absorber of not more than seven milligrams per square centimeter does not exceed one millirad per hour.

   (b) The average radiation level at one centimeter from the contaminated surface of the building or equipment measured in the same manner does not exceed 0.2 millirad per hour.

The Anaconda Company
Grants, NM

March [illegible] 1974 | March [illegible], 1974 | 0787

LTR. | MEMO: | R | T: | OTHER:

X

TO:

Division of Materials Licensing

ORIG.: 1 | CC: | OTHER:

ACTION NECESSARY ☐ | CONCURRENCE ☐ | DATE ANSWERED:
NO ACTION NECESSARY ☐ | COMMENT ☐ | BY:

CLASSIF: U | POST OFFICE | REG. NO:

FILE CODE: Docketb No. 40-665

DESCRIPTION: (Must Be Unclassified)
Ltr. trans:

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RO			

ENCLOSURES:
Yearly Summary Report of the Disposal Well Injection Program for 1973

3 cys

DO NOT REMOVE

REMARKS:

0787 eeb

U.S. ATOMIC ENERGY COMMISSION

MAIL CONTROL FORM FORM AEC-3285 (8-60)

☆ U.S. GOVERNMENT PRINTING OFFICE: 1973 - 503-135

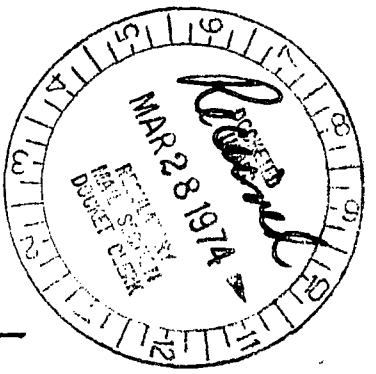
Regulatory File Cy.

THE ANACONDA COMPANY

P. O. BOX 638, GRANTS, NEW MEXICO 87020

NEW MEXICO OPERATIONS
A. J. FITCH
MANAGER

March 25, 1974



Source and Special Materials Branch
Division of Materials Licensing
United States Atomic Energy Commission
Washington, D.C. 20545

Re: Docket No. 40--665

Gentlemen:

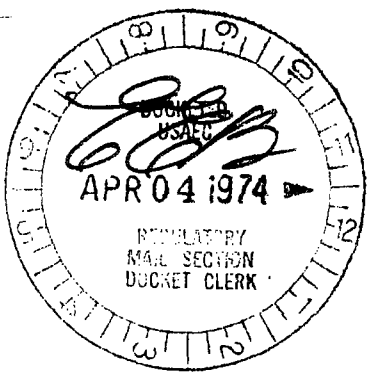
In accordance with condition 13(c) of our Source Material License No. SUA-647, I am sending you three copies of the Yearly Summary Report of the Disposal Well Injection Program for 1973.

Yours very truly,

A. J. FITCH

AJF:hr

Enclosures



0787

March 21, 1974

MEMORANDUM FOR RECORD

SUBJECT: Yearly Summary Report of the Disposal Well Injection Program for 1973.

Presented in this report are the following tabulations of data pertaining to the operation of the disposal well program during the period from January 1, 1973 to January 1, 1974.

I. Average Monthly Injection Rates.

II. Concentrations of Radioactive Constituents in Injection Liquid.

III. Radiological Analyses of Monitored Well and Surface Waters.

IV. Static Water Levels of Wells in the San Andres-Glorieta Aquifer in the Vicinity of the Anaconda Mill and Disposal Well.

Respectfully submitted,

Elrod C. Leany

ELROD C. LEANY
Radiation Safety Engineer

ECL:hr

c: A. J. Fitch (4)
T. R. Beck
E. A. Lucero
G. A. Swanquist

ATTACHMENT I

AVERAGE MONTHLY LIQUID INJECTION RATES

	Gallons Injected
January 1973	13,275,400
February 1973	10,271,100
March 1973	8,352,540
April 1973	7,516,140
May 1973	7,174,200
June 1973	9,902,640
July 1973	9,243,800
August 1973	9,729,750
September 1973	6,284,325
October 1973	7,807,200
November 1973	2,189,550
December 1973	8,883,470
Total 1-1-73 to 1-1-74	100,630,115
Average Injection Rate	8,385,843

ATTACHMENT II

CONCENTRATION OF RADIOACTIVE CONSTITUENTS IN INJECTION LIQUID

	Ra -226 uc/ml x 10^8	Th -230 uc/ml x 10^8	U Natural uc/ml x 10^6
January 1973	4.41	1.51	12.0
February 1973	7.38	1.51	11.6
March 1973	8.03	1.44	13.4
April 1973	7.48	1.48	16.3
May 1973	30.50	1.65	19.4
June 1973	13.26	2.06	19.6
July 1973	7.32	2.44	18.0
August 1973	24.4	1.60	12.4
September 1973	12.6	2.27	11.4
October 1973	6.94	1.45	14.7
November 1973	4.84	1.92	16.8
December 1973	8.56	2.00	13.6

ATTACHMENT III

RADIOLOGICAL ANALYSES OF MONITORED WELL AND SURFACE WATERS FOR THE MONTHS OF MAY AND NOVEMBER 1973

THE ANACONDA COMPANY

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF May 1973

DESCRIPTIVE LOCATION		Gross Alpha uCi/ml x 10^{8}	Ra-226 uCi/ml x 10^{8}	Th-230 uCi/ml x 10^{6}	U-nat. uCi/ml x 10^{5}
Suburban Gas	11.10.27.433	3.1 ± 0.60	less than 0.2	less than 0.004	0.0011
Berryhill Section 5	12.10. 5.341a	No Sample			
North Well	12.10. 7.143	1.4 ± 0.40	less than 0.2	less than 0.004	0.00094
Monitor Well #1	12.10. 8.332	7.3 ± 0.94	less than 0.2	less than 0.004	0.00495
Roundy Windmill	12.10.12.433a	5.8 ± 0.82	less than 0.2	less than 0.004	0.00325
Murray	12.10.27.431	No Sample			
Mexican Camp	12.10.30.112	0.40 ± 0.11	less than 0.2	less than 0.004	0.00019
Jack Freas	12.10.30.242	0.47 ± 0.13	less than 0.2	less than 0.004	0.00012
Joy Manufacturing	12.10.35.322	0.68 ± 0.26	less than 0.2	less than 0.004	0.00038
Berryhill House	12.11.11.334	0.51 ± 0.19	less than 0.2	less than 0.004	0.00026
Anaconda #2	12.11.24.233	17.6 ± 1.3	less than 0.2	less than 0.004	0.0082
Anaconda #4	12.11.25.214	0.90 ± 0.22	less than 0.2	less than 0.004	0.00030
Wilcoxson (P.Harris)	13. 9.16.411	6.5 ± 0.87	0.36 ± 0.07	less than 0.004	0.0044

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF May 1973

DESCRIPTIVE LOCATION		Gross Alpha uCi/ml x 10^8	Ra-226 uCi/ml x 10^8	Th-230 uCi/ml x 10^6	U-nat. uCi/ml x 10^5
Sabre-Pinon	12.10.20.333a	0.77 ± 0.18			0.00025
Card Electric	12.10.29.434a	No Sample			
Harding Irrigation	12.10.30.421	No Sample			
Fred Freas	12.10.30.433	0.62 ± 0.15			0.00024
Chapman	12.10.32.211a	0.38 ± 0.11			0.00008
Thunderbird Post	12.11.10.411a	0.90 ± 0.22	less than 0.2	less than 0.004	0.00040
Tailing Pond	12.11.13.Pond	Not determined	21.7	165.	1.94
Engineers Well	12.11.14.213	2.5 ± 0.37	less than 0.2	less than 0.004	0.00065
L.D.S. Bluewater	12.11.22.234	0.48 ± 0.19			0.00014
Roundy Harmon	12.11.23.231	0.66 ± 0.18			0.00016
Auros Motel	12.11.24.334a	0.93 ± 0.26	less than 0.2	less than .0.004	0.00032
Power House Pond	12.11.24.PHP	144. ± 0.9	0.32 ± 0.07	less than 0.004	0.17
Webb Windmill	12.11.25.122a	No Sample			
Anaconda #3	12.11.25.213	0.51 ± 0.14	less than 0.2	less than 0.004	0.00015
Mt. Taylor Corp.	13. 9.29.343	No Sample			

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF May 1973

DESCRIPTIVE LOCATION		Gross Alpha uCi/ml x 10^{8}	Ra-226 uCi/ml x 10^{8}	Th-230 uCi/ml x 10^{6}	U-nat. uCi/ml x 10^{5}
Cottonwood Spring	10. 9. 6.442	1.2 ± 0.46	less than 0.2	less than 0.004	0.00031
Del Padre Spring	10. 9. 7.222	2.4 ± 0.92	less than 0.2	less than 0.004	0.00071
Gottlieb Poison #2	10. 9.17.113a	0.59 ± 0.36			0.00016
Gottlieb Butane	10. 9.23.134	0.16 ± 0.07			0.00011
Horace Springs	10. 9.26.222	0.27 ± 0.15			0.00008
San Rafael	10.10. 3.433a	0.54 ± 0.18			0.00019
Heath Well	10.10.15.233	No Sample			
Republic	11.10. 2.111	1.53 ± 0.33	less than 0.2	less than 0.004	0.00064
Vidal	11.10. 5.213	0.36 ± 0.12			0.00022
Milan Chinle	11.10.21.211	0.33 ± 0.10			0.00020
Grants-San Andres	11.10.26.Tap	0.35 ± 0.13			0.00020
Schneemann	11.11.23.333	0.33 ± 0.06			0.00028
Greater Grants Airport	12.10.26.322a	No Sample			
Card Gas	12.10.27.333	No Sample			
Card Commissary	12.10.33.444	1.9 ± 0.34	less than 0.2	less than 0.004	0.00046
Murray #1	12.10.34.224	1.1 ± 0.29	less than 0.2	less than 0.004	0.00028
Sandoval	13. 9.22.212	0.97 ± 0.21	less than 0.2	less than 0.004	0.00054

THE ANACONDA COMPANY

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF November 1973

DESCRIPTIVE LOCATION		Gross Alpha uCi/ml x 10^{8}	Ra-226 uCi/ml x 10^{8}	Th-230 uCi/ml x 10^{6}	U-nat. uCi/ml x 10^{5}
Suburban Gas	11.10.27.433	2.09 ± 0.50	less than 0.2	less than 0.004	0.00089
Berryhill Section 5	12.10. 5.341a	No Sample			
North Well	12.10. 7.143	2.51 ± 0.52	less than 0.2	less than 0.004	0.0010
Monitor Well #1	12.10. 8.332	6.91 ± 0.96	less than 0.2	less than 0.004	0.0057
Roundy Windmill	12.10.12.433a	5.58 ± 0.82	less than 0.2	less than 0.004	0.0038
Murray	12.10.27.431	No Sample			
Mexican Camp	12.10.30.112	0.37 ± 0.11	less than 0.2	less than 0.004	0.00023
Jack Freas	12.10.30.242	0.35 ± 0.11			0.00010
Joy Manufacturing	12.10.35.322	0.55 ± 0.23	less than 0.2	less than 0.004	0.00031
Berryhill House	12.11.11.334	0.69 ± 0.22	less than 0.2	less than 0.004	0.00031
Anaconda #2	12.11.24.233	17.2 ± 1.4	less than 0.2	less than 0.004	0.015
Anaconda #4	12.11.25.214	0.51 ± 0.20	less than 0.2	less than 0.004	0.00028
Wilcoxson (P.Harris)	13. 9.16.411	1.39 ± 0.40	less than 0.2	less than 0.004	0.0011

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF November, 1973

DESCRIPTIVE LOCATION		Gross Alpha uCi/ml x 10^8	Ra-226 uCi/ml x 10^8	Th-230 uCi/ml x 10^6	U-nat. uCi/ml x 10^5
Sabre-Pinon	12.10.20.333a	0.26 ± 0.09			0.00006
Card Electric	12.10.29.434a	No Sample			
Harding Irrigation	12.10.30.421	No Sample			
Fred Freas	12.10.30.433	0.39 ± 0.12			0.00016
Chapman	12.10.32.211a	0.44 ± 0.13			0.00014
Thunderbird Post	12.11.10.411a	No Sample			
Tailing Pond	12.11.13.Pond	Not Determined	4.84	192.	1.68
Engineers Well	12.11.14.213	0.80 ± 0.21	less than 0.2	less than 0.004	0.00045
L.D.S. Bluewater	12.11.22.234	0.43 ± 0.17			0.00025
Roundy Harmon	12.11.23.231	0.56 ± 0.21			0.00020
Auros Motel	12.11.24.334a	0.41 ± 0.12			0.00012
Power House Pond	12.11.24.PHP	111. ± 4.2	0.18 ± 0.005	less than 0.004	0.14
Webb Windmill	12.11.25.122a	No Sample			
Anaconda #3	12.11.25.213	0.58 ± 0.18	less than 0.2	less than 0.004	0.00019
Mt. Taylor Corp.	13. 9.29.343	No Sample			

ATTACHMENT IV

STATIC WATER LEVELS OF WELLS IN THE SAN ANDRES-GLORIETA AQUIFER IN THE VICINITY OF THE ANACONDA MILL AND DISPOSAL AREA

Well Description	Date of Measurement	Static Water Level Feet above mean sea level
Anaconda #1	1-1-73	6444.0
12.11.24.411	1-6-74	6645.5
Anaconda #2	1-1-73	6443.8
12.11.24.233	1-6-74	6445.3
Anaconda #3	1-1-73	6443.9
12.11.25.213	1-6-74	6446.3
Anaconda #4	1-1-73	6443.7
12.11.25.214	12-24-73	6446.7
Monitor Well #1	12-26-72	6446.6
12.10.8.332	1-3-74	6449.8
North Well	12-26-72	6451.8
12.10.7.143	1-3-74	6455.2

FROM:

The Anaconda Comp.
P.O. Box 11309
Tucson, Arizona 85734

TO:

Jack Rothfleisch

DATE OF DOCUMENT: August 9, 1973

DATE RECEIVED: August 13, 1973

NO.: 6216

LTR. X | MEMO: | REPORT: | OTHER:

ORIG.: 1 | CC: | OTHER:

ACTION NECESSARY	☐	CONCURRENCE	☐	DATE ANSWERED:	
NO ACTION NECESSARY	☐	COMMENT	☐	BY:	

CLASSIF: U

POST OFFICE

REG. NO:

FILE CODE: Docket No. 40-665

DESCRIPTION: (Must Be Unclassified)

Ltr. pertaining to telecon discussion.....

ENCLOSURES:

REMARKS:

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U.S. ATOMIC ENERGY COMMISSION

MAIL CONTROL FORM FORM AEC-3265 (8-60)

☆ U.S. GOVERNMENT PRINTING OFFICE: 1973 — 486-468

40-665

THE ANACONDA COMPANY

PRIMARY METALS DIVISION
P.O. BOX 11309, TUCSON, ARIZONA 85706 85734

August 9, 1973

DOCKETED USAEC AUG 14 1973

RECEIVED AUG 13 1973

Mr. Jack Rothfleisch
Project Reviewer
Atomic Energy Commission
Directorate of Licensing
Washington, D. C. 20545

Re: SOURCE MATERIAL LICENSE SUA-647

Dear Mr. Rothfleisch:

Pursuant to our earlier telephone discussions, it is my understanding that Anaconda, under its existing Source Material License, may enter into an agreement with another source material licensee, holding an appropriate license, whereby Anaconda's Uranium ores would be processed under a tolling arrangement and the resulting yellow-cake return to Anaconda.

I would appreciate your confirmation if the foregoing is correct. Thank you for your assistance.

Very truly yours,

Colin C. Howard

Colin C. Howard
Counsel

CCH:bb

6210

* GOVERNMENT PRINTING OFFICE: 1972 — 461-842

FROM:	DATE OF DOCUMENT	DATE RECEIVED	NO.:
The Anaconda Company Grants, NM87020 A.J. Fitch	May 14, 1973	May 17, 1973	3225

LTR.	MEMO:	REPORT:	OTHER:
X			

TO: J.F. Kendig

ORIG.:	CC:	OTHER:
X		

ACTION NECESSARY ☐	CONCURRENCE ☐	DATE ANSWERED:
NO ACTION NECESSARY ☐	COMMENT ☐	BY:

CLASSIF: UNCLAS — POST OFFICE REG. NO:

FILE CODE: DOCKET 40-665

DESCRIPTION: (Must Be Unclassified)

Ltr., requesting status of their plans to increase the capacity of their uranium ore processing plant

ENCLOSURES:

REFERRED TO	DATE	RECEIVED BY	DATE
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ACKNOWLEDGED

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REMARKS:

U.S. ATOMIC ENERGY COMMISSION **MAIL CONTROL FORM** FORM AEC-326S (8-60)

Regulatory File Cy

THE ANACONDA COMPANY

P. O. BOX 638, GRANTS, NEW MEXICO 87020

NEW MEXICO OPERATIONS
A. J. FITCH
MANAGER

May 14, 1973

Materials Branch
Directorate of Licensing
United States Atomic Energy Commission
Washington, D.C. 20545

Attention: Mr. John F. Kendig

Re: Docket No. 40-665

Gentlemen:

In my letter of January 26, 1973, I submitted information you requested concerning our plans to increase the capacity of our uranium ore processing plant.

We would appreciate very much hearing from you in this matter and would be pleased to submit any additional information that might be necessary.

Yours very truly,

A. J. Fitch

A. J. FITCH

AJF:hr

DOCKETED
USAEC
MAY 18 1973
REGULATORY
DOCKET CLERK

3225

U.S. GOVERNMENT PRINTING OFFICE: 1972 — 461-082

FROM: The Anaconda Company Grants, New Mexico 87020 A. J. Fitch	DATE OF DOCUMENT March 23, 1973	DATE REC'D March 28, 1973	NO.: 2023
TO: DML	LTR.: X MEMO: REPORT: OTHER: ORIG.: 1 CC: OTHER: xxExx		
CLASSIF: U POST OFFICE REG. NO:	ACTION NECESSARY ☐ NO ACTION NECESSARY ☐ CONCURRENCE ☐ COMMENT ☐ FILE CODE: DOCKET: 40-865	DATE ANSWERED: BY:	

DESCRIPTION: (Must Be Unclassified)

Ltr. trans. the following in accordance with Condition 13(c) of SUA-647.....:

ENCLOSURES:
(3 cys. rec'd.)
Yearly Summary Report of the Disposal Well Injection Program for 1972

REMARKS:
Distribution: 1-FDR cy.
1-R. O.

REFERRED TO	DATE	RECEIVED BY	DATE
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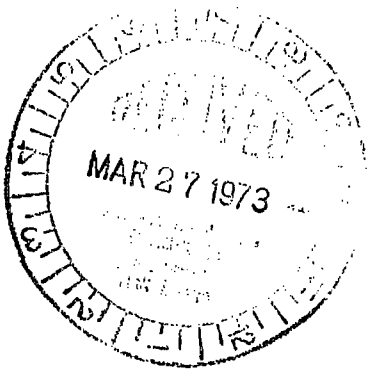
FILE CHARGED TO COLLINS.			
DO NOT REMOVE!			
ACKNOWLEDGED			DJQ

U.S. ATOMIC ENERGY COMMISSION MAIL CONTROL FORM FORM AEC-326S (8-60)

THE ANACONDA COMPANY

P. O. BOX 638, GRANTS, NEW MEXICO 87020

NEW MEXICO OPERATIONS
A. J. FITCH
MANAGER



March 23, 1973

Source and Special Materials Branch
Division of Materials Licensing
United States Atomic Energy Commission
Washington, D.C. 20545

REGULATORY FILE CY.

Re: Docket No. 40-665

Gentlemen:

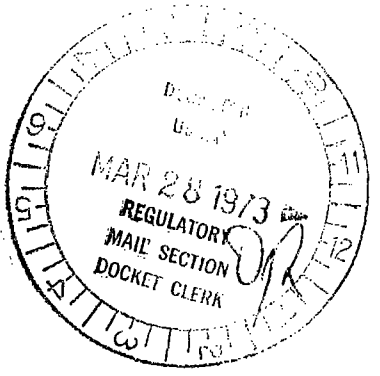
In accordance with condition 13(c) of our Source Material License No. SUA-647, I am sending you three copies of the Yearly Summary Report of the Disposal Well Injection Program for 1972.

Complete records of all phases of the disposal well injection program are being maintained and are available for your inspection at any time.

Yours very truly,

A. J. Fitch

A. J. FITCH

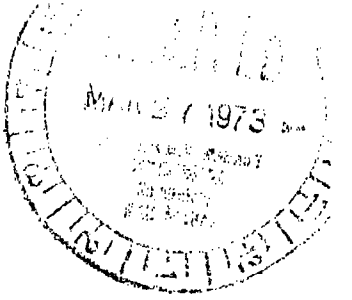


AJF:hr

Enclosures

3023

ACKNOWLEDGED



March 23, 1973

MEMORANDUM FOR RECORD

SUBJECT: Yearly Summary Report of the Disposal Well Injection Program for 1972.

Presented in this report are the following tabulations of data pertaining to the operation of the disposal well program during the period from January 1, 1972 to January 1, 1973.

I. Average Monthly Injection Rates.

II. Concentrations of Radioactive Constituents in Injection Liquid.

III. Radiological Analyses of Monitored Well and Surface Waters.

IV. Static Water Levels of Wells in the San Andres-Glorieta Aquifer in the Vicinity of the Anaconda Mill and Disposal Well.

Respectfully submitted,

Elrod C. Leany

ELROD C. LEANY
Radiation Safety Technician

ECL:hr

c: A. J. Fitch (4)
J. P. Herndon
T. R. Beck
G. A. Swanquist

ATTACHMENT I

AVERAGE MONTHLY LIQUID INJECTION RATES

	Gallons Injected
January 1972	10,683,300
February 1972	10,024,920
March 1972	8,261,000
April 1972	4,740,900
May 1972	3,688,400
June 1972	4,525,400
July 1972	780,975
August 1972	54,000
September 1972	0
October 1972	4,644,000
November 1972	8,134,200
December 1972	11,736,720
TOTAL 1-1-72 to 1-1-73	67,273,815
Average Injection Rate	5,606,151

ATTACHMENT II

CONCENTRATION OF RADIOACTIVE CONSTITUENTS IN INJECTION LIQUID

	Ra-226 uc/ml x 10^8	Th-230 uc/ml x 10^4	U-natural uc/ml x 10^6
January 1972	3.58	2.02	14.8
February 1972	3.66	1.92	14.1
March 1972	3.71	2.00	13.4
April 1972	3.82	2.16	16.4
May 1972	10.15	3.16	20.2
June 1972	7.66	4.52	29.7
July 1972	0.95	10.10	75.0
August 1972	No Sample		
September 1972	No Injection		
October 1972	2.74	1.18	12.6
November 1972	2.13	1.05	11.2
December 1972	2.70	1.28	11.2

ATTACHMENT III

RADIOLOGICAL ANALYSES OF MONITORED WELL AND SURFACE WATERS FOR THE MONTHS OF MAY AND NOVEMBER 1972

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF May 1972

DESCRIPTIVE LOCATION		Gross Alpha uCi/ml x 10^8	Ra-226 uCi/ml x 10^8	Th-230 uCi/ml x 10^6	U-nat. uCi/ml x 10^5
Suburban Gas	11.10.27.443	1.5 ± 0.40	less than 0.2	less than 0.004	0.00070
Berryhill Section 5	12.10. 5.341a	0.51 ± 0.28	0.21 ± 0.05	less than 0.004	0.00006
North Well	12.10. 7.143	1.5 ± 0.42	less than 0.2	less than 0.004	0.0011
Monitor Well #1	12.10. 8.332	6.8 ± 0.93	0.20 ± 0.05	less than 0.004	0.0055
Roundy Windmill	12.10.12.433a	4.9 ± 0.76	less than 0.2	less than 0.004	0.0033
Murray	12.10.27.431	0.72 ± 0.25			0.00035
Mexican Camp	12.10.30.112	0.37 ± 0.10	less than 0.2	less than 0.004	0.00022
Jack Freas	12.10.30.242	0.20 ± 0.10			0.00010
Joy Manufacturing	12.10.35.322	0.65 ± 0.25	less than 0.2	less than 0.004	0.00039
Berryhill House	12.11.11.334	0.42 ± 0.17	less than 0.2	less than 0.004	0.00026
Anaconda #2	12.11.24.233	17.5 ± 1.3	less than 0.2	less than 0.004	0.013
Anaconda #4	12.11.25.214	0.61 ± 0.18	less than 0.2	less than 0.004	0.00020
Wilcoxson (P. Harris)	13. 9.16.411	1.4 ± 0.42	less than 0.2	less than 0.004	0.00019

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF May 1972

DESCRIPTIVE LOCATION		Gross Alpha uCi/ml x 10^{8}	Ra-226 uCi/ml x 10^{8}	Th-230 uCi/ml x 10^{6}	U-nat. uCi/ml x 10^{5}
Sabre-Pinon	12.10.20.333a	No Sample			
Card Electric	12.10.29.434a	No Sample			
Harding Irrigation	12.10.30.421	No Sample			
Fred Freas	12.10.30.433	0.40 ± 0.12			0.00021
Chapman	12.10.32.211a	0.30 ± 0.10			0.00021
Thunderbird Post	12.11.10.411a	1.2 ± 0.31	less than 0.2	less than 0.004	0.00060
Tailing Pond	12.11.13.Pond	Not determined	10.1	316.	2.02
Engineers Well	12.11.14.213	1.4 ± 0.28	less than 0.2	less than 0.004	0.00058
L.D.S. Bluewater	12.11.22.234	0.66 ± 0.22			0.00021
Roundy Harmon	12.11.23.231	0.63 ± 0.22			0.00019
Auros Motel	12.11.24.334a	0.58 ± 0.21			0.00014
Power House Pond	12.11.24.PHP	60.6 ± 6.8	2.0 ± 0.17	less than 0.004	0.28
Webb Windmill	12.11.25.122a	No Sample			
Anaconda #3	12.11.25.213	0.74 ± 0.19	less than 0.2	less than 0.004	0.00025
Mt. Taylor Corp.	13. 9.29.343	8.4 ± 0.92	less than 0.2	less than 0.004	0.0052

