

STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION

Radiation Protection Section  
708 Uranium Avenue  
P. O. Box 2536  
Milan, NM 87021

Telephone: 287-8845  
287-8322

JERRY APODACA  
GOVERNOR

GEORGE S. GOLDSTEIN, Ph.D.  
SECRETARY FOR HEALTH & ENVIRONMENT

August 3, 1978

Mr. O. D. McDaniel, General Manager  
Uranium Operations  
SOHIO Natural Resources Company  
6001 Marble, NE  
Albuquerque, NM 87110

REFERENCE: JUNE 22 and 23 and JULY 10, 1978  
INSPECTION OF MILL SITE

Dear Mr. McDaniel:

This letter reports on an unannounced inspection conducted on June 22 and 23 and July 10, 1978, of activities authorized by Radioactive Materials License NM-SOH-ML-02, issued initially on July 15, 1975.

The inspection was an examination of the activities authorized under the license as it relates to radiation safety; to compliance with the Health and Environment Department's rules and regulations; and adherence to activities detailed in the license application.

During the inspection the following deficiencies were found:

1. Calculated time-weighted exposures for people working in the yellowcake and Precipitation areas were not maintained in a timely fashion, in fact they were several quarters behind. This is contrary to the procedure described in Section 5.5.3 of your license application. At the time of the visit with the Environmental Coordinator on July 10, 1978 the records were all up-to-date, so no response is necessary for this deficiency.
2. At the time of the inspection, the survey monitoring instrument, Eberline Model F-310 Geiger Counter, had not been calibrated for over six months. Although there is no definite commitment in your

Mr. O. D. McDaniel  
SOHIO Natural Resources Company  
Albuquerque, NM 87110

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license application concerning calibration intervals, six months is usually the maximum interval recommended. Use of a monitoring instrument not properly calibrated is a violation of New Mexico Radiation Protection Regulation RPS 4-200, "Surveys."

3. An examination of work records for non-routine maintenance indicates that the Radiation Safety Officer is not always informed when non-routine maintenance is performed in high radiation areas. The standard operating procedures described in Section 5.3.3 of your license application (Items 5, 8, 9) provide guidance. However, under the principle of "as low as reasonably achievable" (ALARA) it might be a good idea to tighten the procedure. Again, New Mexico Radiation Protection Regulation RPS-4-200 requires surveys to be performed.

Please inform this agency within twenty (20) days of the receipt of this letter of measures taken to correct the deficiencies enumerated above.

Thank you for the courtesy and cooperation extended to me during the inspection.

Sincerely,

Theodore G. Brough  
Environmental Scientist III

TGB/mb

CC: Mr. M. P. Allen, SOHIO  
Radiation Protection Section (2)  
File

5/11/78 5/10/78

DRAFT INSPECTION REPORT FORM

1. Name and address of license  
SOHIO NATURAL RESOURCES CO.  
~~SOHIO PETROLEUM CO.~~

6001 MARBLE, N.E.

Albuquerque, N.M.

2. Date of Inspection 6/22/78, 6/23/78,

3. Type of Inspection ROUTINE -

UNANNOUNCED

4. License number(s), docket number(s), number and date of last amendment for each license. Category and Priority of each licensee.

NM-SOH-ML-02

5. Date of previous inspection MAY 17-18, 1977

6. Proprietary information None

7. Scope of inspection if other than routine routine



8. Participants (Licensee representatives and titles, State representatives, etc.)

E.E. MAUER, MILL SUPERINTENDENT

M.P. ALLEN, MILL METALLURGICAL SUPT., ASD

JOHN RITTS, ENVIRONMENTAL COORDINATOR

DR. JACOBSEN, MANAGER OF MINERAL EXPLORATION

JAMES J. MELFI, JR, PRESIDENT, RESERVE MINERALS

Send to → O.D. MCDANIEL, GENERAL MANAGER, URANIUM OPERATIONS

9. Management Interview (Information required for N/C cases)

O.D. MCDANIEL

E.E. MAUER

M.P. ALLEN

EXIT INTERVIEW

1. <sup>5 minutes</sup> Instrument over 6 months since <sup>Calib</sup> (not ref. given)

2. Weighted Exposure does not up-to-date (not full)

3. Procedure for Special Maintenance

in prep area depends on Foreman taking precautions - respirators recommended by him as necessary.

10. Action and Date: Letter to Licensee August 3, 1979

AEC-591 Clear \_\_\_\_\_

AEC-591 N/C \_\_\_\_\_

11. Recommend reinspection date July 1979

12. Theodore A Brough August 3, 1979  
Inspector Date of Report

\_\_\_\_\_  
Reviewer

\_\_\_\_\_  
Date of Review

13. Inspection Summary (Including violations and safety items, and status of previously reported violations and safety items, etc.)