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF May 1972

DESCRIPTIVE LOCATION		Gross Alpha uCi/ml x 10^8	Ra-226 uCi/ml x 10^8	Th-230 uCi/ml x 10^6	U-nat. uCi/ml x 10^5
Cottonwood Spring	10. 9. 6.442	0.59 ± 0.33			0.00022
Del Padre Spring	10. 9. 7.222	1.4 ± 0.97	less than 0.2	less than 0.004	0.00065
Gottlieb Poison #2	10. 9.17.113a	0.59 ± 0.36			0.00034
Gottlieb Butane	10. 9.23.134	0.28 ± 0.09			0.00022
Horace Springs	10. 9.26.222	0.38 ± 0.15			0.00011
San Rafael	10.10. 3.433a	0.46 ± 0.17			0.00029
Heath Well	10.10.15.233	0.82 ± 0.32	less than 0.2	less than 0.004	0.00081
Republic	11.10. 2.111	1.1 ± 0.30	less than 0.2	less than 0.004	0.00061
Vidal	11.10. 5.213	0.33 ± 0.11			0.00011
Milan Chinle	11.10.21.211	0.32 ± 0.10			0.00014
Grants-San Andres	11.10.26.Tap	0.61 ± 0.17			0.00020
Schneemann	11.11.23.333	0.14 ± 0.05			0.00011
Greater Grants Airport	12.10.26.322a	0.73 ± 0.27			0.00034
Card Gas	12.10.27.333	0.54 ± 0.21			0.00021
Card Commissary	12.10.33.444	1.1 ± 0.23	less than 0.2	less than 0.004	0.00060
Murray #1	12.10.34.224	0.74 ± 0.24	less than 0.2	less than 0.004	0.00052
Sandoval	13. 9.22.212	No Sample			

THE ANACONDA COMPANY

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF November 1972

DESCRIPTIVE LOCATION		Gross Alpha uCi/ml x 10^{8}	Ra-226 uCi/ml x 10^{8}	Th-230 uCi/ml x 10^{6}	U-nat. uCi/ml x 10^{5}
Suburban Gas	11.10.27.433	3.1 ± 0.60	less than 0.2	less than 0.004	0.0022
Berryhill Section 5	12.10. 5.341a	No Sample			
North Well	12.10. 7.143	1.4 ± 0.39	less than 0.2	less than 0.004	0.0012
Monitor Well #1	12.10. 8.332	6.6 ± 0.90	0.21 ± 0.05	less than 0.004	0.0047
Roundy Windmill	12.10.12.433a	No Sample			
Murray	12.10.27.431	No Sample			
Mexican Camp	12.10.30.112	0.25 ± 0.09	less than 0.2	less than 0.004	0.00018
Jack Freas	12.10.30.242	0.18 ± 0.08			0.00012
Joy Manufacturing	12.10.35.322	0.55 ± 0.23	less than 0.2	less than 0.004	0.00045
Berryhill House	12.11.11.334	0.36 ± 0.16	less than 0.2	less than 0.004	0.00029
Anaconda #2	12.11.24.233	14.2 ± 1.2	less than 0.2	less than 0.004	0.012
Anaconda #4	12.11.25.214	0.52 ± 0.17	less than 0.2	less than 0.004	0.00024
Wilcoxson (P.Harris)	13. 9.16.411	4.0 ± 0.68	0.38 ± 0.08	less than 0.004	0.0029

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF November 1972

DESCRIPTIVE LOCATION		Gross Alpha uCi/ml x 10^{8}	Ra-226 uCi/ml x 10^{8}	Th-230 uCi/ml x 10^{6}	U-nat. uCi/ml x 10^{5}
Sabre-Pinon	12.10.20.333a	0.04 ± 0.04			0.00006
Card Electric	12.10.29.434a	No Sample			
Harding Irrigation	12.10.30.421	No Sample			
Fred Freas	12.10.30.433	0.22 ± 0.09			0.00014
Chapman	12.10.32.211a	0.27 ± 0.10			0.00015
Thunderbird Post	12.11.10.411a	0.94 ± 0.24	less than 0.2	less than 0.004	0.00084
Tailing Pond	12.11.13.Pond	Not determined	2.1	105.	1.12
Engineers Well	12.11.14.213	0.81 ± 0.20	less than 0.2	less than 0.004	0.00079
L.D.S. Bluewater	12.11.22.234	0.65 ± 0.21			0.00036
Roundy Harmon	12.11.23.231	0.26 ± 0.05			0.00020
Auros Motel	12.11.24.334a	0.54 ± 0.20			0.00028
Power House Pond	12.11.24.PHP	154. ± 5.0	1.2 ± 0.13	less than 0.004	0.35
Webb Windmill	12.11.25.122a	No Sample			
Anaconda #3	12.11.25.213	0.40 ± 0.13	less than 0.2	less than 0.004	0.00028
Mt. Taylor Corp.	13. 9.29.343	8.2 ± 0.90	less than 0.2	less than 0.004	0.0068

ATTACHMENT IV

STATIC WATER LEVELS OF WELLS IN THE SAN ANDRES-GLORIETA AQUIFER IN THE VICINITY OF THE ANACONDA MILL AND DISPOSAL AREA

Well Description	Date of Measurement	Static Water Level Feet above mean sea level
Anaconda #1	1-2-72	6446.7
12.11.24.411	1-1-73	6440.0
Anaconda #2	1-2-72	6446.4
12.11.24.233	1-1-73	6443.8
Anaconda #3	1-2-72	6448.0
12.11.25.213	1-1-73	6443.9
Anaconda #4	1-2-72	6447.9
12.11.25.214	1-1-73	6443.7
Monitor Well #1	12-31-71	6449.0
12.10.8.332	12-26-72	6446.6
North Well	12-31-71	6454.1
12.10.7.143	12-26-72	6451.8

AEC FORM 783 (4-71)

MATERIALS DATA INPUT

4 SOURCE AND SNM REFERENCE COPY

[redacted]

DOCKET NUMBER	MAIL CONTROL NO.	DATE REQUEST REC'D	PROGRAM CODE (PRIMARY)
040-00665	00668	01/29/73	

SECONDARY PROGRAM CODES:

#1	#2	#3	#4	#5

INDIVIDUAL LICENSEES

NAME	NAME
NAME	NAME
NAME	NAME

ORGANIZATION LICENSEE

ORGANIZATION NAME: **The Anaconda Company**

DEPARTMENT OR BUREAU

TYPE OF ORGANIZATION: U. S. GOVERNMENT AGENCY | EDUCATIONAL INSTITUTION | MEDICAL INSTITUTION | X INDUST | OTHER

ADDRESS

BUILDING, STREET	CITY	STATE	ZIP CODE
	Grants	NM	87020

APPLICANT'S COMMUNICATION DATED:	CLASSIFICATION	ASSIGNED TO:	RESULTING AMD. NO.
01/26/73	U		

ENCLOSURES:

UNCLASSIFIED DESCRIPTION:

Ltr. req to amend SUA-647 to increase the capacity of their Bluewater uranium ore processing plant up to the maximum of 4,000 tons of ore per day.

VOID

DISTRIBUTION: RO
PDR

OTHER REFERRALS

NAME	DATE	NAME	DATE
Malaro: W/Reg. file cy & folder	1/29		crj

Reg. Atory | File Cy.

THE ANACONDA COMPANY

P. O. BOX 638, GRANTS, NEW MEXICO 87020

NEW MEXICO OPERATIONS
A. J. FITCH
MANAGER

RECEIVED JAN 29 1973

January 26, 1973

DOCKETED USAEC JAN 29 1973 REGULATORY MAIL SECTION DOCKET CLERK

Mr. John F. Kendig
Materials Branch
Directorate of Licensing
United States Atomic Energy Commission
Washington, D.C. 20545

Re: Docket No. 40-665

Dear Mr. Kendig:

Reference is made to my letter of June 12, 1972 and to your reply of October 16, 1972, concerning our desire to increase the capacity of our Bluewater uranium ore processing plant up to the maximum of 4,000 tons of ore per day currently authorized by our Source Material License No. SUA-647.

As you may recall, we wish to increase the capacity of the plant in order to process the low-grade ores which occur in the ore deposits at our mines. This will require additional processing equipment, most of which will be of the same general types as we are presently operating.

In accordance with your instructions, request is hereby respectfully made for an amendment to our Source Material License, No. SUA-647, to authorize us to install and operate the additional facilities necessary to increase the capacity of our Bluewater plant up to a maximum of 4,000 tons of ore per day.

Following is the information you requested concerning our proposed plant expansion:

1. Proposed processing facilities.

The proposed additional facilities would consist of the following:

a. Two additional ore grinding mills and related equipment, of the same general types which presently exist. At

present, there are two 5' x 12' grinding mills. The two additional mills would provide greater grinding capacity and would be located in the existing building, adjacent to the existing mills.

b. A maximum of twelve additional leach tanks of the same general type that presently exists, including associated piping, pumps and accessory equipment. The plant presently has two acid leaching circuits of eighteen (18) tanks each. The additional tanks will be installed in the same building, adjacent to the existing tanks.

c. One (1) additional ion exchange (RIP) circuit of the same general type as the two existing circuits, including associated piping and equipment. The existing ion exchange building will be extended to accommodate the additional circuit.

d. Additional precipitation tankage with pumps, piping and related equipment, of the same general type that presently exists. This equipment will be installed in the proposed extension of the ion exchange building, near the existing precipitation facilities.

e. A multiple-hearth furnace for drying yellowcake, with dust collection and other related equipment. This installation will replace existing facilities, will be more efficient and will be located in the existing building.

2. Changes in procedures which result from this operation.

No significant changes in operating procedures will result from the addition of this processing equipment. However, the increased tonnage throughput will require that the crushing plant be operated 3 shifts per day instead of the present schedule of 2 shifts per day. No significant changes in operating procedures will result from this change in schedule, although some additional operating and maintenance personnel will be required as a result of the increase in milling capacity.

3. Changes to the personnel radiation safety program or additional radiation safety procedures to be established.

The additional processing facilities that will be required to increase the milling capacity will not require any significant changes in the radiation safety program or the establishment of new radiation safety procedures. Our existing air sampling, external radiation surveys and other radiation safety programs will merely be expanded to include the additional processing equipment.

You also asked us to provide you with the following information for the purpose of determining whether a complete environmental review is required in accordance with the National Environmental Policy Act:

1. An estimate of the impact of the air effluents from the proposed action on the surrounding environs.

Any additional air effluents that might result from the increase in milling capacity would be generated either in the crushing plant and dry ore handling areas or in the yellowcake section.

With regard to the crushing plant and dry ore handling areas, data from stack sampling of the air effluents from the dust collection systems that serve these areas indicate that we are currently discharging into the restricted area each day approximately 2 microcuries of natural uranium, together with its daughters. The volume of these radioactive constituents will not increase significantly, in view of the lower average grade of ore which will be crushed. Moreover, our dust collection systems have adequate capacity for the greater tonnage of ore.

Stack samplings of the air effluents from the yellowcake drying section indicate that we are currently discharging approximately 400 microcuries of natural uranium per operating day into the restricted area. In view of the lower grade of the ore being processed, the quantity of yellowcake to be dried and the volume of uranium in the stack emissions would not increase substantially. Also, inasmuch as the average uranium content of the yellowcake would not change, the concentration in the stack emissions would

not increase. Environmental samplings have shown that atmospheric dilution and dispersion effectively reduce the concentration of airborne uranium to near-background levels at the perimeter of the restricted area. Therefore, we would not expect the air effluents from the yellowcake section to have any significant effects on the surrounding environs.

2. The life expectancy of the well used for disposal of wastes as a result of the proposed action, and the relationship of the life expectancy to the life of the mine and mill.

The life expectancy of the disposal well was originally estimated to be between 10 and 20 years at a continuous injection rate of 400 gallons per minute. This is equivalent to an injected volume capacity of between 2.1×10^9 and 4.2×10^9 gallons. The estimated volume that will have been injected into the disposal well through June 1974, the target date for completion of the plant expansion, is approximately 1.0×10^9 gallons. The remaining capacity of the injection well as of July 1, 1974 will be between 1.1×10^9 and 3.2×10^9 gallons. We estimate that the amount of fluid to be injected at the increased milling capacity will be about 0.1×10^9 gallons per year. Thus, the disposal well has a projected lifetime of 11 to 32 years from July 1, 1974, or until mid-1985 for the minimum estimate.

The life expectancy of the mine and mill is currently estimated to be slightly more than 12 years, or until early 1985. Therefore, using the more conservative estimate of disposal well life, the remaining capacity of the disposal well should be sufficient to handle the amount of waste that will be injected during the lifetime of the mine and mill.

3. An estimate of the impact on the subterranean environment surrounding the well resulting from the proposed action.

We estimate that the impact of the disposal of the additional waste water will be minimal. This contention is based largely on the very thorough investigation which was conducted in the development of the disposal well. A comprehensive report on this investigation, entitled "Appraisal of Proposed Liquid Waste Disposal by Underground Injection", accompanied our request of July 5, 1960,

to the AEC Division of Licensing and Regulation, for a license amendment to permit the use of the well. The investigation indicated the following points which we feel are still valid:

1. The subterranean disposal zone has adequate capacity to accommodate the estimated total volume of waste water that will be injected during the expected life of the mining and milling operations.

2. It is unlikely that the injected waste water will enter potable water zones. The disposal zone is isolated by extensive, impermeable rock formations and by a carefully constructed disposal well.

3. A comparatively small area will be invaded by the injected waste water. Based on the size and porosity of the disposal zone, the maximum radius of the penetration of the waste water is estimated to be less than 2,000 feet from the well during the life of the operations.

4. The rock formations in the disposal zone will reduce the concentrations of chemical and radioactive constituents in the waste water through neutralization and ion exchange.

5. The water which exists naturally in the disposal zone is certainly unsuitable for domestic use and it is extremely doubtful that it is even suitable for agricultural or industrial use.

We hope that the foregoing is the type of information you need and that it will enable you to amend our Source Material License as we requested. We are now prepared to proceed with the construction of the additional plant facilities and would appreciate hearing from you at your earliest convenience.

Yours very truly,

A. J. FITCH

AJF:hr

FROM:	DATE OF DOCUMENT:	DATE RECEIVED	NO.:
The Anaconda Company Grants, New Mexico 87020 A.J. Fitch	Sept 29, 1972	Oct 4, 1972	5423

LTR.	MEMO:	REPORT:	OTHER:
x			

TO: J.C. Malaro

ORIG.:	CC:	OTHER:
x		

ACTION NECESSARY ☐	CONCURRENCE ☐	DATE ANSWERED:
NO ACTION NECESSARY ☐	COMMENT ☐	BY:

CLASSIF: UNCLAS

POST OFFICE

REG. NO:

FILE CODE: DOCKET FILE NO: 40-665

DESCRIPTION: (Must Be Unclassified)

Ltr., concerning the possibility of expanding their uranium ore processing mill.....

REFERRED TO	DATE	RECEIVED BY	DATE
J. Malaro: W/Reg. File cy	10/3		
Distribution: RO PDR			

ENCLOSURES:

DO NOT REMOVE

REMARKS:

ACKNOWLEDGED

CRJ

U.S. ATOMIC ENERGY COMMISSION

MAIL CONTROL FORM FORM AEC-326S (8-60)

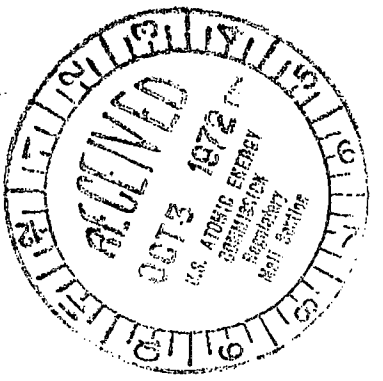
☆ U.S. GOVERNMENT PRINTING OFFICE: 1971—446—158

Reply File Cy.

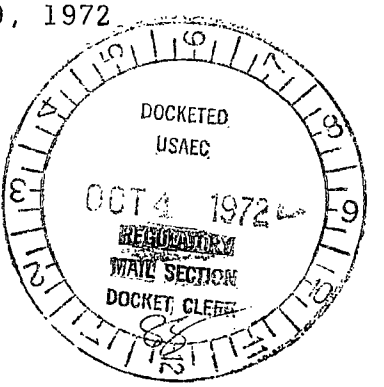
THE ANACONDA COMPANY

P. O. BOX 638, GRANTS, NEW MEXICO 87020

NEW MEXICO OPERATIONS
A. J. FITCH
MANAGER



September 29, 1972



Mr. James C. Malaro, Chief
Materials Branch
Directorate of Licensing
United States Atomic Energy Commission
Washington, D.C. 20545

Re: Docket No. 40-665

Dear Mr. Malaro:

On June 12, 1972, I wrote to you concerning the possibility of expanding our uranium ore processing mill and I asked you as to whether an amendment to our Source Material License No. SUA-647 would be required.

It now appears quite likely that we will go ahead with this expansion in the near future, subject to the licensing requirements. I would, therefore, appreciate very much hearing from you in this matter at the earliest possible date.

Yours very truly,

A. J. Fitch

A. J. FITCH

AJF:hr

5423

FROM: The Anaconda Company
Grants, New Mexico
Mr. A. J. Fitch

DATE OF DOCUMENT: 6-18-72
DATE RECEIVED: 6-19-72
NO.: 3354

LTR: x MEMO: REPORT: OTHER:

TO: J. C. Malaro

ORIG.: 1 CC: OTHER:

ACTION NECESSARY [ ]
NO ACTION NECESSARY [ ]
CONCURRENCE [ ]
COMMENT [ ]
DATE ANSWERED:
BY:

CLASSIF: U
POST OFFICE
REG. NO:

FILE CODE: Docket No. 40-665

DESCRIPTION: (Must Be Unclassified)
Ltr. adv. AEC of plans to increase the capacity of the Bluewater Uranium plant and req. our concurrence.

REFERRED TO	DATE	RECEIVED BY	DATE
Kendig 1 Reg. File cy. & Folder	6-20		
Distribution 1 PDR 1 RO (Region)		jb	
		3354	

ENCLOSURES:

DO NOT REMOVE

ACKNOWLEDGED

REMARKS:

U.S. ATOMIC ENERGY COMMISSION
MAIL CONTROL FORM FORM AEC-3265 (8-60)

☆ U.S. GOVERNMENT PRINTING OFFICE: 1971—424-962

DOCKET NO. 40-665

REGULATORY FILE CY

THE ANACONDA COMPANY

P.O. BOX 638, GRANTS, NEW MEXICO 87020

NEW MEXICO OPERATIONS
A. J. FITCH
MANAGER

ANACONDA
from mine to consumer

June 12, 1972

RECEIVED
1972 JUN 19 PM 4 17
U.S. ATOMIC ENERGY COMM.
REGULATORY
MAIL & RECORDS SECTION

Mr. James C. Malaro, Chief
Materials Branch
Directorate of Licensing
United States Atomic Energy Commission
Washington, D.C. 20545

Re: SUA-647

Dear Mr. Malaro:

We are presently considering the possibility of increasing the capacity of our Bluewater uranium processing plant. We believe we could do this in so far as our AEC Source Material License, SUA-647, is concerned, but we feel that we should first like to have your concurrence.

Our license authorizes us to process 4,000 tons of ore per day, but changes in the physical and metallurgical characteristics of our ore now limit the capacity of the plant to about 2,000 tons per day. The result has been that we have had to increase the grade of the ore to the plant and we are accumulating large tonnages of lower-grade material at the mine, which we fear could be wasted and lost. We feel that to increase the capacity of the mill would enable us to recover much of this material and, at the same time, might enable us to furnish greater quantities of uranium concentrate to the market during the future years.

We are considering an increase in the capacity of the mill not to exceed the 4,000 tons of ore per day authorized by our license. In order to do this, it would be necessary for us to install additional equipment of the same type we presently have. The additional equipment would consist of additional leach tanks, additional ion exchange banks, additional first-stage precipitation tank and associated piping, pumps and other accessory equipment. The additional leach tanks would be installed in the existing grind and leach building. An addition of about 20,000 square feet to the existing ion exchange building would be needed to house the new ion exchange banks and precipitation tank.

DOCKETED
USAEC
JUN 20 1972
REGULATORY
DOCKET CLERK

No additional equipment or changes in operating procedures are being considered for the crushing or yellowcake sections of the mill. It would be necessary, however, for us to increase operation of these sections from two shifts per day to three shifts per day and a proportionate number of personnel would have to be added.

The amount of tailings, both liquid and solid, generated in the milling process is nearly directly proportional to the tons of ore that would be processed. We anticipate that the increased volume of liquid and solid tailings could easily be handled by our existing retention and disposal facilities and would be within the authorized volumes.

It would be appreciated if you would consider our proposal for increasing the capacity of our plant and would give us your opinion as to whether or not you feel a license amendment would be required. If you decide that an amendment would be required, please let us know what information we would need to submit in order to obtain such an amendment. Thank you very much.

Very truly yours,

A. J. Fitch

A. J. FITCH

AJF:hr

FROM: The Anaconda Company
Grants, New Mexico 87020

DATE OF DOCUMENT: Feb. 25, 1972
DATE RECEIVED: Feb. 28, 1972
NO.: 996

TO: A. J. Fitch

LTR: X
MEMO:
REPORT:
OTHER:

Nussbaumer

ORIG.: 1
CC:
OTHER:

ACTION NECESSARY ☐
NO ACTION NECESSARY ☐
CONCURRENCE ☐
COMMENT ☐
DATE ANSWERED:
BY:

CLASSIF: U
POST OFFICE
REG. NO:

FILE CODE: DOCKET: 40-665

DESCRIPTION: (Must Be Unclassified)

Ltr. trans:

ENCLOSURES: (3 cys. rec'd.)

Yearly Summary Report of the Disposal Well Injection Program for 1971

REFERRED TO	DATE	RECEIVED BY	DATE
Harmon	2/28		
w/file cy. & file			
40-665	2/29		
	3/3		
[illegible]	[illegible]	[illegible]	3/24

REMARKS:
Distribution: 1-PDR cy.
1-compliance cy.

DJQ

U.S. ATOMIC ENERGY COMMISSION

MAIL CONTROL FORM FORM AEC-3265 (6-60)

☆ U.S. GOVERNMENT PRINTING OFFICE: 1971-424-862

DOCKET NO. 40-665

Regulatory File Cy.

THE ANACONDA COMPANY

P.O. BOX 638, GRANTS, NEW MEXICO 87020

NEW MEXICO OPERATIONS
A. J. FITCH
MANAGER

February 25, 1972

United States Atomic Energy Commission
Washington, D.C. 20545

Attention: Mr. Donald A. Nussbaumer, Chief
Source and Special Materials Branch
Division of Materials Licensing

DLR-DFH
40-665

Gentlemen:

In accordance with condition 13(c) of our Source Material License No. SUA-647, I am sending you three copies of the Yearly Summary Report of the Disposal Well Injection Program for 1971.

Complete records of all phases of the disposal well injection program are being maintained and are available for your inspection at any time.

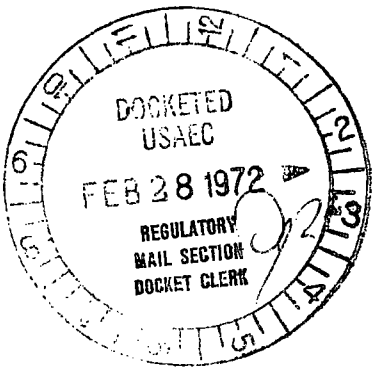
Yours very truly,

A. J. Fitch

A. J. FITCH

AJF:hw

Enclosures



February 24, 1972

MEMORANDUM FOR RECORD

SUBJECT: Yearly Summary Report of the Disposal Well Injection Program for 1971.

Presented in this report are the following tabulations of data pertaining to the operation of the disposal well program during the period from January 1, 1971 to January 1, 1972:

I. Average Monthly Injection Rates.

II. Concentrations of Radioactive Constituents in Injection Liquid.

III. Radiological Analyses of Monitored Well and Surface Waters.

IV. Static Water Levels of Wells in the San Andres-Glorieta Aquifer in the Vicinity of the Anaconda Mill and Disposal Well.

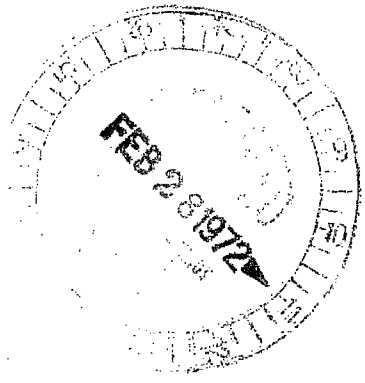
Respectfully submitted,

Ralph M. Wilde

RALPH M. WILDE
Radiation Safety Director

RMW:hw

c: A. J. Fitch (4)
J. P. Herndon
T. R. Beck



ATTACHMENT I

AVERAGE MONTHLY LIQUID INJECTION RATES

	Gallons Injected
January 1971	12,928,500
February 1971	7,488,300
March 1971	8,039,750
April 1971	5,637,600
May 1971	4,585,100
June 1971	373,800
July 1971	0
August 1971	4,740,000
September 1971	8,167,800
October 1971	4,154,400
November 1971	7,401,440
December 1971	12,405,900
Total 1-1-71 to 1-1-72	75,922,590
Average Injection Rate	6,326,900

ATTACHMENT II

CONCENTRATION OF RADIOACTIVE CONSTITUENTS IN INJECTION LIQUID

	Ra-226 uc/ml x 10^8	Th-230 uc/ml x 10^4	U-natural uc/ml x 10^6
January 1971	1.38	1.48	6.25
February 1971	1.71	1.51	5.62
March 1971	2.26	1.82	6.97
April 1971	2.45	2.15	9.04
May 1971	1.98	2.35	12.8
June 1971	2.19	2.87	21.4
July 1971	No Injection		
August 1971	4.06	2.84	25.8
September 1971	6.61	2.76	20.2
October 1971	1.50	1.88	19.2
November 1971	2.71	2.06	17.2
December 1971	3.09	2.04	20.4

ATTACHMENT III

RADIOLOGICAL ANALYSES OF MONITORED WELL AND SURFACE WATERS FOR THE MONTHS OF MAY AND NOVEMBER 1971

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF May 1971

DESCRIPTIVE LOCATION		Gross Alpha uCi/ml x 10^8	Ra-226 uCi/ml x 10^8	Th-230 uCi/ml x 10^6	U-nat. uCi/ml x 10^5
Sabre-Pinon	12.10.20.333a	0.41 ± 0.15			0.00009
Card Electric	12.10.29.434a	0.87 ± 0.26			0.00014
Harding Irrigation	12.10.30.421	0.61 ± 0.18			0.00016
Fred Freas	12.10.30.433	0.35 ± 0.11			0.00008
Chapman	12.10.32.211a	0.47 ± 0.12			0.00009
Thunderbird Post	12.11.10.411a	0.97 ± 0.25	less than 0.2	less than 0.004	0.00046
Tailing Pond	12.11.13.Pond	Not determined	2.0	235	1.28
Engineers Well	12.11.14.213	1.5 ± 0.28	less than 0.2	less than 0.004	0.00055
L.D.S. Bluewater	12.11.22.234	0.63 ± 0.21			0.00016
Roundy Harmon	12.11.23.231	0.63 ± 0.23	less than 0.2	less than 0.004	0.00011
Auros Motel	12.11.24.334a	0.64 ± 0.21			0.00009
Power House Pond	12.11.24.PHP	54.2 ± 2.3	less than 0.2	less than 0.004	0.048
Webb Windmill	12.11.25.122a	0.79 ± 0.15	less than 0.2	less than 0.004	0.00039
Anaconda #3	12.11.25.213	0.67 ± 0.18	less than 0.2	less than 0.004	0.00011
Mt. Taylor Corp.	13. 9.29.343	9.6 ± 0.99	less than 0.2	less than 0.004	0.0050

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF May 1971

DESCRIPTIVE LOCATION		Gross Alpha uCi/ml x 10^{8}	Ra-226 uCi/ml x 10^{8}	Th-230 uCi/ml x 10^{6}	U-nat. uCi/ml x 10^{5}
Suburban Gas	11.10.27.443	2.4 ± 0.49	less than 0.2	less than 0.004	0.00076
Berryhill Section 5	12.10. 5.341a	0.77 ± 0.34	less than 0.2	less than 0.004	0.00011
North Well	12.10. 7.143	1.4 ± 0.40	less than 0.2	less than 0.004	0.00081
Monitor Well #1	12.10. 8.332	6.8 ± 0.91	0.24 ± 0.06	less than 0.004	0.0058
Roundy Windmill	12.10.12.433a	4.1 ± 0.69	less than 0.2	less than 0.004	0.0033
Murray	12.10.27.431	0.82 ± 0.26			0.00018
Mexican Camp	12.10.30.112	0.42 ± 0.11	less than 0.2	less than 0.004	0.00016
Jack Freas	12.10.30.242	0.33 ± 0.13			0.00010
Joy Manufacturing	12.10.35.322	0.76 ± 0.26			0.00032
Berryhill House	12.11.11.334	0.59 ± 0.20	less than 0.2	less than 0.004	0.00021
Anaconda #2	12.11.24.233	14.6 ± 1.2	less than 0.2	less than 0.004	0.011
Anaconda #4	12.11.25.214	0.67 ± 0.18	less than 0.2	less than 0.004	0.00030
Wilcoxson (P. Harris)	13. 9.16.411	2.3 ± 0.53	0.32 ± 0.07	less than 0.004	0.00016

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF May 1971

DESCRIPTIVE LOCATION		Gross Alpha uCi/ml x 10^8	Ra-226 uCi/ml x 10^8	Th-230 uCi/ml x 10^6	U-nat. uCi/ml x 10^5
Cottonwood Spring	10. 9. 6.442	0.46 ± 0.31			0.00042
Del Padre Spring	10. 9. 7.222	1.26 ± 0.77	less than 0.2	less than 0.004	0.00062
Gottlieb Poison #2	10. 9.17.113a	0.59 ± 0.36			0.00031
Gottlieb Butane	10. 9.23.134	0.51 ± 0.12			0.00025
Horace Springs	10. 9.26.222	0.44 ± 0.17			0.00009
San Rafael	10.10. 3.433a	0.51 ± 0.18			0.00012
Heath Well	10.10.15.233	0.99 ± 0.35	less than 0.2	less than 0.004	0.00055
Republic	11.10. 2.111	1.3 ± 0.32	less than 0.2	less than 0.004	0.00048
Vidal	11.10. 5.213	0.35 ± 0.12			0.00009
Milan Chinle	11.10.21.211	0.44 ± 0.11			0.00011
Grants-San Andres	11.10.26.Tap	0.49 ± 0.15			0.00015
Schneemann	11.11.23.333	0.23 ± 0.06			0.00009
Greater Grants Airport	12.10.26.322a	0.76 ± 0.28			0.00024
Card Gas	12.10.27.333	0.51 ± 0.20			0.00019
Card Commissary	12.10.33.444	0.72 ± 0.19	less than 0.2	less than 0.004	0.00045
Murray #1	12.10.34.224	0.91 ± 0.25	less than 0.2	less than 0.004	0.00041
Sandoval	13. 9.22.212	0.41 ± 0.12			0.00025

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF November 1971

DESCRIPTIVE LOCATION		Gross Alpha uCi/ml x 10^8	Ra-226 uCi/ml x 10^8	Th-230 uCi/ml x 10^6	U-nat. uCi/ml x 10^5
Sabre-Pinon	12.10.20.333a	0.47 + 0.14			0.00010
Card Electric	12.10.29.434a	No Sample			
Harding Irrigation	12.10.30.421	No Sample			
Fred Freas	12.10.30.433	0.35 ± 0.11			0.00030
Chapman	12.10.32.211a	0.40 ± 0.12			0.00042
Thunderbird Post	12.11.10.411a	1.1 ± 0.28	less than 0.2	less than 0.004	0.00089
Tailing Pond	12.11.13.Pond	Not determined	2.7	206	1.72
Engineers Well	12.11.14.213	0.75 ± 0.21	less than 0.2	less than 0.004	0.00066
L.D.S. Bluewater	12.11.22.234	0.52 ± 0.19			0.00028
Roundy Harmon	12.11.23.231	0.60 ± 0.23			0.00028
Auros Motel	12.11.24.334a	0.52 ± 0.21			0.00025
Power House Pond	12.11.24.PHP	51.4 ± 2.6	less than 0.2	less than 0.004	0.075
Webb Windmill	12.11.25.122a	No Sample			
Anaconda #3	12.11.25.213	0.81 ± 0.20	less than 0.2	less than 0.004	0.00029
Mt. Taylor Corp.	13. 9.29.343	8.1 ± 0.91	less than 0.2	less than 0.004	0.0066

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF November 1971

DESCRIPTIVE LOCATION		Gross Alpha uCi/ml x 10^8	Ra-226 uCi/ml x 10^8	Th-230 uCi/ml x 10^6	U-nat. uCi/ml x 10^5
Suburban Gas	11.10.27.443	1.4 ± 0.37	less than 0.2	less than 0.004	0.00061
Berryhill Section 5	12.10. 5.341a	No Sample			
North Well	12.10. 7.143	2.0 ± 0.46	less than 0.2	less than 0.004	0.0011
Monitor Well #1	12.10. 8.332	6.0 ± 0.87	less than 0.2	less than 0.004	0.0051
Roundy Windmill	12.10.12.433a	No Sample			
Murray	12.10.27.431	No Sample			
Mexican Camp	12.10.30.112	0.50 ± 0.12	less than 0.2	less than 0.004	0.00036
Jack Freas	12.10.30.242	0.22 ± 0.09			0.00008
Joy Manufacturing	12.10.35.322	0.82 ± 0.27	less than 0.2	less than 0.004	0.00045
Berryhill House	12.11.11.334	0.53 ± 0.19	less than 0.2	less than 0.004	0.00029
Anaconda #2	12.11.24.233	15.1 ± 1.3	less than 0.2	less than 0.004	0.013
Anaconda #4	12.11.25.214	0.52 ± 0.16	less than 0.2	less than 0.004	0.00026
Wilcoxson (P. Harris)	13. 9.16.411	2.8 ± 0.59	0.28 ± 0.06	less than 0.004	0.00026

ATTACHMENT IV

STATIC WATER LEVELS OF WELLS IN THE SAN ANDRES-GLORIETA AQUIFER IN THE VICINITY OF THE ANACONDA MILL AND DISPOSAL WELL

Well Description	Date of Measurement	Static Water Level Feet above mean sea level
Anaconda #1	12-25-70	6450.3
12.11.24.411	1- 2-72	6446.7
Anaconda #2	12-26-70	6450.0
12.11.24.233	1- 2-72	6446.4
Anaconda #3	12-26-70	6449.9
12.11.25.213	1- 2-72	6448.0
Anaconda #4	12-26-70	6449.7
12.11.25.214	1- 2-72	6447.9
Monitor Well #1	1- 5-71	6451.9
12.10. 8.332	12-31-71	6449.0
North Well	1- 4-71	6457.0
12.10. 7.143	12-31-71	6454.1

HQ-9401
(9-66)

INTERMEDIATE ACTION FORM

Source & SNM Licenses

REFERENCE NUMBERS

02. PROG. CODE	03. DOCKET NO	09. TASK NO	11. PURPOSE OF TASK	12. CONTROL NO.	15. LICENSE NUMBER
62	40-665	2928	Amendment	2928	SUA-647

18. APPLICANT: The Anaconda Company (New Mexico Operations)

54. AM. NO RESULTING FROM TASK:

21. STREET & BUILDING: P.O. Box 638

45. CLASSIFICATION: U

63. ASG. TO:

24. CITY: Grants

27. STATE: NMEX

30. ZIP: 87020

33. RECEIVED YR.	MO.	DAY	36. ISSUED YR.	MO.	DAY	39. EXPIRED YR.	MO.	DAY
71	06	25						

57. APPLICANT'S COMMUNICATION DATED: YR. 71 MO. 06 DAY 22

59. ENCLOSURES:

58. DESCRIPTION (MUST BE UNCLASSIFIED)

Ltr req amdt to SUA-647, Condition #15...

(1cy of ltr rec'd)

60. DISTRIBUTION: 1-Compliance (Region) (ADVANCED)
1-PDR

INTERMEDIATE ACTIONS

TYPE	ON YR.	MO.	DAY	ACTIV. 92	RETURNED YR.	MO.	DAY
ADDL. INFO. REQUESTED FROM APPLICANT	91			1	93		
REFERRED TO:	94			95 2	96		
REFERRED TO:							

OTHER REFERRALS

	DATE YR.	MO.	DAY
Harmon: W/file cy & folder	71	06	28
			JPW

DOCKETED
USAEC
JUN 28 1971
REGULATORY
MAIL SECTION
DOCKET CLERK

THE ANACONDA COMPANY

New Mexico Operations

P. O. Box 638, Grants, New Mexico

A. J. FITCH
MANAGER

RECEIVED
JUN 25 1971
U.S. ATOMIC ENERGY COMMISSION
Regulatory
Mail Section

June 22, 1971

Mr. James C. Malaro, Assistant Chief
Materials Branch
Division of Licensing
United States Atomic Energy Commission
Washington, D.C. 20545

Regulatory File Cy.

Re: DML:MB:DFH
DOCKET NO. 40-665

Dear Mr. Malaro:

On February 11, 1971, we were issued a renewal for our AEC Source Material License No. SUA-647. The new license was essentially identical to our previous license with the addition of two new conditions. On May 6, 1971, we discussed the application of these new license conditions with Mr. Donald Harmon of your office. At that time it was suggested that we might try various administrative procedures which would permit us to achieve the objectives of the license conditions in the most practical way and that if a change in wording were needed we could subsequently apply for an amendment to our license.

It now appears that license Condition No. 14 is acceptable in its present form.

We would, however, like to apply for an amendment to Condition No. 15 which now reads as follows:

> 15. Changes in the mill circuit or equipment, including maintenance activities, shall be approved in writing by the Manager or Assistant Manager. During such changes and activities, radiation safety surveys shall be conducted to determine employee exposures to radioactive material.

We certainly agree that major changes in the mill circuit or equipment should be approved by management. However, we would like to request that the wording of this condition be changed to place the responsibility for written approval of routine maintenance activities upon the Mill Shift Foreman. These men are on duty at all times in the various milling departments and now have the responsibility for operation and maintenance of the mill equipment. During changes of the mill circuit or equipment and during maintenance activities, radiation safety surveys would be conducted as required.

COPIES
SENT TO COMPLIANCE

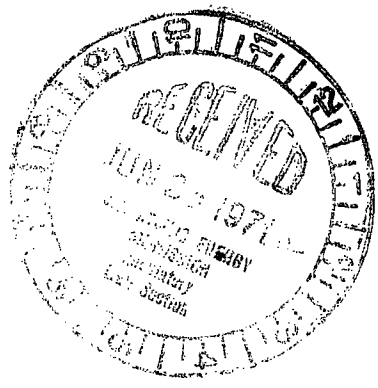
28

220.2

We feel that this suggested change in Condition No. 15 would greatly improve its practical application in our mill and, at the same time, would not materially diminish the effectiveness of our radiation protection program.

Very truly yours,

A. J. FITCH



AJF:hw

2328

~~22818~~

THE ANACONDA COMPANY

P. O. BOX 638, GRANTS, NEW MEXICO 87020

NEW MEXICO OPERATIONS

Regulatory File Cy.

February 3, 1971

United States Atomic Energy Commission
Washington, D.C. 20545

Attention: Mr. Donald A. Nussbaumer, Chief
Source and Special Nuclear Materials Branch
Division of Materials Licensing

Re: DLR-DFH
40-665

Gentlemen:

In accordance with condition 13(c) of our Source Material License No. SUA-647, I am sending you three copies of the Yearly Summary Report of the Disposal Well Injection Program for 1969.

Complete records of all phases of the disposal well injection program are being maintained and are available for your inspection at any time.

Yours very truly,

A. J. Fitch

A. J. FITCH

AJF:hw

Enclosures

DOCKETED USAEC FEB 8 1971 REGULATORY MAIL SECTION DOCKET CLERK

RECEIVED FEB 5 1971

DOCKET NO. 40-6665

Regulatory File Cy.

February 2, 1971

MEMORANDUM FOR RECORD

SUBJECT: Yearly Summary Report of the Disposal Well Injection Program for 1970.

Presented in this report are the following tabulations of data pertaining to the operation of the disposal well program during the period from January 1, 1970 to January 1, 1971:

I. Average Monthly Liquid Injection Rates.

II. Concentrations of Radioactive Constituents In Injection Liquid.

III. Radiological Analyses of Monitored Well and Surface Waters.

IV. Static Water Levels of Wells in the San Andres - Glorieta Aquifer in the Vicinity of the Anaconda Mill and Disposal Well.

Respectfully submitted,

Ralph M. Wilde

RALPH M. WILDE

RMW:hw

c: A. J. Fitch (4)
J. P. Herndon
T. R. Beck

February 2, 1971

ATTACHMENT I

Average Monthly Liquid Injection Rates

	Gallons Injected
January 1970	3,135,000
February 1970	6,803,400
March 1970	5,467,900
April 1970	3,363,550
May 1970	3,642,900
June 1970	3,496,500
July 1970	8,363,340
August 1970	11,038,500
September 1970	4,013,600
October 1970	3,174,150
November 1970	3,416,100
December 1970	4,609,500
Total 1-1-70 to 1-1-71	60,524,440
Average Injection Rate	5,043,700

February 2, 1971

ATTACHMENT II

Concentration of Radioactive Constituents in Injection Liquid

	Ra -226 uc/ml x 10^8	Th -230 uc/ml x 10^4	U -natural uc/ml x 10^6
January 1970	2.91	1.33	6.78
February 1970	4.94	1.45	5.94
March 1970	1.89	1.67	7.04
April 1970	2.42	1.85	12.1
May 1970	3.28	3.05	19.7
June 1970	6.90	3.56	20.1
July 1970	1.45	2.69	18.1
August 1970	1.68	1.50	11.8
September 1970	3.11	1.92	11.8
October 1970	2.50	2.22	11.9
November 1970	2.32	1.74	10.8
December 1970	3.76	1.58	7.64
	37.16 / 12	24.56 / 12	143.90 / 12
	11	11	11
	3.1×10^8	2.04	12.0

February 2, 1971

ATTACHMENT III

Radiological Analyses of Monitored Well and

Surface Waters for the Months of May and September 1970

THE ANACONDA COMPANY

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF May 1970

DESCRIPTIVE LOCATION		Gross Alpha uc/ml x 10^8	Ra-226 uc/ml x 10^8	Th-230 uc/ml x 10^6	U-Nat uc/ml x 10^5
Berryhill Section 5	12.10. 5.341a	1.1 ± 0.39	0.21 ± 0.05	less than 0.004	0.00014
North Well	12.10. 7.143	1.5 ± 0.39	less than 0.2	less than 0.004	0.00088
Monitor Well # 1	12.10. 8.332	6.9 ± 0.94	0.23 ± 0.06	less than 0.004	0.0060
Sabre-Pinon	12.10.20.333a	0.51 ± 0.17			0.00010
Card Gas *	12.10.27.333	0.85 ± 0.24			0.00030
Card Electric *	12.10.29.434a	No Sample			
Mexican Camp	12.10.30.112	0.35 ± 0.11	less than 0.2	less than 0.004	0.00020
Jack Freas	12.10.30.242	0.27 ± 0.12			0.00006
Harding Irrigation	12.10.30.421	No Sample			
Fred Freas	12.10.30.433	0.35 ± 0.11			0.00008
Chapman	12.10.32.211a	0.23 ± 0.09			0.00015
Thunderbird Post	12.11.10.411a	0.75 ± 0.17	less than 0.2	less than 0.004	0.00058
Berryhill House	12.11.11.334	0.48 ± 0.17	less than 0.2	less than 0.004	0.00028
Tailing Pond	12.11.13.Pond	Not determined	3.3	305	1.97
Engineers Well	12.11.14.213	1.4 ± 0.29	less than 0.2	less than 0.004	0.00049
Roundy (Harmon)	12.11.23.231	0.83 ± 0.26	less than 0.2	less than 0.004	0.00019
Power House Pond	12.11.24.PHP	97. ± 2.9	1.14 ± 0.13	less than 0.004	0.097
Laboratory Pond	12.11.24.LABP	No Sample			
Auro's Bar	12.11.24.334				
Auro's Motel	12.11.24.334a	0.53 ± 0.17			0.00009
Anaconda #1	12.11.24.411	No Sample			
Webb Windmill	12.11.25.122a	0.88 ± 0.17	less than 0.2	less than 0.004	0.00048
Anaconda #3	12.11.25.213	0.59 ± 0.17	less than 0.2	less than 0.004	0.00032
Anaconda #4	12.11.25.214	0.43 ± 0.14	less than 0.2	less than 0.004	0.00016

* Monthly during irrigation

THE ANACONDA COMPANY

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF May 1970

DESCRIPTIVE LOCATION		Gross Alpha uc/ml x 10^8	Ra-226 uc/ml x 10^8	Th-230 uc/ml x 10^6	U-nat uc/ml x 10^5
Cottonwood Springs	10. 9. 6.442	0.47 ± 0.32			0.00035
Del Padre Springs	10. 9. 7.222	0.89 ± 0.55	less than 0.2	less than 0.004	0.00045
Gottlieb Poison #2	10. 9.17.113a	0.97 ± 0.44	less than 0.2	less than 0.004	0.00035
Gottlieb Butane	10. 9.23.134	0.52 ± 0.12			0.00019
Horace Springs	10. 9.26.222	0.37 ± 0.16			0.00010
San Rafael	10.10. 3.433a	0.31 ± 0.14			0.00018
Heath Well	10.10.15.233	1.1 ± 0.38	less than 0.2	less than 0.004	0.00081
Worthen Well	10.10.22.213	No Sample			
Hawkinson (Grants)	11. 9.30.122a	No Sample			
Republic	11.10. 2.111	1.1 ± 0.30	less than 0.2	less than 0.004	0.00065
Evans Windmill	11.10. 5.222	No Sample			
Vidal	11.10. 5.213	0.42 ± 0.12			0.00018
Milan Chinle	11.10.21.211	0.26 ± 0.09			0.00014
Grants-San Andres	11.10.26.Tap	0.35 ± 0.11			0.00012
Suburban Gas	11.10.27.443	5.4 ± 0.85	less than 0.2	less than 0.004	0.0028
Schneemann	11.11.23.333	0.38 ± 0.08			0.00016
Roundy Windmill	12.10.12.433a	4.9 ± 0.76	less than 0.2	less than 0.004	0.0042
Murray	12.10.27.431	0.59 ± 0.23			0.00025
Card Commissary	12.10.33.444	No Sample			
Murray #1	12.10.34.224	1.1 ± 0.27	less than 0.2	less than 0.004	0.00056
Joy Manufacturing	12.10.35.322	0.69 ± 0.25	less than 0.2	less than 0.004	0.00041
L.D.S. Bluewater	12.11.22.234	0.66 ± 0.21			0.00021
Wilcoxson (P. Harris)	13. 9.16.411	1.3 ± 0.41	0.37 ± 0.07	less than 0.004	0.00061
Sandoval	13. 9.22.212	0.27 ± 0.09			0.00026
Mt. Taylor Corp.	13. 9.29.343	9.5 ± 0.96	less than 0.2	less than 0.004	0.0061
Greater Grants Airport	12.10.26.322a	0.94 ± 0.30	less than 0.2	less than 0.004	0.00042
Anaconda #2	12.11.24.233	14. ± 1.2	less than 0.2	less than 0.004	0.014

THE ANACONDA COMPANY

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF SEPTEMBER 1970

DESCRIPTIVE LOCATION		Gross Alpha uc/ml x 10^8	Ra-226 uc/ml x 10^8	Th-230 uc/ml x 10^6	U-nat uc/ml x 10^5
Berryhill Section 5	12.10. 5.341a	0.80 ± 0.38	less than 0.2	less than 0.004	0.00012
North Well	12.10. 7.143	1.5 ± 0.43	less than 0.2	less than 0.004	0.0012
Monitor Well # 1	12.10. 8.332	6.8 ± 0.92	0.21 ± 0.05	less than 0.004	0.0053
Sabre-Pinon	12.10.20.333a	0.5 ± 0.18			0.00020
Card Gas *	12.10.27.333	0.50 ± 0.20			0.00032
Card Electric *	12.10.29.434a	No Sample			
Mexican Camp	12.10.30.112	0.27 ± 0.09	less than 0.2	less than 0.004	0.00021
Jack Freas	12.10.30.242	0.34 ± 0.13			0.00012
Harding Irrigation	12.10.30.421	No Sample			
Fred Freas	12.10.30.433	0.31 ± 0.11			0.00015
Chapman	12.10.32.211a	0.30 ± 0.11			0.00017
Thunderbird Post	12.11.10.411a	1.6 ± 0.42	less than 0.2	less than 0.004	0.0013
Berryhill House	12.11.11.334	0.61 ± 0.21	less than 0.2	less than 0.004	0.00029
Tailing Pond	12.11.13.Pond	Not determined	3.1	192	1.18
Engineers Well	12.11.14.213	1.77 ± 0.30	less than 0.2	less than 0.004	0.0011
Roundy (Harmon)	12.11.23.231	0.77 ± 0.25	less than 0.2	less than 0.004	0.00021
Power House Pond	12.11.24.PHP	164. ± 4.2	less than 0.2	less than 0.004	0.13
Laboratory Pond	12.11.24.LBP	No Sample			
Auro's Bar	12.11.24.334	No Sample			
Auro's Motel	12.11.24.334a	0.43 ± 0.11			0.00015
Anaconda #1	12.11.24.411	No Sample			
Webb Windmill	12.11.25.122a	0.62 ± 0.14	less than 0.2	less than 0.004	0.00042
Anaconda #3	12.11.25.213	0.46 ± 0.16	less than 0.2	less than 0.004	0.00032
Anaconda #4	12.11.25.214	0.50 ± 0.16	less than 0.2	less than 0.004	0.00024

* Monthly during irrigation

THE ANACONDA COMPANY

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF SEPTEMBER 1970

DESCRIPTIVE LOCATION		Gross Alpha uc/ml x 10^8	Ra-226 uc/ml x 10^8	Th-230 uc/ml x 10^6	U-nat uc/ml x 10^5
Cottonwood Springs	10. 9. 6.442	0.45 ± 0.31			0.00032
Del Padre Springs	10. 9. 7.222	2.2 ± 1.0	less than 0.2	less than 0.004	0.00036
Gottlieb Poison #2	10. 9.17.113a	No Sample			
Gottlieb Butane	10. 9.23.134	0.39 ± 0.11			0.00028
Horace Springs	10. 9.26.222	0.38 ± 0.14			0.00020
San Rafael	10.10. 3.433a	0.57 ± 0.19			0.00021
Heath Well	10.10.15.233	1.7 ± 0.47	less than 0.2	less than 0.004	0.00085
Worthen Well	10.10.22.213	No Sample			
Hawkinson (Grants)	11. 9.30.122a	No Sample			
Republic	11.10. 2.111	0.89 ± 0.27	less than 0.2	less than 0.004	0.00061
Evans Windmill	11.10. 5.222	No Sample			
Vidal	11.10. 5.213	0.35 ± 0.11			0.00015
Milan Chinle	11.10.21.211	0.42 ± 0.11			0.00018
Grants-San Andres	11.10.26.Tap	0.48 ± 0.15			0.00022
Suburban Gas	11.10.27.443	2.9 ± 0.56	less than 0.2	less than 0.004	0.0018
Schneemann	11.11.23.333	0.31 ± 0.08			0.00019
Roundy Windmill	12.10.12.433a	5.7 ± 0.80	less than 0.2	less than 0.004	0.0038
Murray	12.10.27.431	0.55 ± 0.22			0.00035
Card Commissary	12.10.33.444	0.65 ± 0.18	less than 0.2	less than 0.004	0.00058
Murray #1	12.10.34.224	0.95 ± 0.29	less than 0.2	less than 0.004	0.00044
Joy Manufacturing	12.10.35.322	0.50 ± 0.21			0.00044
L.D.S. Bluewater	12.11.22.234	0.54 ± 0.20			0.00028
Wilcoxson (P. Harris)	13. 9.16.411	1.0 ± 0.37	0.27 ± 0.06	Less than 0.004	0.00030
Sandoval	13. 9.22.212	0.36 ± 0.12			0.00029
Mt. Taylor Corp.	13. 9.29.343	8.6 ± 0.93	less than 0.2	less than 0.004	0.0056
Greater Grants Airport	12.10.26.322a	0.55 ± 0.25			0.00032
Anaconda #2	12.11.24.233	19. ± 1.4	less than 0.2	less than 0.004	0.011

February 2, 1971

ATTACHMENT IV

Static Water Levels of Wells in the San Andres - Glorieta Aquifer in the Vicinity of the Anaconda Mill and Disposal Well

Well Description	Date of Measurement	Static Water Level Feet Above Mean Sea Level
Anaconda Well #1	1- 4-70	6453.3
12.11.24.411	12-26-70	6450.3
Anaconda Well #2	1- 4-70	6453.1
12.11.24.233	12-26-70	6450.0
Anaconda Well #3	1- 4-70	6453.3
12.11.25.213	12-26-70	6449.9
Anaconda Well #4	1- 4-70	6453.4
12.11.25.214	12-26-70	6449.7
Monitor Well #1	1- 6-70	6456.5
12.10.8.332	1- 4-71	6451.9
North Well	1- 6-70	6461.0
12.10.7.143	1- 4-71	6457.0

FROM: The Anaconda Company
Grants, New Mexico 87020

A. J. Fitch

TO:

Nussbaumer

DATE OF DOCUMENT: Feb. 16, 1970

DATE RECEIVED: Feb. 19, 1970

NO.: 503

LTR.: X MEMO: REPORT: OTHER:

ORIG.: 1 CC: OTHER:

ACTION NECESSARY ☐ NO ACTION NECESSARY ☐

CONCURRENCE ☐ COMMENT ☐

DATE ANSWERED BY:

CLASSIF: U POST OFFICE REG. NO:

FILE CODE: DOCKET: 40-665

DESCRIPTION: (Must Be Unclassified)

Ltr. trans:

ENCLOSURES:

(3 cys. rec'd.)
Yearly Summary Report of the Disposal Well Injection Program for 1969.