<sup>Survey</sup>  
Edeline <sup>drum</sup> ~~drum~~ last calibrated over 6 months ago - no interval specified in license application.

Procedures for non-routine maintenance should have better formalization - still can do non-routine work in high rad area without being monitored radiologically.

Calculated <sup>unadjusted</sup> exposure doses were not up to date (corrected by 6/23/78)

Previous recommended changes made with <sup>which records seen</sup> exception of unpaired Yellowcake stock piles <sup>scattered</sup> on side of mill <sup>1979</sup>.  
 will fence off entire Yellow cake area.

14. Summary of Licensed Program (Kind of program, number of people, rate of use or quantities on hand, places and frequency of use, type, quantity and use as authorized, etc.)

76 employees in mill - 4 shifts (3 shifts/day)

Production 1810 tons/day

Project to date grade: May, 1978 09190 U  
 for year 122 - 152

processes { 22,000 tons of own ore }  
 { 49,000 tons of toll ore } ← <sup>accounted</sup> <sub>VA</sub>

15. Organization and Administration (Management organization, RSO, authorities and responsibilities, authorized users, qualifications, supervision, etc.)

Have org. chart

16. Facilities (Use facilities, storage facilities, control of access, control devices and alarms, etc.)

Good security: levels all intact, limited access through gate. Storage facilities for ore: ore pod, above operations, behind wall where grizzly operate. Patrolled by guards 24 hrs.

17. Equipment (Devices utilizing licensed material, monitoring instrumentation, special equipment as glove boxes, hoods, handling tools, respirators, etc.)

Monitoring devices: survey instrument - Eberline needs up date, in Calif. adequate equipment, hoods, respirators ample. Operator loading ore is in air conditioned cab. area dust free in general -- a little spill over in conveyor belt area.

18. Radiological Safety Procedures (Written operating and emergency procedures, availability of procedures, license and regs, training, Form AEC-3, etc.)

Written procedures are available

Training program was extensive for all personnel Summer/fall 1977. New employees now get good intro.

Rad-Safe meetings quarterly for all personnel.



19. Personnel Monitoring and Exposure to External Radiation (Type of monitoring, range of exposures, supplier, period worn, exposure history, etc.)

Use breathing samplers on a time basis - following a specified schedule. Sample yellow cake (wearing areas) primarily take weighted average of <sup>some sampling elsewhere</sup> these readings - calculate time-weighted exposures and MPC's when high readings show up. all people <sup>wearing</sup> badged - Eberline TLD's.

20. Exposure of Employees to Airborne Radioactive Materials (Method of evaluation, type of samples, radioisotopes, records, bioassay, etc.)

Bioassays no longer done -- at start up a bio was made nobody exceeds MPC's: calculated exposures -- time weighted exposures. Not up to date at time of first visit -- were brought up-to-date by time of second.

21. Effluents to Unrestricted Areas (Types, source, measurements, flow rates, applicable MPC, analytical procedures, environmental samples, etc.)

Quarterly report filed on the basis of air, water monitoring. EPA making stack tests at time of inspection -- held up against Quarterly report. Most data collected and compiled -- awaiting analysis from contractors.

no number exceeds MPC's

22. Disposals (Methods, typical quantities, etc.)

Contam. equipment separated from general refuse -  
Placed in tarps when disposed of.

23. Miscellaneous Surveys, Evaluations and Records (External radiation levels, contamination levels, leak tests, etc.)

Checked hoods:	Yellow cake hood	75 cfm
	Retort	125 cfm
	General lab hood	1.10 cfm
	Breathing Rm	20-30 cfm

Wipe testing of K-rays done on time

24. Special License Conditions

Can report exposures on Quarterly basis, can calculate  
exposures on this basis.

Wipe testing of Sealed Sources required (K-rays)



25. Posting and Labelling

RPS-11 posted adequately

Fences marked correctly

26. Independent Measurements (Type, results, comparison to licensee results, etc.)

checked books - readings shown under 23)

Surveyed outside Precip area:  $< 2 \text{ mr/hr}$  ( $\sim 0.8 \text{ mr/hr}$  at wall)

27. Operations Observed

Toured mill -

ore conveyor belt operating

Heat of mill down, circuits flowing however.

28. Incidents, Overexposures, Theft or Loss, Equipment Malfunction (Those not described elsewhere should be reported here.)