REMARKS:

Distribution: 1-PDR cy.
1-compliance cy.

REFERRED TO	DATE	RECEIVED BY	DATE
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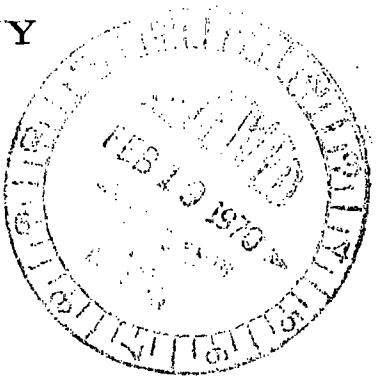
U.S. ATOMIC ENERGY COMMISSION **MAIL CONTROL FORM** FORM AEC-326S (8-60)

☆ U.S. GOVERNMENT PRINTING OFFICE: 340-016

THE ANACONDA COMPANY

P. O. BOX 638, GRANTS, NEW MEXICO 87020

NEW MEXICO OPERATIONS



February 16, 1970

United States Atomic Energy Commission
Washington, D.C. 20545

Attention: Mr. Donald A. Nussbaumer, Chief
Source and Special Nuclear Materials Branch
Division of Materials Licensing

Regulatory File Cy.

RE: DLR-DFH
40-665

Gentlemen:

In compliance with condition 13 (c) of our Source Material License No. SUA-647, I am sending you three copies of the Yearly Summary Report of the Disposal Well Injection Program for 1969.

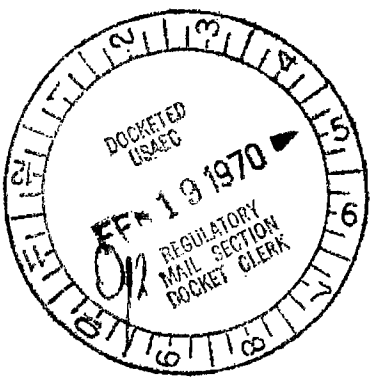
Complete records of all phases of the disposal well injection program are being maintained and are available for your inspection at any time.

Yours very truly,

A. J. FITCH

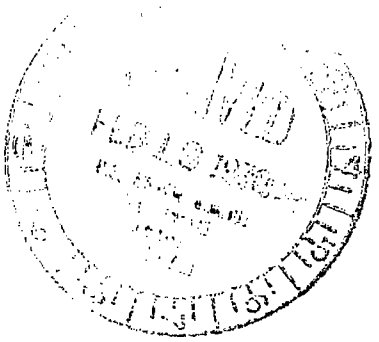
AJF:hw

Enclosures



ACKNOWLEDGED

DOCKET NO. 40-665



February 3, 1970

MEMORANDUM FOR RECORD

SUBJECT: Yearly Summary Report of the Disposal Well Injection Program for 1969.

Presented in this report are the following tabulations of data pertaining to the operation of the disposal well program during the period from January 1, 1969 to January 1, 1970:

I. Average Monthly Liquid Injection Rates.

II. Concentrations of Radioactive Constituents in Injection Liquid.

III. Radiological Analyses of Monitored Well and Surface Waters.

IV. Static Water Levels of Wells in the San Andres-Glorieta Aquifer in the Vicinity of the Anaconda Mill and Disposal Well.

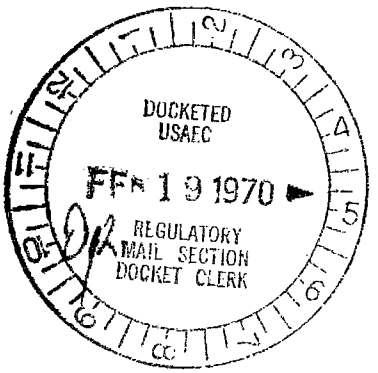
Respectfully submitted,

Ralph M. Wilde

RALPH M. WILDE
Radiation Safety Director

RMW:hw

c: A. J. Fitch (4)
E. C. Peterson



February 3, 1970

ATTACHMENT I

AVERAGE MONTHLY LIQUID INJECTION RATES

	Gallons Injected
January 1969	9,579,000
February 1969	4,237,200
March 1969	3,564,000
April 1969	4,436,000
May 1969	1,942,500
June 1969	0
July 1969	2,812,875
August 1969	5,751,000
September 1969	9,862,200
October 1969	4,231,500
November 1969	9,547,500
December 1969	7,495,500
Total 1-1-69 to 1-1-70	63,459,275
Average Injection Rate	5,288,300

ATTACHMENT II

CONCENTRATION OF RADIOACTIVE CONSTITUENTS IN INJECTION LIQUID

	Ra -226 uc/ml x 10^7	Th -230 uc/ml x 10^4	U-natural uc/ml x 10^6
	4 4	4 4	4 3
January 1969	2.70	1.69	3.92
February 1969	3.18	1.72	3.92
March 1969	1.70	1.72	3.57
April 1969	2.46	3.06	5.30
May 1969	2.17	2.00	3.91
June 1969	No Injection		
July 1969	1.17	2.55	6.21
August 1969	3.70	2.38	5.48
September 1969	2.31	2.21	4.42
October 1969	1.19	1.42	4.32
November 1969	0.32	1.67	5.79
December 1969	1.67	1.40	7.72
	22.57	21.82	54.56
	11	11	11
	11	11	
	2.05	1.99	4.96

February 3, 1970

ATTACHMENT III

RADIOLOGICAL ANALYSES OF MONITORED WELL AND SURFACE WATERS FOR THE MONTHS OF MAY AND SEPTEMBER 1969

THE ANACONDA COMPANY

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF MAY 1969

DESCRIPTIVE LOCATION		Gross Alpha uc/ml x 10^8	Ra-226 uc/ml x 10^8	Th-230 uc/ml x 10^6	U-nat uc/ml x 10^5
Berryhill Section 5	12.10. 5.341a	1.4 ± 0.43	0.52 0.09	less than 0.004	0.00014
North Well	12.10. 7.143	1.9 ± 0.48	less than 0.2	less than 0.004	0.0010
Monitor Well # 1	12.10. 8.332	5.6 ± 0.83	0.25 0.06	less than 0.004	0.0049
Sabre-Pinon	12.10.20.333a	No Sample			
Card Gas *	12.10.27.333	No Sample			
Card Electric *	12.10.29.434a	No Sample			
Mexican Camp	12.10.30.112	0.28 ± 0.08	less than 0.2	less than 0.004	0.00016
Jack Freas	12.10.30.242	0.23 ± 0.11			0.00005
Harding Irrigation	12.10.30.421	No Sample			
Fred Freas	12.10.30.433	0.35 ± 0.12			0.00011
Chapman	12.10.32.211a	0.35 ± 0.12			0.00006
Thunderbird Post	12.11.10.411a	0.52 ± 0.17	less than 0.2	less than 0.004	0.00035
Berryhill House	12.11.11.334	0.71 ± 0.23	less than 0.2	less than 0.004	0.00020
Tailing Pond	12.11.13.Pond	Not Determined	21.7	200.	0.39
Engineers Well	12.11.14.213	1.0 ± 0.24	less than 0.2	less than 0.004	0.00052
Roundy (Harmon)	12.11.23.231	0.51 ± 0.21	less than 0.2	less than 0.004	0.00018
Power House Pond	12.11.24.PHP	84. ± 2.6	0.98 0.12	less than 0.004	0.049
Laboratory Pond	12.11.24.LABP	No Sample			
Auro's Bar	12.11.24.334				
Auro's Motel	12.11.24.334a	0.62 ± 0.23			0.00016
Anaconda #1	12.11.24.411	No Sample			
Webb Windmill	12.11.25.122a	No Sample			
Anaconda #3	12.11.25.213	0.62 ± 0.18	less than 0.2	less than 0.004	0.00022
Anaconda #4	12.11.25.214	0.54 ± 0.17	less than 0.2	less than 0.004	0.00021

* Monthly during irrigation

THE ANACONDA COMPANY

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF MAY 1969

DESCRIPTIVE LOCATION		Gross Alpha uc/ml x 10^8	Ra-226 uc/ml x 10^8	Th-230 uc/ml x 10^6	U-nat uc/ml x 10^5
Cottonwood Springs	10. 9. 6.442	0.52 ± 0.31			0.00024
Del Padre Springs	10. 9. 7.222	0.81 ± 0.54	less than 0.2	less than 0.004	0.00046
Gottlieb Poison #2	10. 9.17.113a	1.2 ± 0.47	less than 0.2	less than 0.004	0.00031
Gottlieb Butane	10. 9.23.134	0.46 ± 0.11			0.00017
Horace Springs	10. 9.26.222	0.33 ± 0.15			0.00011
San Rafael	10.10. 3.433a	0.43 ± 0.17			0.00023
Heath Well	10.10.15.233	0.69 ± 0.29			0.00072
Worthen Well	10.10.22.213	No Sample			
Hawkinson (Grants)	11. 9.30.122a	No Sample			
Republic	11.10. 2.111	0.88 ± 0.27	less than 0.2	less than 0.004	0.00052
Evans Windmill	11.10. 5.222	No Sample			
Vidal	11.10. 5.213	0.36 ± 0.12			0.00009
Milan Chinle	11.10.21.211	0.24 ± 0.09			0.00008
Grants-San Andres	11.10.26.Tap	0.43 ± 0.14			0.00013
Suburban Gas	11.10.27.443	4.1 ± 0.72	less than 0.2	less than 0.004	0.0021
Schneemann	11.11.23.333	0.22 ± 0.06			0.00006
Roundy Windmill	12.10.12.433a	3.3 ± 0.61	less than 0.2	less than 0.004	0.0025
Murray	12.10.27.431	0.73 ± 0.25			0.00022
Card Commissary	12.10.33.444	No Sample			
Murray #1	12.10.34.224	1.1 ± 0.29	less than 0.2	less than 0.004	0.00050
Joy Manufacturing	12.10.35.322	0.95 ± 0.28	less than 0.2	less than 0.004	0.00050
L.D.S. Bluewater	12.11.22.234	0.67 ± 0.22			0.00026
Wilcoxson (P. Harris)	13. 9.16.411	1.6 ± 0.44	0.20 0.05	less than 0.004	0.00055
Sandoval	13. 9.22.212	0.36 ± 0.12			0.00019
Mt. Taylor Corp.	13. 9.29.343	6.9 ± 0.85	less than 0.2	less than 0.004	0.0055
Greater Grants Airport	12.10.26.322a	0.80 ± 0.28			0.00030
Anaconda #2	12.11.24.233	13. ± 1.2	less than 0.2	less than 0.004	0.011

THE ANACONDA COMPANY

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF SEPTEMBER 1969

DESCRIPTIVE LOCATION		Gross Alpha uc/ml x 10^{8}	Ra-226 uc/ml x 10^{8}	Th-230 uc/ml x 10^{6}	U-nat uc/ml x 10^{5}
Berryhill Section 5	12.10. 5.341a	1.0 ± 0.39	0.44 ± 0.07	less than 0.004	0.00018
North Well	12.10. 7.143	1.7 ± 0.44	less than 0.2	less than 0.004	0.0012
Monitor Well # 1	12.10. 8.332	8.3 ± 1.0	0.21 ± 0.06	less than 0.004	0.0059
Sabre-Pinon	12.10.20.333a	No Sample			
Card Gas *	12.10.27.333	No Sample			
Card Electric *	12.10.29.434a	No Sample			
Mexican Camp	12.10.30.112	0.33 ± 0.10	less than 0.2	less than 0.004	0.00015
Jack Freas	12.10.30.242	0.25 ± 0.12			0.00010
Harding Irrigation	12.10.30.421	No Sample			
Fred Freas	12.10.30.433	0.35 ± 0.12			0.00016
Chapman	12.10.32.211a	0.34 ± 0.11			0.00009
Thunderbird Post	12.11.10.411a	0.96 ± 0.22	less than 0.2	less than 0.004	0.00081
Berryhill House	12.11.11.334	0.48 ± 0.19	less than 0.2	less than 0.004	0.00023
Tailing Pond	12.11.13.Pond	No Determined	23.1	221.	0.44
Engineers well	12.11.14.213	0.98 ± 0.23	less than 0.2	less than 0.004	0.00041
Roundy (Harmon)	12.11.23.231	0.61 ± 0.23	less than 0.2	less than 0.004	0.00013
Power House Pond	12.11.24.PHP	52. ± 2.0	1.06 ± 0.12	less than 0.004	0.035
Laboratory Pond	12.11.24.LABP	No Sample			
~~Auro's Bar~~	~~12.11.24.334~~				
Auro's Motel	12.11.24.334a	0.25 ± 0.09			0.00014
Anaconda #1	12.11.24.411	No Sample			
Webb Windmill	12.11.25.122a	0.94 ± 0.19	less than 0.2	less than 0.004	0.00031
Anaconda #3	12.11.25.213	1.0 ± 0.25	less than 0.2	less than 0.004	0.00040
Anaconda #4	12.11.25.214	0.64 ± 0.22	less than 0.2	less than 0.004	0.00021

* Monthly during irrigation

THE ANACONDA COMPANY

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF SEPTEMBER 1969

DESCRIPTIVE LOCATION		Gross Alpha uc/ml x 10^{8}	Ra-226 uc/ml x 10^{8}	Th-230 uc/ml x 10^{6}	U-nat uc/mlx 10^{5}
Cottonwood Springs	10. 9. 6.442	0.36 ± 0.27			0.00028
Del Padre Springs	10. 9. 7.222	0.25 ± 0.08	less than 0.2	less than 0.004	0.00005
Gottlieb Poison #2	10. 9.17.113a	0.81 ± 0.39	less than 0.2	less than 0.004	0.00042
Gottlieb Butane	10. 9.23.134	0.35 ± 0.09			0.00020
Horace Springs	10. 9.26.222	0.25 ± 0.13			0.00006
San Rafael	10.10. 3.433a	0.40 ± 0.15			0.00014
Heath Well	10.10.15.233	0.82 ± 0.30			0.00076
Worthen Well	10.10.22.213	No Sample			
Hawkinson (Grants)	11. 9.30.122a	No Sample			
Republic	11.10. 2.111	1.0 ± 0.28	less than 0.2	less than 0.004	0.00070
Evans Windmill	11.10. 5.222	No Sample			
Vidal	11.10. 5.213	0.31 ± 0.10			0.00015
Milan Chinle	11.10.21.211	0.24 ± 0.08			0.00012
Grants-San Andres	11.10.26.Tap	0.48 ± 0.14			0.00011
Suburban Gas	11.10.27.443	5.5 ± 0.79	less than 0.2	less than 0.004	0.0025
Schneemann	11.11.23.333	0.23 ± 0.06			0.00009
Roundy Windmill	12.10.12.433a	3.7 ± 0.64	less than 0.2	less than 0.004	0.0025
Murray	12.10.27.431	No Sample			
Card Commissary	12.10.33.444	No Sample			
Murray #1	12.10.34.224	1.1 ± 0.29	less than 0.2	less than 0.004	0.00042
Joy Manufacturing	12.10.35.322	0.56 ± 0.22	less than 0.2	less than 0.004	0.00031
L.D.S. Bluewater	12.11.22.234	0.50 ± 0.18			0.00022
Wilcoxson (P. Harris)	13. 9.16.411	1.7 ± 0.46	0.28 ± 0.06	less than 0.004	0.00059
Sandoval	13. 9.22.212	0.17 ± 0.08			0.00010
Mt. Taylor Corp.	13. 9.29.343	10. ± 1.0	less than 0.2	less than 0.004	0.0069
Greater Grants Airport	12.10.26.322a	0.96 ± 0.30	less than 0.2	less than 0.004	0.00032
Anaconda #2	12.11.24.233	17. ± 1.4	less than 0.2	less than 0.004	0.016

February 3, 1970

ATTACHMENT IV

STATIC WATER LEVELS OF WELLS IN THE SAN ANDRES-GLORIETA AQUIFER

IN THE VICINITY OF THE ANACONDA MILL AND DISPOSAL WELL

Well Description	Date of Measurement	Static Water Level Feet Above Mean Sea Level
Anaconda Well #1	12-28-68	6452.3
12.11.24.411	1- 4-70	6453.3
Anaconda Well #2	12-28-68	6452.2
12.11.24.233	1- 4-70	6453.1
Anaconda Well #3	12-28-68	6451.9
12.11.25.213	1- 4-70	6453.3
Anaconda Well #4	12-28-68	6452.1
12.11.25.214	1- 4-70	6453.4
Monitor Well #1	12-31-68	6456.1
12.10.8.332	1- 6-70	6456.5
North Well	12-31-68	6459.8
12.10.7.143	1- 6-70	6461.0

FROM: [redacted] Company
Grants, New Mexico 87020

A. J. Fitch

TO:

Nussbaumer

CLASSIF.: U

POST OFFICE

REG. NO:

DESCRIPTION: (Must Be Unclassified)

Ltr. trans. the following in compliance with condition 13(c) of SUA-647:

ENCLOSURES: (3 cys. rec'd.)

"Yearly Summary Report of the Disposal Well Injection Program for 1968"

REMARKS:

Dist: 1-FDR cy.
1-compliance cy.

DATE OF DOCUMENT:	DATE RECE.	NO.:
2/21/69	2/25/69	636

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ORIG.: 1 CC: OTHER:

ACTION NECESSARY ☐ NO ACTION NECESSARY ☐
CONCURRENCE ☐ COMMENT ☐
DATE ANSWERED: BY:

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U.S. ATOMIC ENERGY COMMISSION

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U.S. GOVERNMENT PRINTING OFFICE: 1968-296-615

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THE ANACONDA COMPANY

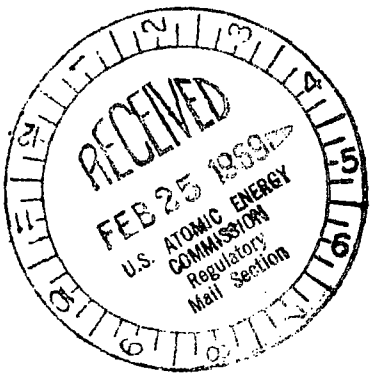
New Mexico Operations

P. O. Box 638, Grants, New Mexico

A. J. FITCH
MANAGER

February 21, 1969

Regulatory File Cy.



United States Atomic Energy Commission
Washington, D.C. 20545

Attention: Mr. Donald A. Nussbaumer, Chief
Source and Special Nuclear Materials Branch
Division of Materials Licensing

Re: DLR-DFH
40-665

Gentlemen:

In compliance with condition 13(c) of our Source Material License No. SUA-647, I am sending you three copies of the Yearly Summary Report of the Disposal Well Injection Program for 1968.

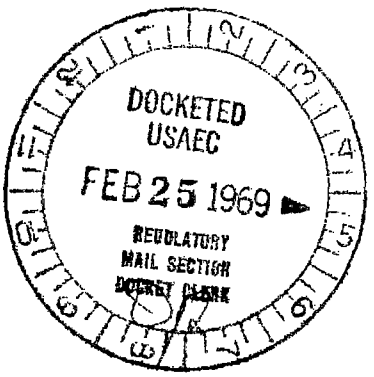
Complete records of all phases of the disposal well injection program are being maintained and are available for your inspection at any time.

Yours very truly,

A. J. FITCH

AJF:hw

Enclosures



ACKNOWLEDGED

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U.S. ATOMIC ENERGY COMMISSION
Regulatory
Mail Section

Regulatory File Cy.

February 12, 1969

MEMORANDUM FOR RECORD

SUBJECT: Yearly Summary Report of the Disposal Well Injection Program for 1968.

Presented in this report are the following tabulations of data pertaining to the operation of the disposal well program during the period from January 1, 1968 to January 1, 1969:

I. Average Monthly Liquid Injection Rates. (Note Attachment I)

II. Concentration of Radioactive Constituents in Injection Liquid. (Note Attachment II)

III. Radiological Analyses of Monitored Well and Surface Waters. (Note Attachment III)

IV. Static Water Levels of Wells in the San Andres-Glorieta Aquifer in the Vicinity of the Anaconda Mill and Disposal Well. (Note Attachment IV)

Respectfully submitted,

Ralph M. Wilde

RALPH M. WILDE
Radiation Safety Director

RMW:hw

c: A. J. Fitch (4)
E. C. Peterson

February 12, 1969

ATTACHMENT I

AVERAGE MONTHLY LIQUID INJECTION RATES

	Gallons Injected
January 1968	8,616,850
February 1968	8,639,250
March 1968	6,853,700
April 1968	2,158,500
May 1968	1,508,750
June 1968	0
July 1968	0
August 1968	4,565,600
September 1968	0
October 1968	3,295,900
November 1968	6,634,300
December 1968	8,072,700
Total 1-1-68 to 1-1-69	50,345,550
Average Injection Rate	4,195,460

February 12, 1969

ATTACHMENT II

CONCENTRATION OF RADIOACTIVE CONSTITUENTS IN INJECTION LIQUID

	Ra -226 uc/ml x 10^7	Th -230 uc/ml x 10^4	U -natural uc/ml x 10^6
January 1968	0.61	1.27	2.95
February 1968	1.42	1.19	3.52
March 1968	0.60	1.62	3.48
April 1968	0.28	2.09	5.38
May 1968	0.31	2.44	5.09
June 1968	No Injection		
July 1968	No Injection		
August 1968	1.07	2.25	7.15
September 1968	No Injection		
October 1968	0.50	2.47	5.94
November 1968	0.84	2.01	4.02
December 1968	0.50	1.99	3.94
	6.13 / 9	17.24 / 9	41.49 / 9
	0.68	1.94	4.6

February 12, 1969

ATTACHMENT III

RADIOLOGICAL ANALYSES OF MONITORED WELL AND SURFACE WATERS FOR THE MONTHS OF MAY AND SEPTEMBER 1968

THE ANACONDA COMPANY

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF MAY 1968

DESCRIPTIVE LOCATION		Gross Alpha uc/ml x 10^{8}	Ra-226 uc/ml x 10^{8}	Th-230 uc/ml x 10^{6}	U-nat uc/ml x 10^{5}
Berryhill Section 5	12.10. 5.341a	1.3 ± 0.42	0.37 ± 0.07	less than 0.004	0.00008
North Well	12.10. 7.143	1.7 ± 0.42	less than 0.2	less than 0.004	0.00079
Monitor Well # 1	12.10. 8.332	6.3 ± 0.84	0.20 ± 0.05	less than 0.004	0.0042
Sabre-Pinon	12.10.20.333a	0.26 ± 0.12			0.00009
Card Gas *	12.10.27.333	No Sample			
Card Electric *	12.10.29.434a	No Sample			
Mexican Camp	12.10.30.112	0.48 ± 0.12	less than 0.2	less than 0.004	0.00018
Jack Freas	12.10.30.242	0.24 ± 0.11			0.00004
Harding Irrigation	12.10.30.421	No Sample			
Fred Freas	12.10.30.433	0.18 ± 0.08			0.00007
Chapman	12.10.32.211a	0.36 ± 0.11			0.00012
Thunderbird Post	12.11.10.411a	0.68 ± 0.19	less than 0.2	less than 0.004	0.00044
Berryhill House	12.11.11.334	0.48 ± 0.18	less than 0.2	less than 0.004	0.00016
Tailing Pond	12.11.13.Pond	Not determined	3.13	244.	0.51
Engineers Well	12.11.14.213	1.2 ± 0.26	less than 0.2	less than 0.004	0.00049
Roundy (Harmon)	12.11.23.231	0.35 ± 0.17	less than 0.2	less than 0.004	0.00014
Power House Pond	12.11.24.PHP	36. ± 2.7	0.29 ± 0.07	less than 0.004	0.016
Laboratory Pond	12.11.24.LABP	No Sample			
Auro's Bar	12.11.24.334	No Sample			
Auro's Motel	12.11.24.334a	0.34 ± 0.15			0.00016
Anaconda #1	12.11.24.411	No Sample			
Webb Windmill	12.11.25.122a	No Sample			
Anaconda #3	12.11.25.213	0.79 ± 0.21	less than 0.2	less than 0.004	0.00032
Anaconda #4	12.11.25.214	0.60 ± 0.18	less than 0.2	less than 0.004	0.00018

* Monthly during irrigation

THE ANACONDA COMPANY

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF MAY 1968

DESCRIPTIVE LOCATION		Gross Alpha uc/ml x 10^{8}	Ra-226 uc/ml x 10^{8}	Th-230 uc/ml x 10^{6}	U-nat uc/ml x 10^{5}
Cottonwood Springs	10. 9. 6.442	0.50 ± 0.32			0.00015
Del Padre Springs	10. 9. 7.222	1.2 ± 0.55	less than 0.2	less than 0.004	0.00046
Gottlieb Poison #2	10. 9.17.113a	1.1 ± 0.46	less than 0.2	less than 0.004	0.00016
Gottlieb Butane	10. 9.23.134	0.53 ± 0.12			0.00018
Horace Springs	10. 9.26.222	0.31 ± 0.13			0.00009
San Rafael	10.10. 3.433a	0.44 ± 0.17			0.00012
Heath Well	10.10.15.233	No Sample			
Worthen Well	10.10.22.213	No Sample			
Hawkinson (Grants)	11. 9.30.122a	No Sample			
Republic	11.10. 2.111	1.2 ± 0.31	less than 0.2	less than 0.004	0.00068
Evans Windmill	11.10. 5.222	No Sample			
Vidal	11.10. 5.213	0.41 ± 0.13			0.00006
Milan Chinle	11.10.21.211	0.23 ± 0.08			0.00011
Grants-San Andres	11.10.26.Tap	0.42 ± 0.14			0.00012
Suburban Gas	11.10.27.443	5.8 ± 0.87	less than 0.2	less than 0.004	0.0023
Schneemann	11.11.23.333	0.40 ± 0.08			0.00016
Roundy Windmill	12.10.12.433a	3.9 ± 0.66	less than 0.2	less than 0.004	0.0026
Murray	12.10.27.431	0.35 ± 0.18			0.00012
Card Commissary	12.10.33.444	No Sample			
Murray #1	12.10.34.224	0.76 ± 0.23	less than 0.2	less than 0.004	0.00044
Joy Manufacturing	12.10.35.322	0.53 ± 0.22			0.00015
L.D.S. Bluewater	12.11.22.234	0.58 ± 0.20			0.00021
Wilcoxson (P. Harris)	13. 9.16.411	3.6 ± 0.66	0.40 ± 0.07	less than 0.004	0.00060
Sandoval	13. 9.22.212	No Sample			
Mt. Taylor Corp.	13. 9.29.343	7.3 ± 0.87	less than 0.2	less than 0.004	0.0040
Greater Grants Airport	12.10.26.322a	0.51 ± 0.23			0.00020
Anaconda #2	12.11.24.233	15. ± 1.2	less than 0.2	less than 0.004	0.0087

THE ANACONDA COMPANY

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF SEPTEMBER 1968

DESCRIPTIVE LOCATION		Gross Alpha uc/ml x 10^{8}	Ra-226 uc/ml x 10^{8}	Th-230 uc/ml x 10^{6}	U-nat uc/ml x 10^{5}
Berryhill Section 5	12.10. 5.341a	1.1 ± 0.35	0.25 ± 0.06	less than 0.004	0.00015
North Well	12.10. 7.143	1.6 ± 0.42	less than 0.2	less than 0.004	0.00079
Monitor Well # 1	12.10. 8.332	5.3 ± 0.80	0.20 ± 0.05	less than 0.004	0.0044
Sabre-Pinon	12.10.20.333a	No Sample			
Card Gas *	12.10.27.333	No Sample			
Card Electric *	12.10.29.434a	No Sample			
Mexican Camp	12.10.30.112	0.40 ± 0.11	less than 0.2	less than 0.004	0.00020
Jack Freas	12.10.30.242	0.38 ± 0.12			0.00012
Harding Irrigation	12.10.30.421	0.64 ± 0.19			0.00021
Fred Freas	12.10.30.433	0.48 ± 0.13			0.00018
Chapman	12.10.32.211a	0.39 ± 0.12			0.00012
Thunderbird Post	12.11.10.411a	0.83 ± 0.21	less than 0.2	less than 0.004	0.00050
Berryhill House	12.11.11.334	0.63 ± 0.19	less than 0.2	less than 0.004	0.00031
Tailing Pond	12.11.13.Pond	No Sample			
Engineers Well	12.11.14.213	1.7 ± 0.31	less than 0.2	less than 0.004	0.00066
Roundy (Harmon)	12.11.23.231	0.50 ± 0.20	less than 0.2	less than 0.004	0.00021
Power House Pond	12.11.24.PHP	54. ± 3.3	5.8 ± 0.29	less than 0.004	0.023
Laboratory Pond	12.11.24.LABP	No Sample			
Auro's Bar	12.11.24.334	No Sample			
Auro's Motel	12.11.24.334a	0.39 ± 0.17			0.00024
Anaconda #1	12.11.24.411	No Sample			
Webb Windmill	12.11.25.122a	0.64 ± 0.16			0.00026
Anaconda #3	12.11.25.213	0.72 ± 0.22	less than 0.2	less than 0.004	0.00039
Anaconda #4	12.11.25.214	0.67 ± 0.18	less than 0.2	less than 0.004	0.00014

* Monthly during irrigation

THE ANACONDA COMPANY

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF SEPTEMBER 1968

DESCRIPTIVE LOCATION		Gross Alpha uc/ml x 10^{8}	Ra-226 uc/ml x 10^{8}	Th-230 uc/ml x 10^{6}	U-nat uc/ml x 10^{5}
Cottonwood Springs	10. 9. 6.442	0.59 ± 0.34			0.00031
Del Padre Springs	10. 9. 7.222	0.67 ± 0.50	less than 0.2	less than 0.004	0.00029
Gottlieb Poison #2	10. 9.17.113a	0.91 ± 0.42	less than 0.2	less than 0.004	0.00019
Gottlieb Butane	10. 9.23.134	0.34 ± 0.10			0.00019
Horace Springs	10. 9.26.222	0.32 ± 0.13			0.00009
San Rafael	10.10. 3.433a	0.30 ± 0.14			0.00021
Heath Well	10.10.15.233	No Sample			
Worthen Well	10.10.22.213	No Sample			
Hawkinson (Grants)	11. 9.30.122a	No Sample			
Republic	11.10. 2.111	0.93 ± 0.27	less than 0.2	less than 0.004	0.00049
Evans Windmill	11.10. 5.222	No Sample			
Vidal	11.10. 5.213	0.25 ± 0.11			0.00018
Milan Chinle	11.10.21.211	0.31 ± 0.10			0.00018
Grants-San Andres	11.10.26.Tap	0.45 ± 0.15			0.00021
Suburban Gas	11.10.27.443	5.1 ± 0.75	less than 0.2	less than 0.004	0.0020
Schneemann	11.11.23.333	0.32 ± 0.07			0.00019
Roundy Windmill	12.10.12.433a	3.8 ± 0.64	less than 0.2	less than 0.004	0.0026
Murray	12.10.27.431	No Sample			
Card Commissary	12.10.33.444	No Sample			
Murray #1	12.10.34.224	0.94 ± 0.26	less than 0.2	less than 0.004	0.00050
Joy Manufacturing	12.10.35.322	0.24 ± 0.29	less than 0.2	less than 0.004	0.00036
L.D.S. Bluewater	12.11.22.234	0.58 ± 0.20			0.00026
Wilcoxson (P. Harris)	13. 9.16.411	2.3 ± 0.51	0.35 ± 0.07	less than 0.004	0.00049
Sandoval	13. 9.22.212	No Sample			
Mt. Taylor Corp.	13. 9.29.343	7.4 ± 0.86	less than 0.2	less than 0.004	0.0046
Greater Grants Airport	12.10.26.322a	0.76 ± 0.26			0.00029
Anaconda #2	12.11.24.233	14.	less than 0.2	less than 0.004	0.0097

February 12, 1969

ATTACHMENT IV

STATIC WATER LEVELS OF WELLS IN THE SAN-ANDRES - GLORIETA AQUIFER IN THE VICINITY OF THE ANACONDA MILL AND DISPOSAL WELL

Well Description	Date of Measurement	Static Water Level Feet Above Mean Sea Level
Anaconda Well #1	1-14-68	6455.3
12.11.24.411	12-28-68	6452.3
Anaconda Well #2	1-14-68	6454.9
12.11.24.233	12-28-68	6452.2
Anaconda Well #3	1-14-68	6454.5
12.11.25.213	12-28-68	6451.9
Anaconda Well #4	1-7-68	6452.8
12.11.25.214	12-28-68	6452.1
Monitor Well #1	12-6-67	6460.3
12.10.8.332	12-31-68	6456.1
North Well	12-5-67	6462.9
12.10.7.143	12-31-68	6459.8

FROM: Kerr-McGee Corp.
Cimarron, New Mexico 87020

DATE OF DOCUMENT: 1-29-68
DATE RECEIVED: 2-1-68
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Hussbaumer

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CONCURRENCE ☐ COMMENT ☐
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Yearly Summary Report of the Disposal Well Injection Program for 1967.

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U. S. ATOMIC ENERGY COMMISSION MAIL CONTROL FORM FORM AEC-326S (0-60)

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DOCKET NO. 40-665

THE ANACONDA COMPANY

New Mexico Operations

P. O. Box 638, Grants, New Mexico 87020

A. J. FITCH
MANAGER

Regulatory Suppl File By.

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1968

January 29, 1968

United States Atomic Energy Commission
Washington, D. C. 20545

Attention: Mr. Donald A. Nussbaumer, Chief
Source and Special Nuclear Materials Branch
Division of Materials Licensing

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1968

Re: ~~DTR-DFH~~
40-665

Gentlemen:

In compliance with condition No. 13(c) of our Source Material License No. SUA-647, I am sending you three copies of the Yearly Summary Report of the Disposal Well Injection Program for 1967.

Complete records of all phases of the disposal well injection program are being maintained and are available for your inspection at any time.

Yours very truly,

a j fitch

A. J. FITCH

hw

Enclosures

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Regulatory Suppl File Cy.

January 29, 1968

MEMORANDUM FOR RECORD

SUBJECT: Yearly Summary Report of the Disposal Well Injection Program for 1967.

Presented in this Report are the following tabulations of data pertaining to the operation of the disposal well program during the period from January 1, 1967 to January 1, 1968:

I. Average Monthly Liquid Injection Rates. (Note Attachment I)

II. Concentration of Radioactive Constituents In Injection Liquid. (Note Attachment II)

III. Radiological Analyses of Monitored Well and Surface Waters. (Note Attachment III)

IV. Static Water Levels of Wells in the San Andres-Glorieta Aquifer in the Vicinity of the Anaconda Mill and Disposal Well. (Note Attachment IV)

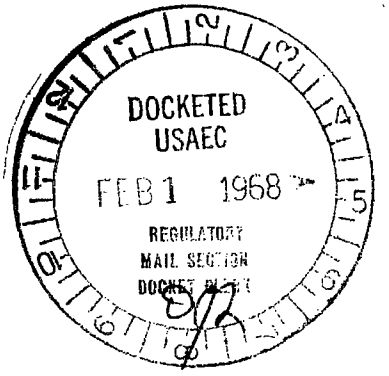
Respectfully submitted,

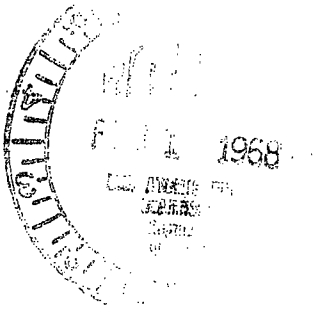
Ralph M. Wilde

Ralph M. Wilde
Radiation Safety Director

RMW:hw

c: A. J. Fitch (4)
E. C. Peterson





January 29, 1968

ATTACHMENT I

AVERAGE MONTHLY LIQUID INJECTION RATES

	Gallons Injected	
January 1967	2,718,300	
February 1967	7,164,420	
March 1967	2,534,890	
April 1967	172,800	
May 1967	0	
June 1967	502,960	
July 1967	1,785,500	
August 1967	3,749,600	
September 1967	3,036,600	
October 1967	2,414,150	
November 1967	0	
December 1967	0	
Total 1-1-67 to 1-1-68	24,079,220	
Average Injection Rate	2,006,600	gallons/month

January 29, 1968

ATTACHMENT II

CONCENTRATION OF RADIOACTIVE CONSTITUENTS IN INJECTION LIQUID

	Ra-226 uc/ml X 10^{7}	Th-230 uc/ml X 10^{4}	U-natural uc/ml X 10^{6}
January 1967	1.25	2.02	2.76
February 1967	1.04	1.80	2.98
March 1967	0.41	2.08	3.84
April 1967	0.77	3.27	6.09
May 1967	No Injection		
June 1967	0.24	3.23	6.40
July 1967	1.34	3.01	4.78
August 1967	3.26	2.60	3.78
September 1967	0.96	1.87	3.02
October 1967	0.50	2.23	3.00
November 1967	No Injection		
December 1967	No Injection		

January 29, 1968

ATTACHMENT III

RADIOLOGICAL ANALYSES OF MONITORED WELL AND SURFACE WATERS FOR THE MONTHS OF MAY AND SEPTEMBER 1967

[illegible] MAY 1967

[illegible]	[illegible]	[illegible] pCi/l X 10^8	[illegible] pCi/l X 10^8	[illegible] pCi/l X 10^6	[illegible] pCi/l X 10^5
[illegible]	[illegible]	0.57 ± 0.33	0.27 ± 0.06	less than 0.004	0.00014
[illegible]	[illegible]	0.46 ± 0.28	less than 0.2	less than 0.004	0.0011
[illegible]	[illegible]	3.4 ± 0.66	0.20 ± 0.05	less than 0.004	0.0042
[illegible]	[illegible]	0.20 ± 0.13			0.00026
[illegible]	[illegible]	0.29 ± 0.17			0.00036
[illegible] *	[illegible]	No Sample			
[illegible]	[illegible]	0.17 ± 0.08	less than 0.2	less than 0.004	0.00019
[illegible]	[illegible]	0.20 ± 0.11			0.00006
[illegible]	[illegible]	No Sample			
[illegible]	[illegible]	0.12 ± 0.09			0.00009
[illegible]	[illegible]	0.21 ± 0.10			0.00011
[illegible]	[illegible]	2.5 ± 0.66	less than 0.2	less than 0.004	0.0010
[illegible]	[illegible]	0.26 ± 0.16	less than 0.2	less than 0.004	0.00021
[illegible]	[illegible]	No sample			
[illegible]	[illegible]	0.82 ± 0.22	less than 0.2	less than 0.004	0.00059
[illegible]	[illegible]	0.25 ± 0.16	less than 0.2	less than 0.004	0.00012
[illegible]	[illegible]	49. ± 2.5	0.43 ± 0.08	0.78 ± 0.17	0.053
[illegible]	[illegible]	24. ± 1.5	less than 0.2	less than 0.004	0.028
[illegible]	[illegible]				
[illegible]	[illegible]	0.29 ± 0.14			0.00011
[illegible] #1	[illegible]	2.1 ± 0.41	less than 0.2	less than 0.004	0.0019
[illegible]	[illegible]	No Sample			
[illegible] #3	[illegible]	0.58 ± 0.21	less than 0.2	less than 0.004	0.00040
Anaconda #4	12.11.25.214	0.44 ± 0.17	less than 0.2	less than 0.004	0.00019

* Pumped during irrigation

MAY 1967

		X 10^{8}	X 10^{8}	X 10^{6}	X 10^{5}
[illegible]	[illegible]	0.11 ± 0.25			0.00026
[illegible]	[illegible]	0.72 ± 0.77	less than 0.2	less than 0.004	0.00070
[illegible]	[illegible]	0.61 ± 0.41			0.00034
[illegible]	[illegible]	0.17 ± 0.08			0.00019
[illegible]	[illegible]	0.16 ± 0.12			0.00006
[illegible]	[illegible]	0.15 ± 0.12			0.00020
[illegible]	[illegible]	0.29 ± 0.24	less than 0.2	less than 0.004	0.00086
[illegible]	[illegible]	No Sample			
[illegible]	[illegible]	No Sample			
[illegible]	[illegible]	0.89 ± 0.28	less than 0.2	less than 0.004	0.00056
[illegible]	[illegible]	No Sample			
[illegible]	[illegible]	0.15 ± 0.10			0.00011
[illegible]	[illegible]	0.23 ± 0.09			0.00019
[illegible]	[illegible]	0.18 ± 0.10			0.00014
[illegible]	[illegible]	3.4 ± 0.70	less than 0.2	less than 0.004	0.0033
[illegible]	[illegible]	0.20 ± 0.06			0.00014
[illegible]	[illegible]	2.6 ± 0.57	less than 0.2	less than 0.004	0.0028
[illegible]	[illegible]	0.44 ± 0.20			0.00030
Coral Quarry	[illegible]	0.40 ± 0.15	less than 0.2	less than 0.004	0.00088
[illegible]	[illegible]	0.62 ± 0.23			0.00050
Jay Manufacturing	[illegible]	0.23 ± 0.18	less than 0.2	less than 0.004	0.00021
L.D.S. Mountain	[illegible]	0.28 ± 0.16			0.00020
Wilkerson (P. Harris)	[illegible]	1.24 ± 0.39	0.29 ± 0.06	less than 0.004	0.00059
[illegible]	[illegible]	0.16 ± 0.08			0.00009
Mt. Taylor Coop.	[illegible]	5.6 ± 0.78	less than 0.2	less than 0.004	0.0063
[illegible]	[illegible]	0.33 ± 0.21			0.00022
[illegible]	[illegible]	10. ± 1.0	less than 0.2	less than 0.004	0.010

SEPTEMBER 1967

[illegible] Section 5	12.10. 5.2[illegible]a	0.70 ± 0.35	less than 0.2	less than 0.004	0.00010
[illegible]	12.10. 7.3[illegible]	1.2 ± 0.40	less than 0.2	less than 0.004	0.0010
[illegible] Well # 1	12.10. 8.3[illegible]	4.9 ± 0.82	less than 0.2	less than 0.004	0.0041
[illegible]-Mann	12.10.23.3[illegible]a	0.10 ± 0.11			0.00005
[illegible] *	12.10.27.3[illegible]	No Sample			
[illegible] *	12.10. 3.4[illegible]a	No Sample			
[illegible] Camp	12.10.30.112	0.35 ± 0.10	less than 0.2	less than 0.004	0.00018
[illegible] Farms	12.10. 0.2[illegible]	0.23 ± 0.12			0.00014
[illegible] Irrigation	12.10.30.4[illegible]	0.36 ± 0.16			0.00019
[illegible] Farms	12.10.30.42[illegible]	0.27 ± 0.12			0.00014
[illegible]	12.10.32.31[illegible]	0.24 ± 0.11			0.00012
[illegible]	12.11.20.41[illegible]a	1.1 ± 0.45	less than 0.2	less than 0.004	0.00081
[illegible]	12.11.23.33[illegible]	0.41 ± 0.19	less than 0.2	less than 0.004	0.00024
[illegible] Pond	12.11.23.Pond	Not determined	9.56	187.	0.302
[illegible]	12.11.24.2[illegible]	No Sample			
[illegible]	12.11.24.23[illegible]	0.51 ± 0.22	less than 0.2	less than 0.004	0.00029
[illegible] Pond	12.11.24.3[illegible]	70. ± 3.3	1.5 0.12	less than 0.004	0.049
Laboratory Pond	12.11.24.L43P	34. ± 0.91	less than 0.2	less than 0.004	0.022
Aurora Bar	12.11.24.33[illegible]	No Sample			
Aurora Hotel	12.11.24.33[illegible]	0.22 ± 0.12			0.00016
Anaconda #1	12.11.24.411	1.9 ± 0.38	less than 0.2	less than 0.004	0.0016
Webb Windmill	12.11.25.122a	No Sample			
Anaconda #3	12.11.25.213	0.70 ± 0.23	less than 0.2	less than 0.004	0.00040
Anaconda #4	12.11.25.214	0.48 ± 0.17	less than 0.2	less than 0.004	0.00021

* Monthly during irrigation

[illegible]

[illegible] SEPTEMBER 1967

[illegible]		[illegible] x 10^8	Ra-226 [illegible] x 10^8	Th-230 [illegible] x 10^6	U-[illegible] x 10^5
[illegible] Springs	10. 9, [illegible]	0.55 ± 0.37			0.00020
[illegible]	[illegible] 9. [illegible]22	0.40 ± 0.24	less than 0.2	less than 0.004	0.00025
[illegible] #2	10. 9.17.113a (?)	No Sample			
[illegible]	10. 9.23.134 (?)	0.25 ± 0.07			0.00024
[illegible] Springs	10. 9.2[illegible].222	0.11 ± 0.08			0.00011
[illegible]	10.10. 3.433a (?)	0.39 ± 0.17			0.00016
[illegible]	10.10.15.233	No Sample			
[illegible]	10.10.22.213 (?)	No Sample			
[illegible])	11. 9.30.122a (?)	No Sample			
[illegible]	11.10. 2.111 (?)	0.83 ± 0.27	less than 0.2	less than 0.004	0.00056
[illegible]	11.10. 5.222 (?)	No Sample			
[illegible]	[illegible]	0.31 ± 0.13			0.00016
[illegible]	[illegible]	0.29 ± 0.10			0.00012
[illegible]	11.10.2[illegible]	0.29 ± 0.13			0.00015
[illegible]	11.10.27.443 (?)	6.0 ± 0.95	less than 0.2	less than 0.004	0.0044
[illegible]	[illegible]	0.37 ± 0.09			0.00020
[illegible]	12.10.19.[illegible]	3.0 ± 0.62	less than 0.2	less than 0.004	0.0025
[illegible]	12.10.27.432 (?)	No Sample			
[illegible]	12.10.33.444 (?)	No Sample			
[illegible]	12.10.3[illegible].224	0.62 ± 0.22	less than 0.2	less than 0.004	0.00053
[illegible]	12.10.35.322 (?)	0.28 ± 0.17			0.00026
L.D.S. [illegible]	12.11.23.234 (?)	0.51 ± 0.20			0.00026
[illegible]	13. 9.16.411 (?)	1.5 ± 0.44	less than 0.2	less than 0.004	0.00059
[illegible]	13. 9.22.212 (?)	No Sample			
Mt. Taylor [illegible]	13. 9.29.243 (?)	5.5 ± 0.79	less than 0.2	less than 0.004	0.0046
[illegible] County Airport	12.10.26.322a (?)	0.53 ± 0.24			0.00025
[illegible] #2	12.11.2[illegible].233	10. ± 1.0	less than 0.2	less than 0.004	0.010

January 29, 1968

ATTACHMENT IV

STATIC WATER LEVELS OF WELLS IN THE SAN ANDRES - GLORIETA AQUIFER IN THE VICINITY OF THE ANACONDA MILL AND DISPOSAL WELL

Well Description	Date of Measurement	Static Water Level Feet Above Mean Sea Level
Anaconda Well #1	1- 6-67	6455.6
12.11.24.411	1-14-68	6455.3
Anaconda Well #2	1- 6-67	6455.2
12.11.24.233	1-14-68	6454.9
Anaconda Well #3	1- 6-67	6454.7
12.11.25.213	1-14-68	6454.5
Anaconda Well #4		
12.11.25.214	1- 7-68	6452.8
Monitor Well #1	1-31-67	6459.0
12.10.8.332	12- 6-67	6460.3
North Well	1-31-67	6463.8
12.10.7.143	12- 5-67	6462.9

U.S. GOVERNMENT PRINTING OFFICE: 1964 — 772: 9

FROM: The Anaconda Company
Grants, New Mexico 87020

A. J. Fitch

TO:

Nussbaumer

DATE OF DOCUMENT:	DATE RECEIVED	NO.
2-2-67	2-6-67	397

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NO ACTION NECESSARY ☐	COMMENT ☐	BY:

CLASSIF.: U — POST OFFICE — REG. NO.

FILE CODE: 10-665

DESCRIPTION: (Must Be Unclassified)

Ltr. trans. the following pursuant to Condition 13(c) of SUA-647:

ENCLOSURES: (3 cys.)

"Yearly Summary Report of the Disposal Well Injection Program for 1966," dtd. 1-31-67

REFERRED TO	DATE	RECEIVED BY	DATE
Nussbaumer w/file cy. & file 1-compliance cy.	2/7		

DO NOT REMOVE

REMARKS:

Distribution: 1-PDR cy.

ACKNOWLEDGED

U. S. ATOMIC ENERGY COMMISSION

MAIL CONTROL FORM FORM AEC-326S (8-60)

THE ANACONDA COMPANY

P. O. BOX 638, GRANTS, NEW MEXICO 87020

NEW MEXICO OPERATIONS
A. J. FITCH
MANAGER

File Copy

February 2, 1967

RECEIVED
FEB 6 1967
U.S. ATOMIC ENERGY COMMISSION
Document Room

United States Atomic Energy Commission
Washington, D. C. 20545

Attention: Mr. Donald A. Nussbaumer, Chief
Source and Special Nuclear Materials Branch
Division of Materials Licensing

Re: DLR-DFH
40-665

Gentlemen:

In compliance with Condition No. 13 (c) of our Source Material License No. SUA-647, I am sending you three copies of the Yearly Summary Report of the Disposal Well Injection Program for 1966.

Complete records of all phases of the disposal well injection program are being maintained and are available for your inspection at any time.

Yours very truly,

A. J. FITCH

AJF:hw

Enclosures

DOCKETED
USAEC
FEB 3 1967
REGULATORY
MAIL SECTION

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Compliance W
2/8/67
FA

ACKNOWLEDGED

DOCKET NO. 40-665

File Copy

January 31, 1967

MEMORANDUM FOR RECORD

SUBJECT: Yearly Summary Report of the Disposal Well Injection Program for 1966.