*None.*

(a small fire reported in refuse area - non radiological - small amount of smoke for a few days - put out by diverting mine effluent over dump - loss would not put out)  
(July 5-7)

29. Other Information or Continuation from Previous Paragraphs



JOE D. LONGACRE, SR.  
STATE INSPECTOR OF MINES

**STATE OF NEW MEXICO**  
**INSPECTOR OF MINES DEPARTMENT**  
2340 MENAUL, N.E., SUITE 106  
ALBUQUERQUE, NEW MEXICO 87107

*Wolff has seen*  
*Ad*  
**SAFETY FIRST**

*Put up make*  
*copy from Ted B.*

OFFICE TELEPHONE 842-3055  
RESIDENCE PHONE 344-1129

**RADIATION CHECKUP**  
**REPORT OF INSPECTION**

I. D. No. 2901602

L-Bar Uranium Mill (Sohio Petroleum Company)

(Name)

Mill

Typed January 18, 1978

January 4, 1978

(Date of Inspection)

Uranium

(Classification of Mine)

Valencia

(County in which located)

Bruce Harvey, Safety Engineer

(Company representative present at inspection)

Pursuant to the Mining Laws of the State of New Mexico, Section 63-4-8, an inspection, as designated above, has been made. During this inspection the following was noted:

**GENERAL INFORMATION**

Date of previous radiation inspection: initial

The operation is located four miles east of Seboyeta, New Mexico, State Highway 279. The operation is owned and operated by Sohio Petroleum Company and Reserve Oil and Minerals Corporation.

Employment: 56

**Company Officials:**

Edward E. Maurer, Superintendent

O. D. McDaniel, General Manager

Bruce Harvey, Safety Engineer

L. C. Jacobsen, Mgr., Uranium & Western Coal

Richard D. Haddenham, Mill Metallurgical Supt.

Daniel F. Brito, Mill Production Supt.

**Work Schedule:**

Hours per day 8

Shifts per day 3

Days per week 7

Principal product: uranium

Type of operation: mill

The purpose of the radiation survey was to document possible exposure to radon-daughter products in affected mill areas. Three (3) samples were taken:

No. 1 Cascade mill pan-feed pit = 0.1 working level

No. 2 Pump house number 1 (tunnels) = nil working level

No. 3 Yellowcake dozer room = nil working level

JOE D. LONGACRE, SR.

State Inspector of Mines



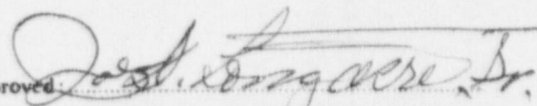
Exposure was minimal and present methods and ventilation appear adequate. No plant index was indicated.

ACKNOWLEDGMENT

The courtesy and cooperation of all employees are hereby gratefully acknowledged.

Inspected and Reported by:  
Howard Robison  
Dust and Mine Gas Inspector,  
Deputy Inspector of Mines

geb

Approved:   
JOE D. LONGACRE, SR.  
State Inspector of Mines



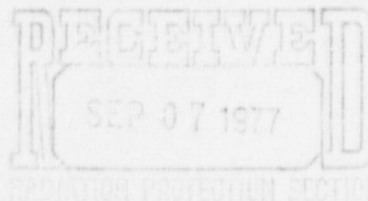
JOE D. LONGACRE, SR.  
STATE INSPECTOR OF MINES

**STATE OF NEW MEXICO**  
**INSPECTOR OF MINES DEPARTMENT**  
2340 MENAUL, N.E., SUITE 106  
ALBUQUERQUE, NEW MEXICO 87107

SAFETY FIRST



OFFICE TELEPHONE 842-3056  
RESIDENCE PHONE 344-1129



**RADIATION**  
**REPORT OF INSPECTION**

I. D. No. 2901602

L-Bar Uranium Mill (Sohio Petroleum Company)  
(Name)

Mill

Typed August 29, 1977  
August 4, 1977  
(Date of Inspection)

Uranium  
(Classification of Mine)

Valencia  
(County in which located)

Bruce Harvey, Safety Engineer  
(Company representative present at inspection)

Pursuant to the Mining Laws of the State of New Mexico, Section 63-4-8, an inspection, as designated above, has been made. During this inspection the following was noted:

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L. C. Jacobsen, Mgr., Uranium & Western Coal  
Bruce Harvey, Safety Engineer  
Richard D. Haddenham, Mill Metallurgical Supt.  
Daniel F. Brito, Mill Production Supt.

Principal product: uranium

Type of operation: Mill

Mr. Omer Sauvageau, of M.E.S.A., assisted throughout the inspection.

The purpose of the radiation survey was to document possible exposure to radon-daughter products in affected mill areas. Two (2) samples were taken:

No. 1 Cascade mill pan-feed pit = 0.1 working level

No. 2 Pump house number 1 (tunnels) = nil working level

Exposure was minimal and present methods and ventilation appear adequate.

JOE D. LONGACRE, SR.

State Inspector of Mines

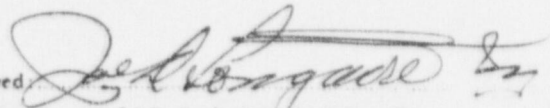
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Inspected and Reported by:  
Howard Robison  
Dust and Mine Gas Inspector  
Deputy Inspector of Mines

gb

Approved



JOE D. LONGACRE, SR.  
State Inspector of Mines