Presented in this report are the following tabulations of data pertaining to the operation of the disposal well program during the period from January 1, 1966 to January 1, 1967:

I Average Monthly Liquid Injection Rates. (Note Attachment I)

II Concentration of Radioactive Constituents in Injection Liquid. (Note Attachment II)

III Radiological Analyses of Monitored Well and Surface Waters. (Note Attachment III)

IV Static Water Levels of Wells in the San Andres-Glorieta Aquifer in the Vicinity of the Anaconda Mill and Disposal Well. (Note Attachment IV)

RECEIVED
FEB 6 1967
U.S. ATOMIC ENERGY COMMISSION
Regulatory Mail Section

Respectfully submitted,

Ralph M. Wilde

Ralph M. Wilde
Radiation Safety Director

c: A. J. Fitch (4)
E. C. Peterson

hw

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USAEC
FEB 6 1967
REGULATORY
MAIL SECTION

January 31, 1967

ATTACHMENT I

AVERAGE MONTHLY LIQUID INJECTION RATES

		Gallons Injected
January	1966	4,014,400
February	1966	4,149,600
March	1966	1,448,400
April	1966	336,900
May	1966	37,800
June	1966	582,600
July	1966	1,275,900
August	1966	3,923,980
September	1966	3,671,700
October	1966	1,634,400
November	1966	2,422,980
December	1966	5,617,110
Total 1-1-66 to 1-1-67		29,115,770
Average Injection Rate		2,426,314 Gallons/month

January 31, 1967

ATTACHMENT II

CONCENTRATION OF RADIOACTIVE CONSTITUENTS IN INJECTION LIQUID

		Ra -226 uc/ml X 10^7	Th -230 uc/ml X 10^4	U-natural uc/ml X 10^6
January	1966	0.54	1.84	4.12
February	1966	0.63	1.62	2.61
March	1966	1.40	2.00	2.86
April	1966	0.63	5.63	7.93
May	1966	Insufficient sample for analysis		
June	1966	0.39	2.35	4.50
July	1966	0.46	3.33	5.47
August	1966	0.85	1.97	3.86
September	1966	0.76	1.73	3.36
October	1966	0.86	2.54	4.68
November	1966	1.22	2.48	3.75
December	1966	0.90	1.86	3.25

January 31, 1967

ATTACHMENT III

RADIOLOGICAL ANALYSES OF MONITORED WELL AND SURFACE WATERS FOR THE MONTHS OF MAY AND SEPTEMBER 1966

THE ANACONDA COMPANY

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF MAY 1966

DESCRIPTIVE LOCATION		Gross Alpha uc/ml x 10^{8}	Ra-226 uc/ml x 10^{8}	Th-230 uc/ml x 10^{6}	U-nat uc/ml x 10^{5}
Berryhill Section 5	12.10. 5.341a	0.58 ± 0.33	0.38 ± 0.07	< 0.004	0.00006
North Well	12.10. 7.143	2.2 ± 0.52	< 0.2	< 0.004	0.00076
Monitor Well # 1	12.10. 8.332	4.4 ± 0.76	< 0.2	< 0.004	0.0041
Sabre-Pinon	12.10.20.333a	0.29 ± 0.15			0.00018
Card Gas *	12.10.27.333	No Sample			
Card Electric *	12.10.29.434a	No Sample			
Mexican Camp	12.10.30.112	0.34 ± 0.10	< 0.2	< 0.004	0.00019
Jack Freas	12.10.30.242	0.27 ± 0.12			0.00005
Harding Irrigation	12.10.30.421	No Sample			
Fred Freas	12.10.30.433	0.26 ± 0.11			0.00009
Chapman	12.10.32.211a	0.26 ± 0.12			0.00009
Thunderbird Post	12.11.10.411a	3.3 ± 0.75	< 0.2	< 0.004	0.0011
Berryhill House	12.11.11.334	0.57 ± 0.22			0.00021
Tailing Pond	12.11.13.Pond	Not determined	No Sample		
Engineers Well	12.11.14.213	1.2 ± 0.27	< 0.2	< 0.004	0.00055
Roundy (Harmon)	12.11.23.231	0.48 ± 0.18			0.00014
Power House Pond	12.11.24.PHP	44 ± 2.3	0.46 ± 0.09	< 0.004	0.035
Laboratory Pond	12.11.24.LABP	No Sample			
~~Auro's Bar~~	~~12.11.24.334~~				
Auro's Motel	12.11.24.334a	0.34 ± 0.15			0.00011
Anaconda #1	12.11.24.411	2.5 ± 0.45	< 0.2	< 0.004	0.0019
Webb Windmill	12.11.25.122a	No Sample			
Anaconda #3	12.11.25.213	0.89 ± 0.25	< 0.2	< 0.004	0.00049
Anaconda #4	12.11.25.214	0.59 ± 0.20	< 0.2	< 0.004	0.00022

* Monthly during irrigation

THE ANACONDA COMPANY

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF MAY 1966

DESCRIPTIVE LOCATION		Gross Alpha uc/ml x 10^{8}	Ra-226 uc/ml x 10^{8}	Th-230 uc/ml x 10^{6}	U-nat uc/ml x 10^{5}
Cottonwood Springs	10. 9. 6.442	0.21 ± 0.28	< 0.2	< 0.004	0.00006
Del Padre Springs	10. 9. 7.222	0.61 ± 0.72	< 0.2	< 0.004	0.00052
Gottlieb Poison #2	10. 9.17.113a	0.37 ± 0.35			0.00029
Gottlieb Butane	10. 9.23.134	0.32 ± 0.10			0.00025
Horace Springs	10. 9.26.222	0.23 ± 0.13			0.00011
San Rafael	10.10. 3.433a	0.30 ± 0.15			0.00012
Heath Well	10.10.15.233	0.60 ± 0.31	< 0.2	< 0.004	0.00061
Worthen Well	10.10.22.213	No Sample			
Hawkinson (Grants)	11. 9.30.122a	No Sample			
Republic	11.10. 2.111	1.0 ± 0.31	< 0.2	< 0.004	0.00050
Evans Windmill	11.10. 5.222	No Sample			
Vidal	11.10. 5.213	0.27 ± 0.12			0.00014
Milan Chinle	11.10.21.211	0.22 ± 0.10			0.00012
Grants-San Andres	11.10.26.Tap	0.22 ± 0.12			0.00015
Suburban Gas	11.10.27.443	2.4 ± 0.54	< 0.2	< 0.004	0.0014
Schneemann	11.11.23.333	No Sample			
Roundy Windmill	12.10.12.433a	4.4 ± 0.77	< 0.2	< 0.004	0.0023
Murray	12.10.27.431	0.49 ± 0.22			0.0021
Card Commissary	12.10.33.444	0.91 ± 0.19	< 0.2	< 0.004	0.00055
Murray #1	12.10.34.224	0.78 ± 0.32	< 0.2	< 0.004	0.00040
Joy Manufacturing	12.10.35.322	0.33 ± 0.20			0.00019
L.D.S. Bluewater	12.11.22.234	0.65 ± 0.23			0.00019
Wilcoxson (P. Harris)	13. 9.16.411	1.9 ± 0.48	0.43 ± 0.08	< 0.004	0.00061
Sandoval	13. 9.22.212	No Sample			
Mt. Taylor Corp.	13. 9.29.343	5.9 ± 0.80	< 0.2	< 0.004	0.0035
Greater Grants Airport	12.10.26.322a	0.58 ± 0.26			0.00020
Anaconda #2	12.11.24.233	16. ± 1.3	< 0.2	< 0.004	0.014

THE ANACONDA COMPANY

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF SEPTEMBER 1966

DESCRIPTIVE LOCATION		Gross Alpha uc/ml x 10^{8}	Ra-226 uc/ml x 10^{8}	Th-230 uc/ml x 10^{6}	U-nat uc/ml x 10^{5}
Berryhill Section 5	12.10. 5.341a	0.46 ± 0.31	0.22 ± 0.06	< 0.004	0.00012
North Well	12.10. 7.143	1.2 ± 0.40	< 0.2	< 0.004	0.00081
Monitor Well # 1	12.10. 8.332	4.8 ± 0.80	0.19 ± 0.05	< 0.004	0.0038
Sabre-Pinon	12.10.20.333a	No Sample			
Card Gas *	12.10.27.333	No Sample			
Card Electric *	12.10.29.434a	No Sample			
Mexican Camp	12.10.30.112	0.31 ± 0.10	< 0.2	< 0.004	0.00019
Jack Freas	12.10.30.242	0.22 ± 0.11			0.00010
Harding Irrigation	12.10.30.421	No Sample			
Fred Freas	12.10.30.433	0.17 ± 0.10			0.00014
Chapman	12.10.32.211a	0.36 ± 0.13			0.00012
Thunderbird Post	12.11.10.411a	1.1 ± 0.29	< 0.2	< 0.004	0.00070
Berryhill House	12.11.11.334	0.36 ± 0.18			0.00020
Tailing Pond	12.11.13.Pond	Not Determined	7.56	194.	0.336
Engineers Well	12.11.14.213	1.2 ± 0.27	< 0.2	< 0.004	0.00034
Roundy (Harmon)	12.11.23.231	0.42 ± 0.20			0.00015
Power House Pond	12.11.24.PHP	25. ± 1.5	0.37 ± 0.07	< 0.004	0.014
Laboratory Pond	12.11.24.LABP	37. ± 1.6	0.38 ± 0.08	< 0.004	0.029
~~Auro's Bar~~	~~12.11.24.334~~				
Auro's Motel	12.11.24.334a	0.26 ± 0.12			0.00014
Anaconda #1	12.11.24.411	2.3 ± 0.43	< 0.2	< 0.004	0.0017
Webb Windmill	12.11.25.122a	No Sample			
Anaconda #3	12.11.25.213	0.82 ± 0.24	< 0.2	< 0.004	0.00048
Anaconda #4	12.11.25.214	0.58 ± 0.19	< 0.2	< 0.004	0.00026

* Monthly during irrigation

THE ANACONDA COMPANY

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF SEPTEMBER 1966

DESCRIPTIVE LOCATION		Gross Alpha uc/ml X 10^{8}	Ra-226 uc/ml X 10^{8}	Th-230 uc/ml X 10^{6}	U-nat uc/ml X 10^{5}
Cottonwood Springs	10. 9. 6.442	0.0 ± 0.21	< 0.2	< 0.004	0.00026
Del Padre Springs	10. 9. 7.222	0.60 ± 0.70	< 0.2	< 0.004	0.00026
Gottlieb Poison #2	10. 9.17.113a	No Sample			
Gottlieb Butane	10. 9.23.134	0.44 ± 0.12			0.00025
Horace Springs	10. 9.26.222	0.14 ± 0.06			0.00015
San Rafael	10.10. 3.433a	0.23 ± 0.14			0.00020
Heath Well	10.10.15.233	0.68 ± 0.31	< 0.2	< 0.004	0.00034
Worthen Well	10.10.22.213	No Sample			
Hawkinson (Grants)	11. 9.30.122a	No Sample			
Republic	11.10. 2.111	0.84 ± 0.27	< 0.2	< 0.004	0.00052
Evans Windmill	11.10. 5.222	No Sample			
Vidal	11.10. 5.213	0.26 ± 0.12			0.00016
Milan Chinle	11.10.21.211	0.18 ± 0.09			0.00014
Grants-San Andres	11.10.26.Tap	0.37 ± 0.14			0.00014
Suburban Gas	11.10.27.443	4.1 ± 0.70	< 0.2	< 0.004	0.0024
Schneemann	11.11.23.333	0.22 ± 0.07			0.00014
Roundy Windmill	12.10.12.433a	No Sample			
Murray	12.10.27.431	No Sample			
Card Commissary	12.10.33.444	0.35 ± 0.13	< 0.2	< 0.004	0.00051
Murray #1	12 10.34.224	0.76 ± 0.25	< 0.2	< 0.004	0.00050
Joy Manufacturing	12.10.35.322	0.19 ± 0.17			0.00022
L.D.S. Bluewater	12.11.22.234	0.50 ± 0.21			0.00025
Wilcoxson (P. Harris)	13. 9.16.411	1.8 ± 0.46	0.30 ± 0.07	< 0.004	0.00062
Sandoval	13. 9.22.212	0.19 ± 0.09			0.00015
Mt. Taylor Corp.	13. 9.29.343	5.8 ± 0.79	< 0.2	< 0.004	0.0038
Greater Grants Airport	12.10.26.322a	0.39 ± 0.22			0.00028
Anaconda #2	12.11.24.233	14. ± 1.1	< 0.2	< 0.004	0.012

January 31, 1967

ATTACHMENT IV

STATIC WATER LEVELS OF WELLS IN THE
SAN ANDRES - GLORIETA AQUIFER IN THE
VICINITY OF THE ANACONDA MILL AND DISPOSAL WELL

Well Description	Date of Measurement	Static Water Level Feet Above Mean Sea Level
Anaconda Well #1	1- 2-66	6454.7
12.11.24.411	1- 6-67	6455.6
Anaconda Well #2	1- 2-66	6454.2
12.11.24.233	1- 6-67	6455.2
Anaconda Well #3	1- 2-66	6452.2
12.11.25.213	1- 6-67	6454.7
Anaconda Well #4	Not Available for Measurement	
12.11.25.214		
Monitor Well #1	1- 4-66	6457.1
12.10.8.332	1-31-67	6459.0
North Well	1- 4-66	6461.7
12.10.7.143	1-31-67	6463.8

U. S. Government Printing Office: 1965—769-446

FROM: The Anaconda Co.
Grants, New Mexico 87020

A. J. Fitch

TO:

Nussbaumer

CLASSIFICATION: D

POST OFFICE REG. NO.:

DESCRIPTION: (MUST BE UNCLASSIFIED)

Ltr. adv. they do not consider necessary the exemption to 20.203(f)(2) which is now contained in SUA-617....and req. correction of type in lic.

ENCLOSURES:

REMARKS:

Distribution: 1-PDR cy.

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FILE CODE: 40-665

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THE ANACONDA COMPANY

New Mexico Operations

P. O. Box 638, Grants, New Mexico

A. J. FITCH
MANAGER

October 3, 1966

United States Atomic Energy Commission
Washington, D.C. 20545

Attention: Mr. Donald A. Nussbaumer, Chief
Source & Special Nuclear Materials Branch
Division of Materials Licensing

Re: DML:ND
SUA-647, 40-665

Gentlemen:

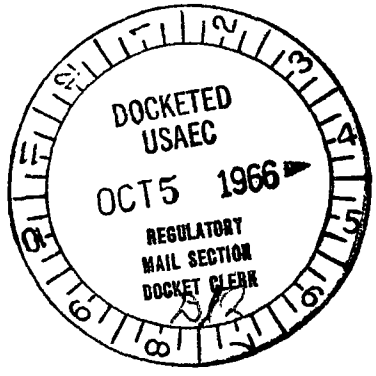
In reply to your recent letter, this is to advise that, in view of the recent amendment to Section 20.203(f) of 10 CFR 20, we do not consider necessary the exemption to 20.203(f)(2) which is now contained in our Source Material License No. SUA-647.

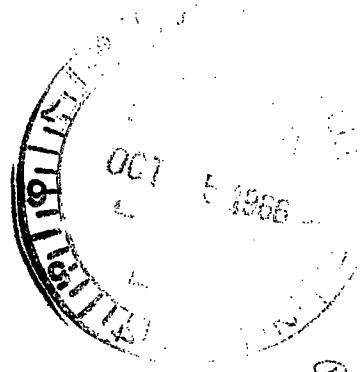
Would you please note that our Source Material License also contains an exemption from the requirements of "Section 20.302(e)(2)". We feel that "Section 20.302(e)(2)" in this case is a typographical error and should have read "Section 20.203(e)(2)", as contained in our previous Source Material License No. SUA-647 which expired on September 30, 1965. Assuming that you will issue an amended condition to our current license, removing the exemption to Section 20.203(f)(2), we would appreciate it if you would, at the same time, rectify the typographical error referred to above. We would like to retain the exemption to Section 20.203(e)(2).

Yours very truly,

A. J. FITCH

AJF:hw





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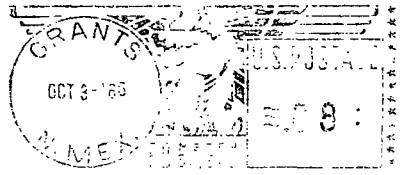
ACKNOWLEDGED

2737

AJF

THE ANACONDA COMPANY
NEW MEXICO OPERATIONS
P. O. BOX 638
GRANTS, NEW MEXICO 87020



VIA AIR MAIL

United States Atomic Energy Commission
Washington, D.C. 20545

Attn: Mr. Donald A. Nussbaumer,
Chief Source & Special Nuclear Materials Branch
Division of Materials Licensing.

☆U.S. GOVERNMENT PRINTING OFFICE : 1964 — 741-690

FROM:	DATE OF DOCUMENT:	DATE RECEIVED:	NO.:
The Anaconda Company Grants, New Mexico (A. J. Fitch)	1-27-66	2-1-66	340
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TO: D. Nussbaumer	ORIG.: 1	CC:	OTHER:
	ACTION NECESSARY ☐ / NO ACTION NECESSARY ☐	CONCURRENCE ☐ / COMMENT ☐	DATE ANSWERED: / BY:
CLASSIF.: U / POST OFFICE / REG. NO.	FILE CODE: DOCKET: 40-665		

DESCRIPTION: (Must Be Unclassified)

Ltr. trans. the following pursuant to Condition 13(c) of SUA-647:

ENCLOSURES: (3 cys.)

"Yearly Summary Report of the Disposal Well Injection Program for 1965," dated 1-24-66

REMARKS: Mail Room Distribution:
1-PDR Copy

REFERRED TO	DATE	RECEIVED BY	DATE
Nussbaumer: w/file cy. & file 1-compliance cy.	2-2		
		ACKNOWLEDGED	
		340	

U. S. ATOMIC ENERGY COMMISSION **MAIL CONTROL FORM** FORM AEC-326 (6-60)

THE ANACONDA COMPANY

New Mexico Operations

P. O. Box 638, Grants, New Mexico

A. J. FITCH
MANAGER

January 27, 1966

United States Atomic Energy Commission
Washington, D. C. 20545

Attention: Mr. Donald A. Nussbaumer, Chief
Source and Special Nuclear Materials Branch
Division of Materials Licensing

Re: DLR-DFH
40-665 File Copy

Gentlemen:

In compliance with Condition No. 13 (c) of our Source Material License No. SUA-647, I am sending you three copies of the Yearly Summary Report of the Disposal Well Injection Program for 1965.

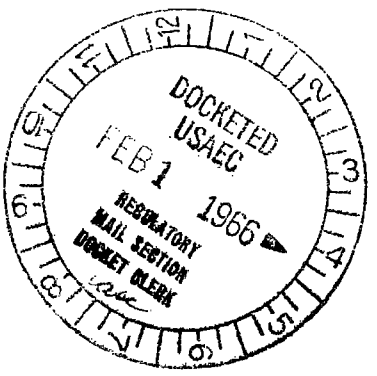
Complete records of all phases of the disposal well injection program are being maintained and are available for your inspection at any time.

Yours very truly,

a J Fitch

A. J. FITCH

AJF:MA
Enc.



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DOCKET No. 40-665

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January 24, 1966

MEMORANDUM FOR RECORD

SUBJECT: Yearly Summary Report of the Disposal Well Injection Program for 1965.

Presented in this report are the following tabulations of data pertaining to the operation of the disposal well program during the period from January 1, 1965 to January 1, 1966:

I Average Monthly Liquid Injection Rates. (Note Attachment 1)

II Concentration of Radioactive Constituents in Injection Liquid. (Note Attachment II)

III Radiological Analyses of Monitored Well and Surface Waters. (Note Attachment III)

IV Static Water Levels of Wells in the San Andres-Glorieta Aquifer in the Vicinity of the Anaconda Mill and Disposal Well. (Note Attachment IV)

Respectfully submitted,

Ralph M. Wilde

Ralph M. Wilde
Radiation Safety Director

RMW:cig

c: A. J. Fitch (4)
E. C. Peterson

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January 24, 1966

ATTACHMENT I

AVERAGE MONTHLY LIQUID INJECTION RATES

	Gallons Injected
January 1965	11,277,200
February 1965	2,812,800
March 1965	0
April 1965	0
May 1965	0
June 1965	48,400
July 1965	695,100
August 1965	1,387,200
September 1965	1,495,142
October 1965	0
November 1965	1,629,300
December 1965	4,929,200
Total 1-1-65 to 1-1-66	24,274,342
Average Injection Rate	2,022,862 gallons/month

January 24, 1966

ATTACHMENT II

CONCENTRATION OF RADIOACTIVE CONSTITUENTS IN INJECTION LIQUID

		Ra-226 uc/ml x 10^7	Th-230 uc/ml x 10^4	U-natural uc/ml x 10^6
January	1965	1.21	1.40	5.64
February	1965	0.53	1.56	6.37
March	1965	No Injection		
April	1965	No Injection		
May	1965	No Injection		
June	1965	1.56	2.91	10.2
July	1965	0.91	2.30	8.02
August	1965	2.35	1.04	4.22
September	1965	1.13	1.13	5.98
October	1965	No Injection		
November	1965	0.55	2.06	6.28
December	1965	2.02	1.64	3.83

January 24, 1966

ATTACHMENT III

RADIOLOGICAL ANALYSES OF MONITORED WELL AND SURFACE WATERS FOR THE MONTHS OF MAY AND SEPTEMBER 1965

THE ANACONDA COMPANY

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF MAY, 1965

DESCRIPTIVE LOCATION		Gross Alpha uc/ml x 10^{9}	Ra-226 uc/ml x 10^{8}	Th-230 uc/ml x 10^{6}	U-nat uc/ml x 10^{5}
Berryhill Section 5	12.10. 5.341a	0.82 ± 0.37	Less than 0.2	Less than 0.004	0.00005
North Well	12.10. 7.143	1.1 ± 0.38	Less than 0.2	Less than 0.004	0.00066
Monitor Well # 1	12.10. 8.332	7.0 ± 0.91	Less than 0.2	Less than 0.004	0.0042
Sabre-Pinon	12.10.20.333a	0.11 ± 0.05			0.00001
Card Gas *	12.10.27.333	No Sample			
Card Electric *	12.10.29.434a	No Sample			
Mexican Camp	12.10.30.112	0.38 ± 0.11	Less than 0.2	Less than 0.004	0.00019
Jack Freas	12.10.30.242	0.21 ± 0.10			0.00005
Harding Irrigation	12.10.30.421	No Sample			
Fred Freas	12.10.30.433	0.34 ± 0.12			0.00016
Chapman	12.10.32.211a	0.26 ± 0.11			0.00008
Thunderbird Post	12.11.10.411a	1.6 ± 0.46	Less than 0.2	Less than 0.004	0.00049
Berryhill House	12.11.11.334	0.41 ± 0.19			0.00026
Tailing Pond	12.11.13.Pond	Not Determined	23.6	303.	0.690
Engineers Well	12.11.14.213	1.3 ± 0.29	Less than 0.2	Less than 0.004	0.00046
Roundy (Harmon)	12.11.23.231	0.36 ± 0.17			0.00019
Power House Pond	12.11.24.PHP	13.7 ± 1.1	Less than 0.2	Less than 0.004	0.013
Laboratory Pond	12.11.24.LABP	15.7 ± 1.1	Less than 0.2	Less than 0.004	0.017
Auro's Bar	12.11.24.334				
Auro's Motel	12.11.24.334a	0.41 ± 0.19			0.00016
Anaconda #1	12.11.24.411	3.2 ± 0.50	Less than 0.2	Less than 0.004	0.0022
Webb Windmill	12.11.25.122a	0.86 ± 0.18	Less than 0.2	Less than 0.004	0.00036
Anaconda #3	12.11.25.213	1.2 ± 0.28	Less than 0.2	Less than 0.004	0.00068
Anaconda #4	12.11.25.214	0.57 ± 0.19	Less than 0.2	Less than 0.004	0.00025

* Monthly during irrigation

THE ANACONDA COMPANY

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF MAY, 1965

DESCRIPTIVE LOCATION		Gross Alpha uc/ml x 10^8	Ra-226 uc/ml x 10^8	Th-230 uc/ml x 10^6	U-nat uc/ml x 10^5
Cottonwood Springs	10. 9. 6.442	0.22 ± 0.31			0.00006
Del Padre Springs	10. 9. 7.222	1.0 ± 0.73	Less than 0.2	Less than 0.004	0.00041
Gottlieb Poison #2	10. 9.17.113a	0.65 ± 0.43			0.00029
Gottlieb Butane	10. 9.23.134	0.61 ± 0.14			0.00023
Horace Springs	10. 9.26.222	0.23 ± 0.14			0.00008
San Rafael	10.10. 3.433a	0.36 ± 0.16			0.00019
Heath Well	10.10.15.233	1.2 ± 0.39	Less than 0.2	Less than 0.004	0.00060
Worthen Well	10.10.22.213	No Sample			
Hawkinson (Grants)	11. 9.30.122a	No Sample			
Republic	11.10. 2.111	1.2 ± 0.31	Less than 0.2	Less than 0.004	0.00055
Evans Windmill	11.10. 5.222	No Sample			
Vidal	11.10. 5.213	0.21 ± 0.11			0.00012
Milan Chinle	11.10.21.211	0.36 ± 0.11			0.00014
Grants-San Andres	11.10.26.Tap	0.46 ± 0.16			0.00024
Suburban Gas	11.10.27.443	5.1 ± 0.84	Less than 0.2	Less than 0.004	0.0027
Schneemann	11.11.23.333	0.31 ± 0.07			0.00011
Roundy Windmill	12.10.12.433a	4.2 ± 0.76	Less than 0.2	Less than 0.004	0.0030
Murray	12.10.27.431	0.64 ± 0.24			0.00019
Card Commissary	12.10.33.444	1.0 ± 0.22	Less than 0.2	Less than 0.004	0.00060
Murray #1	12.10.34.224	0.83 ± 0.26	Less than 0.2	Less than 0.004	0.00046
Joy Manufacturing	12.10.35.322	0.35 ± 0.21			0.00018
L.D.S. Bluewater	12.11.22.234	0.66 ± 0.23			0.00020
Wilcoxson (F. Harris)	13. 9.16.411	1.9 ± 0.47	0.38 ± 0.07	Less than 0.004	0.00060
Sandoval	13. 9.22.212	No Sample			
Mt. Taylor Corp.	13. 9.29.343	6.4 ± 0.85	Less than 0.2	Less than 0.004	0.0040
Greater Grants Airport	12.10.26.322a	0.75 ± 0.28			0.00024
Anaconda #2	12.11.24.233	12.6 ± 1.1	Less than 0.2	Less than 0.004	0.0068

THE ANACONDA COMPANY

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF SEPTEMBER, 1965

DESCRIPTIVE LOCATION		Gross Alpha uc/ml x 10^{8}	Ra-226 uc/ml x 10^{8}	Th-230 uc/ml x 10^{6}	U-nat uc/ml x 10^{5}
Berryhill Section 5	12.10. 5.341a	0.86 ± 0.35	Less than 0.2	Less than 0.004	0.00005
North Well	12.10. 7.143	0.96 ± 0.35	Less than 0.2	Less than 0.004	0.00074
Monitor Well # 1	12.10. 8.332	6.2 ± 0.88	0.22 ± 0.06	Less than 0.004	0.0038
Sabre-Pinon	12.10.20.333a	0.06 ± 0.04			0.00006
Card Gas *	12.10.27.333	0.46 ± 0.22			0.00022
Card Electric *	12.10.29.434a	No Sample			
Mexican Camp	12.10.30.112	0.34 ± 0.10	Less than 0.2	Less than 0.004	0.00020
Jack Freas	12.10.30.242	0.18 ± 0.09			0.00012
Harding Irrigation	12.10.30.421	No Sample			
Fred Freas	12.10.30.433	0.34 ± 0.12			0.00012
Chapman	12.10.32.211a	0.29 ± 0.11			0.00012
Thunderbird Post	12.11.10.411a	1.3 ± 0.44	Less than 0.2	Less than 0.004	0.00090
Berryhill House	12.11.11.334	0.62 ± 0.21			0.00022
Tailing Pond	12.11.13.Pond	Not Determined	11.3	113	0.598
Engineers Well	12.11.14.213	No Sample			
Roundy (Harmon)	12.11.23.231	0.42 ± 0.18			0.00011
Power House Pond	12.11.24.PHP	31.7 ± 1.7	0.76 ± 0.10	Less than 0.004	0.025
Laboratory Pond	12.11.24.LABP	9.5 ± 0.52	Less than 0.2	Less than 0.004	0.0067
~~Auro's Bar~~	~~12.11.24.334~~				
Auro's Motel	12.11.24.334a	0.26 ± 0.11			0.00008
Anaconda #1	12.11.24.41	2.9 ± 0.15	Less than 0.2	Less than 0.004	0.0015
Webb Windmill	12.11.25.122a	0.74 ± 0.16	Less than 0.2	Less than 0.004	0.00038
Anaconda #3	12.11.25.213	0.81 ± 0.23	Less than 0.2	Less than 0.004	0.00048
Anaconda #4	12.11.25.214	0.57 ± 0.18	Less than 0.2	Less than 0.004	0.00032

* Monthly during irrigation

THE ANACONDA COMPANY

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF SEPTEMBER, 1965

DESCRIPTIVE LOCATION		Gross Alpha uc/ml x 10^8	Ra-226 uc/ml x 10^8	Th-230 uc/ml x 10^6	U-nat uc/ml x 10^5
Cottonwood Springs	10. 9. 6.442	0.97 ± 0.42	Less than 0.2	Less than 0.004	0.00025
Del Padre Springs	10. 9. 7.222	0.90 ± 0.66	Less than 0.2	Less than 0.004	0.00025
Gottlieb Poison #2	10. 9.17.113a	0.53 ± 0.37			0.00034
Gottlieb Butane	10. 9.23.134	0.41 ± 0.11			0.00024
Horace Springs	10. 9.26.222	0.19 ± 0.11			0.00011
San Rafael	10.10. 3.433a	0.37 ± 0.16			0.00019
Heath Well	10.10.15.233	0.94 ± 0.32	Less than 0.2	Less than 0.004	0.00066
Worthen Well	10.10.22.213	No Sample			
Hawkinson (Grants)	11. 9.30.122a	No Sample			
Republic	11.10. 2.111	0.86 ± 0.27	Less than 0.2	Less than 0.004	0.00052
Evans Windmill	11.10. 5.222	No Sample			
Vidal	11.10. 5.213	0.24 ± 0.11			0.00020
Milan Chinle	11.10.21.211	0.31 ± 0.10			0.00011
Grants-San Andres	11.10.26.Tap	0.25 ± 0.12			0.00012
Suburban Gas	11.10.27.443	1.7 ± 0.42	Less than 0.2	Less than 0.004	0.00080
Schneemann	11.11.23.333	0.16 ± 0.05			0.00006
Roundy Windmill	12.10.12.433a	4.1 ± 0.76	Less than 0.2	Less than 0.004	0.0028
Murray	12.10.27.431	No Sample			
Card Commissary	12.10.33.444	0.87 ± 0.20	Less than 0.2	Less than 0.004	0.00066
Murray #1	12.10.34.224	0.88 ± 0.26	Less than 0.2	Less than 0.004	0.00044
Joy Manufacturing	12.10.35.322	0.29 ± 0.18			0.00018
L.D.S. Bluewater	12.11.24.234	0.54 ± 0.20			0.00024
Wilcoxson (P. Harris)	13. 9.16.411	1.7 ± 0.45	Less than 0.2	Less than 0.004	0.00060
Sandoval	13. 9.22.212	0.09 ± 0.06			0.00012
Mt. Taylor Corp.	13. 9.29.343	5.9 ± 0.79	Less than 0.2	Less than 0.004	0.0037
Greater Grants Airport	12.10.26.322a	0.43 ± 0.20			0.00025
Anaconda #2	12.11.24.2[illegible]	26.2 ± 1.7	Less than 0.2	Less than 0.004	0.015

January 24, 1966

ATTACHMENT IV

STATIC WATER LEVELS OF WELLS IN THE
SAN ANDRES-GLORIETA AQUIFER IN THE
VICINITY OF THE ANACONDA MILL AND DISPOSAL WELL

Well Description	Date of Measurement	Static Water Level Feet Above Mean Sea Level
Anaconda Well #1	1-10-65	6452.6
12.11.24.411	1- 2-66	6454.7
Anaconda Well #2	1-10-65	6452.2
12.11.24.233	1- 2-66	6454.2
Anaconda Well #3	1-10-65	6451.3
12.11.25.213	1- 2-66	6452.2
Anaconda Well #4	1-14-65	6450.8
12.11.25.214	Not Available for Measurement	
Monitor Well #1	1-5-65	6456.0
12.10.8.332	1-4-66	6457.1
North Well	1-5-65	6459.8
12.10.7.143	1-4-66	6461.7

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Yearly Summary Report of the Disposal Well Injection Program for 1964.....

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U. S. ATOMIC ENERGY COMMISSION **MAIL CONTROL FORM** FORM AEC-326S (8-60)

THE ANACONDA COMPANY

New Mexico Operations

P. O. Box 638, Grants, New Mexico

A. J. FITCH
MANAGER

February 5, 1965

United States Atomic Energy Commission
Washington 25, D. C.

Attention: Mr. Donald A. Nussbaumer, Chief
Source and Special Nuclear Material Branch
Division of Licensing and Regulation

Re: DLR-DFH
40-665

File Copy

Gentlemen:

In compliance with Condition No. 13 (c) of our Source Material License No. SUA-647, I am sending you three copies of the Yearly Summary Report of the Disposal Well Injection Program for 1964.

Complete records of all phases of the disposal well injection program are being maintained and are available for your inspection at any time.

Yours very truly,

A. J. Fitch

A. J. FITCH

AJF:MA
Enc.

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ACKNOWLEDGED

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February 5, 1965

MEMORANDUM FOR RECORD

SUBJECT: Yearly Summary Report of the Disposal Well Injection Program for 1964

Presented in this report are the following tabulations of data pertaining to the operation of the disposal well program during the period from January 1, 1964 to January 1, 1965:

I. Average Monthly Liquid Injection Rates. (Note Attachment I)

II. Concentration of Radioactive Constituents in Injection Liquid. (Note Attachment II)

III. Radiological Analyses of Monitored Well and Surface Waters. (Note Attachment III)

IV. Static Water Levels of Wells in the San Andres-Glorieta Aquifer in the Vicinity of the Anaconda Mill and Disposal Well. (Note Attachment IV)

Respectfully submitted,

Ralph M. Wilde

Ralph M. Wilde
Radiation Safety Director

RMW:cig

c: A. J. Fitch (4)
E. C. Peterson

DOCKETED USAEC FEB 8 1965 REGULATORY MAIL SECTION DOCKET CLERK

February 5, 1965

ATTACHMENT I

AVERAGE MONTHLY LIQUID INJECTION RATES

	GALLONS INJECTED
January, 1964	8,332,800
February, 1964	11,951,400
March, 1964	8,717,200
April, 1964	3,403,200
May, 1964	80,700
June, 1964	0
July, 1964	437,400
August, 1964	3,692,400
September, 1964	3,951,900
October, 1964	2,618,350
November, 1964	5,902,200
December, 1964	8,726,700
Total 1-1-64 to 1-1-65	57,814,250
Average Injection Rate	4,817,854.2 gallons/month

February 5, 1965

ATTACHMENT II

CONCENTRATION OF RADIOACTIVE CONSTITUENTS IN INJECTED LIQUID

	Ra-226 uc/ml x 10^7	Th-230 uc/ml x 10^4	U-natural uc/ml x 10^6
January, 1964	1.07	1.20	5.02
February, 1964	0.66	1.22	5.37
March, 1964	2.00	1.04	6.33
April, 1964	3.02	1.34	6.58
May, 1964	0.71	1.69	8.95
June, 1964	No Injection		
July, 1964	1.11	1.50	6.48
August, 1964	1.48	1.65	6.59
September, 1964	2.00	1.69	8.28
October, 1964	2.04	1.93	9.12
November, 1964	4.01	1.95	5.78
December, 1964	1.84	1.50	4.61

February 5, 1965

ATTACHMENT III

RADIOLOGICAL ANALYSES OF MONITORED WELL AND SURFACE WATERS FOR THE MONTHS OF MAY AND SEPTEMBER, 1964

THE ANACONDA COMPANY

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF MAY, 1964

DESCRIPTIVE LOCATION		Gross Alpha uc/ml x 10^8	Ra-226 uc/ml x 10^8	Th-230 uc/ml x 10^6	U-nat uc/ml x 10^5
Berryhill Section 5	12.10. 5.341a	0.87 ± 0.38	Less than 0.2	Less than 0.004	0.00008
North Well	12.10. 7.143	1.25 ± 0.41	Less than 0.2	Less than 0.004	0.00072
Monitor Well # 1	12.10. 8.332	5.5 ± 0.83	Less than 0.2	Less than 0.004	0.0030
Sabre-Pinon	12.10.20.333a	0.09 ± 0.05			0.00001
Card Gas *	12.10.27.333	0.62 ± 0.22			0.00016
Card Electric *	12.10.29.434a	0.85 ± 0.29			0.00032
Mexican Camp	12.10.30.112	0.52 ± 0.12	Less than 0.2		0.00021
Jack Freas	12.10.30.242	0.16 ± 0.09			0.00009
Harding Irrigation	12.10.30.421	0.46 ± 0.16			0.00016
Fred Freas	12.10.30.433	0.22 ± 0.10			0.00010
Chapman	12.10.32.211a	0.27 ± 0.11			0.00012
Thunderbird Post	12.11.10.411a	2.1 ± 0.60	Less than 0.2	Less than 0.004	0.00082
Berryhill House	12.11.11.334	0.65 ± 0.21			0.00019
Tailing Pond	12.11.13.Pond	Not Determined	7.10	169.	0.895
Engineers Well	12.11.14.213	1.3 ± 0.29	Less than 0.2	Less than 0.004	0.00055
Roundy (Harmon)	12.11.23.231	0.41 ± 0.19			
Power House Pond	12.11.24.PHP	12.8 ± 1.0	Less than 0.2	Less than 0.004	0.0084
Laboratory Pond	12.11.24.LABP	13.5 ± 1.3	Less than 0.2	Less than 0.004	0.0081
~~Auro's Bar~~	~~12.11.24.334~~				
Auro's Motel	12.11.24.334a	0.48 ± 0.21			0.00020
Anaconda #1	12.11.24.411	3.7 ± 0.54	Less than 0.2	Less than 0.004	0.0020
Webb Windmill	12.11.25.122a	0.81 ± 0.17	Less than 0.2	Less than 0.004	0.00039
Anaconda #3	12.11.25.213	1.1 ± 0.26	Less than 0.2	Less than 0.004	0.00040
Anaconda #4	12.11.25.214	0.63 ± 0.20	Less than 0.2	Less than 0.004	0.00029

* Monthly during irrigation

THE ANACONDA COMPANY

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF MAY, 1964

DESCRIPTIVE LOCATION		Gross Alpha uc/ml x 10^8	Ra-226 uc/ml x 10^8	Th-230 uc/ml x 10^6	U-nat uc/ml x 10^6
Cottonwood Springs	10. 9. 6.442	0.24 ± 0.30			0.00024
Del Padre Springs	10. 9. 7.222	0.68 ± 0.52			0.00030
Gottlieb Poison #2	10. 9.17.113a	0.84 ± 0.46			0.00026
Gottlieb Butane	10. 9.23.134	0.44 ± 0.11			0.00022
Horace Springs	10. 9.26.222	0.35 ± 0.15			0.00018
San Rafael	10.10. 3.433a	0.36 ± 0.16			0.00016
Heath Well	10.10.15.233	1.7 ± 0.48	Less than 0.2	Less than 0.004	0.00086
Worthen Well	10.10.22.213	No Sample			
Hawkinson (Grants)	11. 9.30.122a	No Sample			
Republic	11.10. 2.111	0.91 ± 0.29	Less than 0.2	Less than 0.004	0.00062
Evans Windmill	11.10. 5.222	0.71 ± 0.26			0.00024
Vidal	11.10. 5.213	0.37 ± 0.14			0.00011
Milan Chinle	11.10.21.211	0.32 ± 0.11			0.00012
Grants-San Andres	11.10.26.Tap	0.33 ± 0.14			0.00014
Suburban Gas	11.10.27.443	4.6 ± 0.74	Less than 0.2	Less than 0.004	0.0019
Schneemann	11.11.23.333	0.42 ± 0.10			0.00018
Roundy Windmill	12.10.12.433a	4.8 ± 0.79	Less than 0.2	Less than 0.004	0.0025
Murray	12.10.27.431	0.60 ± 0.23			0.00022
Card Commissary	12.10.33.444	0.86 ± 0.21			0.00059
Murray #1	12.10.34.224	0.84 ± 0.26			0.00045
Joy Manufacturing	12.10.35.322	0.46 ± 0.23			0.00028
L.D.S. Bluewater	12.11.22.234	0.44 ± 0.20			0.00020
Wilcoxson (P. Harris)	13. 9.16.411	2.4 ± 0.52	Less than 0.2	Less than 0.004	0.00046
Sandoval	13. 9.22.212	No Sample			
Mt. Taylor Corp.	13. 9.29.343	10.5 ± 1.1	Less than 0.2	Less than 0.004	0.0066
Greater Grants Airport	12.10.26.322a	0.80 ± 0.29			
Anaconda #2	12.11.24.233	25.3 ± 1.8	Less than 0.2	Less than 0.004	0.016

THE ANACONDA COMPANY

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF SEPTEMBER, 1964

DESCRIPTIVE LOCATION		Gross Alpha uc/ml x 10^8	Ra-226 uc/ml x 10^8	Th-230 uc/ml x 10^6	U-nat uc/ml x 10^5
Berryhill Section 5	12.10. 5.341a	0.73 ± 0.36	Less than 0.2	Less than 0.004	0.00008
North Well	12.10. 7.143	1.2 ± 0.41	" " 0.2	" " 0.004	0.00076
Monitor Well # 1	12.10. 8.332	5.2 ± 0.82	" " 0.2	" " 0.004	0.0034
Sabre-Pinon	12.10.20.333a	0.14 ± 0.05			0.00006
Card Gas *	12.10.27.333	0.43 ± 0.20			0.00020
Card Electric *	12.10.29.434a	No Sample			
Mexican Camp	12.10.30.112	0.36 ± 0.10	Less than 0.2	Less than 0.004	0.00020
Jack Freas	12.10.30.242	0.23 ± 0.09			0.00011
Harding Irrigation	12.10.30.421	No Sample			
Fred Freas	12.10.30.433	0.37 ± 0.13			0.00015
Chapman	12.10.32.211a	0.36 ± 0.11			0.00012
Thunderbird Post	12.11.10.411a	2.4 ± 0.66	Less than 0.2	Less than 0.004	0.0013
Berryhill House	12.11.11.334	0.40 ± 0.18			0.00024
Tailing Pond	12.11.13.Pond	Not Determined	20.0	169.	0.828
Engineers Well	12.11.14.213	1.2 ± 0.28	Less than 0.2	Less than 0.004	0.00056
Roundy (Harmon)	12.11.23.231	0.59 ± 0.21			0.00019
Power House Pond	12.11.24.PHP	18.9 ± 1.1	Less than 0.2	Less than 0.004	0.0086
Laboratory Pond	12.11.24.LABP	33.0 ± 1.6	0.47 ± 0.08	" " 0.004	0.024
~~Auro's Bar~~	~~12.11.24.334~~				
Auro's Motel	12.11.24.334a	0.37 ± 0.14			0.00014
Anaconda #1	12.11.24.411	4.8 ± 0.62	Less than 0.2	Less than 0.004	0.0026
Webb Windmill	12.11.25.122a	0.60 ± 0.17	" " 0.2	" " 0.004	0.00028
Anaconda #3	12.11.25.213	1.0 ± 0.26	" " 0.2	" " 0.004	0.00042
Anaconda #4	12.11.25.214	0.56 ± 0.19	" " 0.2	" " 0.004	0.00028

* Monthly during irrigation

THE ANACONDA COMPANY

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF SEPTEMBER, 1964

DESCRIPTIVE LOCATION		Gross Alpha uc/ml x 10^8	Ra-226 uc/ml x 10^8	Th-230 uc/ml x 10^6	U-nat uc/ml x 10^5
Cottonwood Springs	10. 9. 6.442	0.37 ± 0.22			0.00020
Del Padre Springs	10. 9. 7.222	0.47 ± 0.59			0.00021
Gottlieb Poison #2	10. 9.17.113a	0.83 ± 0.45			0.00034
Gottlieb Butane	10. 9.23.134	0.64 ± 0.13			0.00024
Horace Springs	10. 9.26.222	0.26 ± 0.13			0.00011
San Rafael	10.10. 3.433a	0.41 ± 0.17			0.00015
Heath Well	10.10.15.233	1.3 ± 0.39	Less than 0.2	Less than 0.004	0.00075
Worthen Well	10.10.22.213	No Sample			
Hawkinson (Grants)	11. 9.30.122a	No Sample			
Republic	11.10. 2.111	1.2 ± 0.32	Less than 0.2	Less than 0.004	0.00056
Evans Windmill	11.10. 5.222	No Sample			
Vidal	11.10. 5.213	0.28 ± 0.12			0.00018
Milan Chinle	11.10.21.211	0.27 ± 0.10			0.00014
Grants-San Andres	11.10.26.Tap	0.41 ± 0.15			0.00020
Suburban Gas	11.10.27.443	1.5 ± 0.41	Less than 0.2	Less than 0.004	0.00082
Schneemann	11.11.23.333	0.37 ± 0.09			0.00021
Roundy Windmill	12.10.12.433a	4.9 ± 0.78	Less than 0.2	Less than 0.004	0.0027
Murray	12.10.27.431	0.56 ± 0.23			0.00030
Card Commissary	12.10.33.444	1.0 ± 0.23	Less than 0.2	Less than 0.004	0.00066
Murray #1	12.10.34.224	0.91 ± 0.28	" " 0.2	" " 0.004	0.00042
Joy Manufacturing	12.10.35.322	0.41 ± 0.22			0.00020
L.D.S. Bluewater	12.11.22.234	0.48 ± 0.20			0.00025
Wilcoxson (P. Harris)	13. 9.16.411	1.4 ± 0.42	0.26 ± 0.04	Less than 0.004	0.00056
Sandoval	13. 9.22.212	No Sample			
Mt. Taylor Corp.	13. 9.29.343	6.1 ± 0.85-	Less than 0.2	Less than 0.004	0.0042
Greater Grants Airport	12.10.26.322a	0.54 ± 0.25			0.00026
Anaconda #2	12.11.24.233	16.8 ± 1.4	Less than 0.2	Less than 0.004	0.014

February 5, 1965

ATTACHMENT IV

STATIC WATER LEVELS OF WELLS IN THE
SAN ANDRES-GLORIETA AQUIFER IN THE
VICINITY OF THE ANACONDA MILL AND DISPOSAL WELL

Well Description	Date of Measurement	Static Water Level Feet Above Mean Sea Level
Anaconda Well #1	1-11-64	6449.2
12.11.24.411	1-10-65	6452.6
Anaconda Well #2	1-11-64	6449.9
12.11.24.233	1-10-65	6452.2
Anaconda Well #3	1-11-64	6448.8
12.11.25.213	1-10-65	6451.3
Anaconda Well #4	1-11-64	6448.9
12.11.25.214	1-14-65	6450.8
Monitor Well #1	1- 7-64	6455.0
12.10.8.332	1- 5-65	6456.0
North Well	1- 7-64	6457.8
12.10.7.143	1- 5-65	6459.8

FROM: The Anaconda Company
Grants, New Mexico

DATE OF DOCUMENT: 2-11-64 | DATE RECEIVED: 2-13-64 | NO.: 707

LTR. x | MEMO: | REPORT: | OTHER: 1 rpt.

TO: R. Lowenstein

ORIG.: x | CC: | OTHER:

ACTION NECESSARY ☐ | CONCURRENCE ☐ | DATE ANSWERED:
NO ACTION NECESSARY ☐ | COMMENT ☐ | BY:

CLASSIF.: U | POST OFFICE | REG. NO:

FILE CODE: 40-665

DESCRIPTION: (Must Be Unclassified)
Ltr. ref. Condition 13(c) of lic. SUA-647 and trans:

REFERRED TO	DATE	RECEIVED BY	DATE
Neugebauer:	2-13		
w/file cy.			
1-compliance cy.			

ENCLOSURES: (3 cys. rec'd)

"Yearly Summary Report of the Disposal Well Injection Program for 1963" dtd. 2-11-64.

REMARKS: Mail Room Distribution:
1-PDR Copy

ACKNOWLEDGED
707

U. S. ATOMIC ENERGY COMMISSION MAIL CONTROL FORM FORM AEC-326 (8-60)

☆ U. S. GOVERNMENT PRINTING OFFICE: 1963 706-809

DOCKET NO 40-665

THE ANACONDA COMPANY

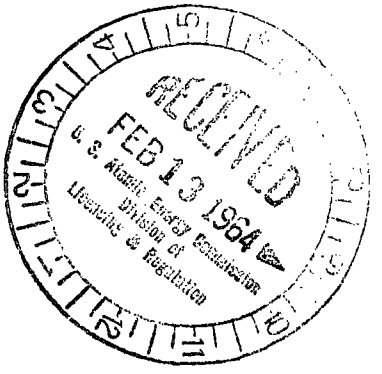
L&R File Copy

New Mexico Operations

P. O. Box 638, Grants, New Mexico

A. J. FITCH
MANAGER

February 11, 1964



United States Atomic Energy Commission
Washington 25, D. C.

Attention: Mr. R. Lowenstein, Director
Division of Licensing and Regulation

Re: DLR:DFH
40-665

Gentlemen:

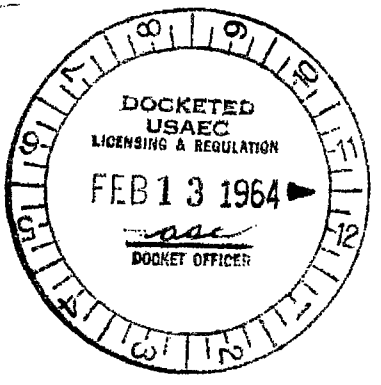
In compliance with condition No. 13(c) of our Source Material License No. SUA-647, I am sending you three copies of the Yearly Summary Report of the Disposal Well Injection Program for 1963.

Complete records of all phases of the disposal well injection program are being maintained and are available for your inspection at any time.

Yours very truly,

A. J. FITCH

AJF:MA
Enc.



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ACKNOWLEDGED

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FEB 13 1964
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DOCKET NO. 40-665

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RECEIVED
FEB 13 1964
U.S. Atomic Energy Commission
Division of
Licensing & Regulation

MEMORANDUM FOR RECORD

SUBJECT: Yearly Summary Report of the Disposal Well Injection Program for 1963.

Presented in this report are the following tabulations of data concerning the operation of the disposal well program during the period from January 1, 1963 to January 1, 1964:

I. Average Monthly Liquid Injection Rates. (Note Attachment I)

II. Concentrations of Radioactive Constituents in Injected Liquid. (Note Attachment II)

III. Radiological Analyses of Monitored Well and Surface Waters for the Months of May and September 1963. (Note Attachment III)

IV. Static Water Levels of Wells in the San Andres - Glorieta Aquifer in the Vicinity of the Anaconda Mill and Disposal Well. (Note Attachment (IV)

Respectfully submitted,

Ralph M. Wilde

Ralph M. Wilde
Radiation Safety Director

RMW:cig

c: A. J. Fitch (4)
E. C. Peterson

February 11, 1964

ATTACHMENT I

AVERAGE MONTHLY LIQUID INJECTION RATES

		GALLONS INJECTED
January	1963	9,979,850
February	1963	14,699,620
March	1963	9,781,400
April	1963	4,722,700
May	1963	1,562,560
June	1963	105,900
July	1963	0
August	1963	0
September	1963	8,474,700
October	1963	4,482,600
November	1963	8,817,900
December	1963	5,789,400
Total 1-1-63 to 1-1-64		68,416,630
Average Injection Rate		5,701,385.8 gallons/month

ATTACHMENT II

CONCENTRATION OF RADIOACTIVE CONSTITUENTS IN

INJECTED LIQUID

		Ra-226 uc/ml x 10^7	Th-230 uc/ml x 10^4	U-natural uc/ml x 10^6
January	1963	2.16	1.22	4.64
February	1963	1.76	1.04	5.09
March	1963	1.82	1.04	4.99
April	1963	2.16	2.01	7.59
May	1963	3.10	1.82	8.79
June	1963	4.15	2.87	11.8
July	1963	No Injection		
August	1963	No Injection		
September	1963	3.28	1.58	8.06
October	1963	2.94	1.50	5.75
November	1963	3.63	1.08	4.21
December	1963	2.24	1.44	4.34

ATTACHMENT III

RADIOLOGICAL ANALYSES OF MONITORED WELL AND SURFACE WATERS FOR THE MONTHS OF MAY AND SEPTEMBER 1963

THE ANACONDA COMPANY

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF MAY 1963

DESCRIPTIVE LOCATION		Gross Alpha uc/ml x 10^{8}	Ra-226 uc/ml x 10^{8}	Th-230 uc/ml x 10^{6}	U-nat uc/ml x 10^{5}
Berryhill Section 5	12.10. 5.341a	0.54 ± 0.30	less than 0.2	less than 0.004	0.00008
North Well	12.10. 7.143	1.07 ± 0.43	less than 0.2	less than 0.004	0.00071
Monitor Well #1	12.10. 8.332	3.86 ± 0.68	less than 0.2	less than 0.004	0.0028
Sabre-Pinon	12.10.20.333a	0.13 ± 0.08			0.00001
Card Gas *	12.10.27.333	0.60 ± 0.26			0.00018
Card Electric *	12.10.29.434a	No Sample			
Mexican Camp	12.10.30.112	0.41 ± 0.12	less than 0.2	less than 0.004	0.00019
Jack Freas	12.10.30.242	0.25 ± 0.11			0.00006
Harding Irrigation	12.10.30.421	0.51 ± 0.20			0.00012
Fred Freas	12.10.30.433	0.21 ± 0.12			0.00009
Chapman	12.10.32.211a	0.45 ± 0.15			0.00008
Thunderbird Post	12.11.10.411a	1.73 ± 0.59	less than 0.2	less than 0.004	0.00089
Berryhill House	12.11.11.334	0.58 ± 0.23			0.00016
Tailing Pond	12.11.13.Pond	Not Determined	31.0	182.	0.879
Engineers Well	12.11.14.213	1.58 ± 0.32	less than 0.2	less than 0.004	0.00062
Roundy (Harmon)	12.11.23.231	0.64 ± 0.24			0.00011
Power House Pond	12.11.24.PHP	11.9 ± 1.1	less than 0.2	less than 0.004	0.010
Laboratory Pond	12.11.24.LABP	11.6 ± 1.2	0.22 ± 0.06	less than 0.004	0.0087
Auro's Bar	12.11.24.334	No Sample			
Auro's Motel	12.11.24.334a	0.58 ± 0.27			0.00016
Anaconda #1	12.11.24.411	5.82 ± 0.73	less than 0.2	less than 0.004	0.0040
Webb Windmill	12.11.25.122a	1.11 ± 0.20	less than 0.2	less than 0.004	0.00029
Anaconda #3	12.11.25.213	0.72 ± 0.24	less than 0.2	less than 0.004	0.00037
Anaconda #4	12.11.25.214	0.53 ± 0.21	less than 0.2	less than 0.004	0.00029

* Monthly during irrigation

THE ANACONDA COMPANY

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF MAY 1963

DESCRIPTIVE LOCATION		Gross Alpha uc/ml x 10^{8}	Ra-226 uc/ml x 10^{8}	Th-230 uc/ml x 10^{6}	U-nat uc/ml x 10^{5}
Cottonwood Springs	10. 9. 6.442	0.59 ± 0.41			0.00021
Del Padre Springs	10. 9. 7.222	1.50 ± 1.08	less than 0.2	less than 0.004	0.00072
Gottlieb Poison #2	10. 9.17.113a	0.88 ± 0.51			0.00030
Gottlieb Butane	10. 9.23.134	0.48 ± 0.13			0.00022
Horace Springs	10. 9.26.222	0.36 ± 0.16			0.00009
San Rafael	10.10. 3.433a	0.49 ± 0.18			0.00009
Heath Well	10.10.15.233	1.90 ± 0.50	less than 0.2	less than 0.004	0.00092
Worthen Well	10.10.22.213	No Sample			
Hawkinson (Grants)	11. 9.30.122a	No Sample			
Republic	11.10. 2.111	1.05 ± 0.33	less than 0.2	less than 0.004	0.00048
Evans Windmill	11.10. 5.222	0.54 ± 0.21			0.00020
Vidal	11.10. 5.213	0.25 ± 0.13			0.00009
Milan Chinle	11.10.21.211	0.31 ± 0.12			0.00011
Grants-San Andres	11.10.26.Tap	0.26 ± 0.13			0.00015
Suburban Gas	11.10.27.443	2.49 ± 0.56	less than 0.2	less than 0.004	0.0014
Schneemann	11.11.23.333	0.36 ± 0.09			0.00008
Roundy Windmill	12.10.12.433a	2.70 ± 0.64	less than 0.2	less than 0.004	0.0020
Murray	12.10.27.431	0.52 ± 0.25			0.00024
Card Commissary	12.10.33.444	0.69 ± 0.20			0.00064
Murray #1	12.10.34.224	0.85 ± 0.28			0.00035
Joy Manufacturing	12.10.35.322	0.48 ± 0.25			0.00016
L.D.S. Bluewater	12.11.22.234	0.29 ± 0.14			0.00014
Wilcoxson (P. Harris)	13. 9.16.411	1.31 ± 0.41	0.22 ± 0.05	less than 0.004	0.00040
Sandoval	13. 9.22.212	No Sample			
Mt. Taylor Corp.	13. 9.29.343	3.94 ± 0.39	less than 0.2	less than 0.004	0.0022
Greater Grants Airport	12.10.26.322a	0.60 ± 0.29			0.00021
Anaconda #2	12.11.24.233	25.2 ± 1.8	less than 0.2	less than 0.004	0.017

THE ANACONDA COMPANY

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF SEPTEMBER 1963

DESCRIPTIVE LOCATION		Gross Alpha uc/ml x 10^{8}	Ra-226 uc/ml x 10^{8}	Th-230 uc/ml x 10^{6}	U-nat uc/ml x 10^{5}
Berryhill Section 5	12.10. 5.341a	No Sample			
North Well	12.10. 7.143	1.1 ± 0.42	Less than 0.2	Less than 0.004	0.00071
Monitor Well # 1	12.10. 8.332	4.9 ± 0.79	" " 0.2	" " 0.004	0.0033
Sabre-Pinon	12.10.20.333a	0.10 ± 0.06			0.0
Card Gas *	12.10.27.333	No Sample			
Card Electric *	12.10.29.434a	No Sample			
Mexican Camp	12.10.30.112	0.40 ± 0.12	Less than 0.2	Less than 0.004	0.00016
Jack Freas	12.10.30.242	0.19 ± 0.09			0.00006
Harding Irrigation	12.10.30.421	No Sample			
Fred Freas	12.10.30.433	0.33 ± 0.14			0.00011
Chapman	12.10.32.211a	0.26 ± 0.11			0.00016
Thunderbird Post	12.11.10.411a	2.3 ± 0.65	Less than 0.2	Less than 0.004	0.00084
Berryhill House	12.11.11.334	0.56 ± 0.23			0.00016
Tailing Pond	12.11.13.Pond	Not Determined	32.8	156.	0.806
Engineers Well	12.11.14.213	1.0 ± 0.26	Less than 0.2	Less than 0.004	0.00059
Roundy (Harmon)	12.11.23.231	0.51 ± 0.22			0.00010
Power House Pond	12.11.24.PHP	9.0 ± 0.93	Less than 0.2	Less than 0.004	0.0088
Laboratory Pond	12.11.24.LABP	9.4 ± 0.86	0.23 ± 0.06	" " 0.004	0.0077
~~Auro's Bar~~	~~12.11.24.334~~				
Auro's Motel	12.11.24.334a	0.30 ± 0.15			0.00010
Anaconda #1	12.11.24.411	4.1 ± 0.59	Less than 0.2	Less than 0.004	0.0025
Webb Windmill	12.11.25.122a	0.63 ± 0.18	" " 0.2	Less than 0.004	0.00031
Anaconda #3	12.11.25.213	0.78 ± 0.24	" " 0.2	" " 0.004	0.00051
Anaconda #4	12.11.25.214	0.65 ± 0.22	" " 0.2	" " 0.004	0.00030

* Monthly during irrigation

THE ANACONDA COMPANY

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF SEPTEMBER 1963

DESCRIPTIVE LOCATION		Gross Alpha uc/ml x 10^{8}	Ra-226 uc/ml x 10^{8}	Th-230 uc/ml x 10^{6}	U-nat uc/ml x 10^{5}
Cottonwood Springs	10. 9. 6.442	0.31 ± 0.29			0.00018
Del Padre Springs	10. 9. 7.222	0.46 ± 0.43			0.00014
Gottlieb Poison #2	10. 9.17.113a	0.74 ± 0.49			0.00032
Gottlieb Butane	10. 9.23.134	0.38 ± 0.12			0.00024
Horace Springs	10. 9.26.222	0.40 ± 0.18			0.00022
San Rafael	10.10. 3.433a	0.35 ± 0.16			0.00014
Heath Well	10.10.15.233	0.95 ± 0.39	Less than 0.2	Less than 0.004	0.00062
Worthen Well	10.10.22.213	No Sample			
Hawkinson (Grants)	11. 9.30.122a	No Sample			
Republic	11.10. 2.111	0.95 ± 0.34	Less than 0.2	Less than 0.004	0.00051
Evans Windmill	11.10. 5.222	No Sample			
Vidal	11.10. 5.213	0.33 ± 0.14			0.00007
Milan Chinle	11.10.21.211	0.31 ± 0.12			0.00011
Grants-San Andres	11.10.26.Tap	0.36 ± 0.16			0.00012
Suburban Gas	11.10.27.443	2.1 ± 0.50	Less than 0.2	Less than 0.004	0.00070
Schneemann	11.11.23.333	0.30 ± 0.08			0.00010
Roundy Windmill	12.10.12.433a	4.0 ± 0.73	Less than 0.2	Less than 0.004	0.0024
Murray	12.10.27.431	No Sample			
Card Commissary	12.10.33.444	0.63 ± 0.20			0.00056
Murray #1	12.10.34.224	0.81 ± 0.28			0.00042
Joy Manufacturing	12.10.35.322	0.48 ± 0.26			0.00016
L.D.S. Bluewater	12.11.22.234	0.35 ± 0.22			0.00020
Wilcoxson (P. Harris)	13. 9.16.411	2.3 ± 0.53	0.22 ± 0.05	Less than 0.004	0.00054
Sandoval	13. 9.22.212	No Sample			
Mt. Taylor Corp.	13. 9.29.343	2.8 ± 0.34	Less than 0.2	Less than 0.004	0.0021
Greater Grants Airport	12.10.26.322a	0.69 ± 0.30			0.00024
Anaconda #2	12.11.24.233	18.5 ± 1.5	Less than 0.2	Less than 0.004	0.014

ATTACHMENT IV

STATIC WATER LEVELS OF WELLS IN THE SAN ANDRES-GLORIETA AQUIFER IN THE VICINITY OF THE ANACONDA MILL AND DISPOSAL WELL

WELL DESCRIPTION	DATE OF MEASUREMENT	STATIC WATER LEVEL FEET ABOVE MEAN SEA LEVEL
Anaconda Well #1	12-30-62	6446.7
12.11.24.411	1-11-64	6449.2
Anaconda Well #2	12-30-62	6446.6
12.11.24.233	1-11-64	6449.9
Anaconda Well #3	12-30-62	6443.8
12.11.25.213	1-11-64	6448.8
Anaconda Well #4	12-30-62	6443.3
12.11.25.214	1-11-64	6448.9
Monitor Well #1	12-13-62	6451.0
12.10.8.332	1- 7-64	6455.0
North Well	12-12-62	6456.3
12.10.7.143	1- 7-64	6457.8

30

FROM: The Anaconda Company
Grants, New Mexico
A. E. Fitch

[redacted] OCUMENT: [redacted] -63

DATE RECEIVED: 2-14-63

NO.: 1104

MEMO: REPORT: OTHER:

TO: Lovenstein

ORIG.: X CC: OTHER:

ACTION NECESSARY ☐ CONCURRENCE ☐ DATE ANSWERED:

NO ACTION NECESSARY ☑ COMMENT ☐ BY:

CLASSIF.: U

POST OFFICE

REG. NO:

FILE CODE: 40-665

DESCRIPTION: (Must Be Unclassified)

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ENCLOSURES: (3 cys rec'd)

"Yearly Summary Report of the Disposal Well Injection Program for 1962"

REMARKS: [illegible]

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HARMON	2/18		
ACKNOWLEDGED		[illegible]	

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(8-60)

☆ U. S. Government Printing Office: 1962 - 637308

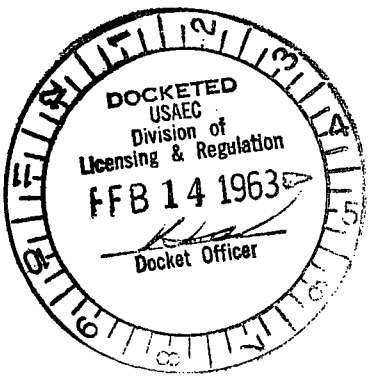
THE ANACONDA COMPANY

New Mexico Operations

P. O. Box 638, Grants, New Mexico

A. J. FITCH
MANAGER

February 11, 1963



United States Atomic Energy Commission
Washington 25, D. C.

Attention: Mr. R. Lowenstein, Director
Division of Licensing and Regulation

Re: DLR:DFH
40-665

Gentlemen:

L&R File Copy

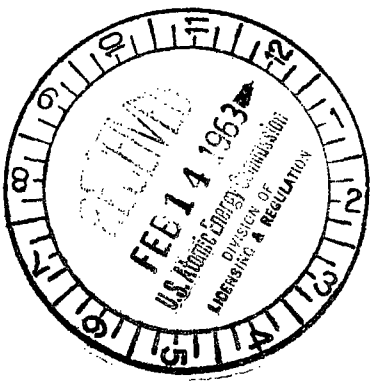
In compliance with condition No. 13(c) of our Source Material License No. SUA-647, I am sending you three copies of the Yearly Summary Report of the Disposal Well Injection Program for 1962.

Complete records of all phases of the disposal well injection program are being maintained and are available for your inspection at any time.

Yours very truly,

A. J. FITCH

AJF:MA
Enc.



ACKNOWLEDGED

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MEMORANDUM FOR RECORD

SUBJECT: Yearly Summary Report of the Disposal Well Injection Program for 1962.

Presented in this report are the following tabulations of data concerning the operation of the disposal well program during the period of January 1, 1962 to January 1, 1963:

DOCKETED
USAEC
Division of
Licensing & Regulation
FEB 14 1963
Docket Office

I. Average Monthly Liquid Injection Rates.
(Note Attachment I)

II. Concentrations of Radioactive Constituents in Injected Liquid.
(Note Attachment II)

III. Radiological Analyses of Monitored Well and Surface Waters for the Months of May and September 1962.
(Note Attachment III)

IV. Static Water Levels of Wells in the San Andres-Glorieta Aquifer in the Vicinity of the Anaconda Mill and Disposal Well.
(Note Attachment IV)

Respectfully submitted,

Ralph M. Wilde

Ralph M. Wilde
Radiation Safety Director

RMW:cig

c: A.J.F. (4)
E.C.P.

FEB 14 1963

ATTACHMENT I

Average Monthly Liquid Injection Rates

	Gallons Injected
January 1962	12,604,300
February 1962	11,031,900
March 1962	14,856,525
April 1962	10,614,688
May 1962	5,039,475
June 1962	7,675,540
July 1962	2,406,300
August 1962	9,694,200
September 1962	3,155,300
October 1962	8,634,500
November 1962	6,142,000
December 1962	12,033,900
Total 1-1-62 to 1-1-63	103,890,858
Average Injection Rate	8,657,571.5 gallons/month

ATTACHMENT II

Concentration of Radioactive Constituents in Injected Liquid

		Ra-226 uc/ml X 10^7	Th-230 uc/ml X 10^4	U-natural uc/ml X 10^6
January	1962	3.50	1.04	8.20
February	1962	2.51	1.01	5.43
March	1962	2.70	1.26	5.31
April	1962	6.46	1.60	6.48
May	1962	2.06	2.03	7.18
June	1962	1.18	3.40	11.6
July	1962	6.58	3.63	14.5
August	1962	4.79	2.31	9.17
September	1962	2.96	1.25	5.27
October	1962	2.74	1.41	5.54
November	1962	2.04	1.23	5.54
December	1962	2.06	1.02	5.34

ATTACHMENT III

Radiological Analyses of Monitored Well and Surface Waters for the Months of May and September 1962.

THE ANACONDA COMPANY

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF MAY, 1962

DESCRIPTIVE LOCATION		Gross Alpha uc/ml x 10^{8}	Ra-226 uc/ml x 10^{8}	Th-230 uc/ml x 10^{6}	U-nat uc/ml x 10^{5}
Berryhill Section 5	12.10. 5.341a	0.38 ± 0.43	Less than 0.2	Less then 0.004	0.00006
North Well	12.10. 7.143	1.8 ± 0.49	" " 0.2	" " 0.004	0.00038
Monitor Well #1	12.10. 8.332	5.9 ± 0.27	" " 0.2	" " 0.004	0.0028
Sabre-Pinon	12.10.20.333a	0.07 ± 0.07			0.0
Card Gas *	12.10.27.333	0.60 ± 0.25			0.00018
Card Electric *	12.10.29.434a	No Sample			
Mexican Camp	12.10.30.112	0.65 ± 0.04	Less then 0.2	Less than 0.004	0.00022
Jack Freas	12.10.30.242	0.19 ± 0.10			0.00004
Harding Irrigation	12.10.30.421	0.40 ± 0.17			0.00012
Fred Freas	12.10.30.433	0.38 ± 0.13			0.00014
Chapman	12.10.32.211a	0.23 ± 0.11			0.00004
Thunderbird Post	12.11.10.411a	2.4 ± 0.67	Less than 0.2	Less than 0.004	0.0010
Berryhill House	12.11.11.334	0.51 ± 0.21			0.00022
Tailing Pond	12.11.13.Pond	Not Determined	20.6	203	0.718
Engineers Well	12.11.14.213	1.8 ± 0.33	Less than 0.2	Less than 0.004	0.0011
Roundy (Harmon)	12.11.23.231	0.40 ± 0.19			0.00012
Power House Pond	12.11.24.PHP	22. ± 1.9	0.41	Less than 0.004	0.0149
Laboratory Pond	12.11.24.LABP	8.0 ± 0.87	Less than 0.2	Less than 0.004	0.0056
Auro's Bar	12.11.24.334	No Sample			
Auro's Motel	12.11.24.334a	0.97 ± 0.33	Less than 0.2	Less than 0.004	0.00021
Anaconda #1	12.11.24.411	5.5 ± 0.70	" " 0.2	Less than 0.004	0.0027
Webb Windmill	12.11.25.122a	0.76 ± 0.17	" " 0.2	" " 0.004	0.00039
Anaconda #3	12.11.25.213	5.9 ± 0.55	" " 0.2	" " 0.004	0.0034

* Monthly during irrigation

THE ANACONDA COMPANY

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF MAY, 1962

DESCRIPTIVE LOCATION		Gross Alpha uc/ml x 10^8	Ra-226 uc/ml x 10^8	Th-230 uc/ml x 10^6	U-nat uc/ml x 10^5
Cottonwood Springs	10. 9. 6.442	0.43 ± 0.43			0.00020
Del Padre Springs	10. 9. 7.222	0.61 ± 0.86			0.00052
Gottlieb Poison #2	10. 9.17.113a	0.72 ± 0.46			0.00035
Gottlieb Butane	10. 9.23.134	0.55 ± 0.15			0.00020
Horace Springs	10. 9.26.222	0.40 ± 0.17			0.00015
San Rafael	10.10. 3.433a	0.44 ± 0.16			0.00030
Heath Well	10.10.15.233	1.8 ± 0.54	Less than 0.2	Less than 0.004	0.00089
Worthen Well	10.10.22.213	No Sample			
Hawkinson (Grants)	11. 9.30.122a	2.2 ± 0.70	Less than 0.2	Less than 0.004	0.0012
Republic	11.10. 2.111	0.91 ± 0.31			0.00042
Evans Windmill	11.10. 5.222	0.53 ± 0.24			0.00021
Vidal	11.10. 5.213	0.62 ± 0.14			0.00010
Milan Chinle	11.10.21.211	0.22 ± 0.10			0.00016
Grants-San Andres	11.10.26.Tap	0.56 ± 0.18			0.00016
Suburban Gas	11.10.27.443	0.65 ± 0.31			0.00030
Schneemann	11.11.23.333	0.27 ± 0.08			0.00010
Roundy Windmill	12.10.12.433a	3.7 ± 0.69	Less than 0.2	Less than 0.004	0.0018
Murray	12.10.27.431	0.59 ± 0.25			0.00020
Card Commissary	12.10.33.444	0.90 ± 0.25			0.00070
Murray #1	12.10.34.224	1.3 ± 0.35	Less than 0.2	Less than 0.004	0.00048
Joy Manufacturing	12.10.35.322	1.0 ± 0.32	" " 0.2	" " 0.004	0.00030
L.D.S. Bluewater	12.11.22.234	0.68 ± 0.26			0.00022
Wilcoxson (P. Harris)	13. 9.16.411	2.1 ± 0.50	Less than 0.2	Less than 0.004	0.00041
Sandoval	13. 9.22.212	No Sample			
Mt. Taylor Corp.	13. 9.29.343	4.0 ± 0.40	Less than 0.2	Less than 0.004	0.0018
Greater Grants Airport	12.10.26.322a	0.89 ± 0.33			0.00022
Anaconda #2	12.11.24.233	22.7 ± 1.7	Less than 0.2	Less than 0.004	0.0013

THE ANACONDA COMPANY

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF September 1962

DESCRIPTIVE LOCATION		Gross Alpha uc/ml X 10^{-8}	Ra-226 uc/ml X 10^{-8}	Th-230 uc/ml X 10^{-6}	U-nat uc/ml X 10^{-5}
Berryhill Section 5	12.10. 5.341a	° 0.87 ± 0.37	less than 0.2	less than 0.004	* 0.00011
North Well	12.10. 7.143	° 0.08 ± 0.35	less than 0.2	less than 0.004	* 0.00050
Monitor Well #1	12.10. 8.332	° 5.70 ± 0.83	less than 0.2	less than 0.004	* 0.0031
Sabre-Pinon	12.10.20.333a	* 0.13 ± 0.07			0.0
Card Gas *	12.10.27.333	No Sample			
Card Electric *	12.10.29.434a	No Sample			
Mexican Camp	12.10.30.112	° 0.40 ± 0.09	less than 0.2	less than 0.004	° 0.00018
Jack Freas	12.10.30.242	* 0.29 ± 0.10			° 0.00002
Harding Irrigation	12.10.30.421	No Sample *			
Fred Freas	12.10.30.433	* 0.40 ± 0.13			* 0.00021
Chapman	12.10.32.211a	° 0.19 ± 0.10			° 0.00002
Thunderbird Post	12.11.10.411a	* 5.28 ± 0.93	less than 0.2	less than 0.004	* 0.0017
Berryhill House	12.11.11.334	* 0.60 ± 0.14			° 0.00014
Tailing Pond	12.11.13.Pond	Not Determined	* 29.6	° 125	° 0.527
Engineers Well	12.11.14.213	* 2.34 ± 0.36	less than 0.2	less than 0.004	0.0011
Roundy (Harmon)	12.11.23.231	* 0.41 ± 0.17			° 0.00009
Power House Pond	12.11.24.PHP	* 38.0 ± 2.5	° 0.33 ± 0.07	less than 0.004	* 0.026
Laboratory Pond	12.11.24.LABP	* 8.15 ± 0.99	less than 0.2	less than 0.004	° 0.0049
Auro's Bar	12.11.24.334	No Sample			
Auro's Motel	12.11.24.334a	° 0.50 ± 0.16			° 0.00016
Anaconda #1	12.11.24.411	° 4.37 ± 0.61	less than 0.2	less than 0.004	* 0.0028
Webb Windmill	12.11.25.122a	° 0.37 ± 0.20	less than 0.2	less than 0.004	0.00039
Anaconda #3	12.11.25.213	° 3.93 ± 0.56	less than 0.2	less than 0.004	° 0.0025

* Monthly during irrigation

° lower limit

THE ANACONDA COMPANY

RADIOLOGICAL WATER ANALYSIS FOR MONTH OF SEPTEMBER 1962

DESCRIPTIVE LOCATION		Gross Alpha uc/ml X 10^8	Ra-226 uc/ml X 10^8	Th-230 uc/ml X 10^6	U-nat uc/ml X 10^5
Cottonwood Springs	10. 9. 6.442	0.76 ± 0.38			0.00014
Del Padre Springs	10. 9. 7.222	0.67 ± 0.67			0.00025
Gottlieb Poison #2	10. 9.17.113a	0.98 ± 0.44	less than 0.2	less than 0.004	0.00026
Gottlieb Butane	10. 9.23.134	0.42 ± 0.11			0.00016
Horace Springs	10. 9.26.222	0.32 ± 0.14			0.00008
San Rafael	10.10. 3.433a	0.36 ± 0.13			0.00010
Heath Well	10.10.15.233	1.23 ± 0.39	less than 0.2	less than 0.004	0.00082
Worthen Well	10.10.22.213	No Sample			
Hawkinson (Grants)	11. 9.30.122a	2.19 ± 0.63	less than 0.2	less than 0.004	0.0012
Republic	11.10. 2.111	0.88 ± 0.27			0.00042
Evans Windmill	11.10. 5.222	0.35 ± 0.12			0.00008
Vidal	11.10. 5.213	0.37 ± 0.11			0.00010
Milan Chinle	11.10.21.211	0.33 ± 0.10			0.00010
Grants-San Andres	11.10.26.Tap	0.27 ± 0.09			0.00011
Suburban Gas	11.10.27.443	0.81 ± 0.31			0.00046
Schneemann	11.11.23.333	0.38 ± 0.08			0.00015
Roundy Windmill	12.10.12.433a	3.27 ± 0.64	less than 0.2	less than 0.004	0.0025
Murray	12.10.27.431	1.00 ± 0.23	less than 0.2	less than 0.004	0.00019
Card Commissary	12.10.33.444	0.97 ± 0.23	less than 0.2	less than 0.004	0.00071
Murray #1	12.10.34.224	1.05 ± 0.28	less than 0.2	less than 0.004	0.00041
Joy Manufacturing	12.10.35.322	0.62 ± 0.24			0.00028
L.D.S. Bluewater	12.11.22.234	0.52 ± 0.20			0.00016
Wilcoxson (P. Harris)	13. 9.16.411	1.33 ± 0.43	0.21 ± 0.06	less than 0.004	0.00026
Sandoval	13. 9.22.212	0.19 ± 0.09			0.00009
Mt. Taylor Corp.	13. 9.29.343	2.30 ± 0.30	less than 0.2	less than 0.004	0.0014
Greater Grants Airport	12.10.26.322a	0.75 ± 0.27			0.00022
Anaconda #2	12.11.24.233	23.2 ± 1.6	less than 0.2	less than 0.004	0.013

ATTACHMENT IV

Static Water Levels of Wells in the San Andres-Glorieta Aquifer in the Vicinity of the Anaconda Millsite and Disposal Well

Well Description	Date of Measurement	Static Water Level Feet Above Mean Sea Level
Anaconda Well #1	1- 8-62	6444.3
12.11.24.411	12-30-62	6446.7
Anaconda Well #2	1- 8-62	6443.7
12.11.24.233	12-30-62	6446.6
Anaconda Well #3	1- 2-62	6440.8
12.11.25.213	12-30-62	6443.8
Anaconda Well #4	1- 2-62	6441.0
12.11.25.214	12-30-62	6443.3
Monitor Well #1	2-15-62	6447.5
12.10.8.332	12-13-62	6451.0
North Well	2-15-62	6453.1
12.10.7.143	12-12-62	6456.3