



JOE D. LONGACRE, SR.
STATE INSPECTOR OF MINES

STATE OF NEW MEXICO
INSPECTOR OF MINES DEPARTMENT
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ALBUQUERQUE, NEW MEXICO 87107

SAFETY FIRST



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RADIATION

REPORT OF INSPECTION

I.D. No. 2901550

(Reserve Oil and Minerals Corporation)

(Name)

Underground

Uranium Mine

(Classification of Mine)

McKinley

(County in which located)

Mine

Typed June 19, 1978

June 5, 14, 15, 1978

(Date of Inspection)

Bam Rolando, General Mine Foreman

Don Woodard, Mine Superintendent

(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:

INTRODUCTION

The primary purpose of this inspection was to check radon-daughter concentrations in each working area of the mine, to measure quantity of air supplied to each man working underground and to calculate a time-weighted exposure for each of the various classes of mine personnel.

For collecting the alpha particles, the MSA Monitaire air sampler, U. S. Bureau of Mines approval No. 2F-2004 was used. For counting the alpha disintegration, the PS-1 Eberline pulse rate meter in combination with the SPA-1 Eberline millipore filter radon probe was used.

GENERAL INFORMATION

Owner: A. T. S. F. Railroad

Operator: Reserve Oil and
Minerals Corporation

Location: 13 miles NW of
Grants, NM, on State Hwy. 53.

Employment: 30

Work Schedule
Hours per shift 8
Shifts per day 2
Hours per week 40

Company Officials:

James Melfi, President

Arthur Miller, Vice President

Don Woodard, Mine Superintendent

Bam Rolando, General Mine Foreman

Steve Grundstedt, Mine Engineer & Shiftboss

Previous radiation inspection: March 6, 7, 9,
1978, and the report was posted.

Mining method: drift development and
modified room and pillar extraction

The inspector was accompanied by Mr. Bam Rolando and Mr. Don Woodard during the entire period of this inspection.

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JOE D. LONGACRE, SR.

State Inspector of Mines

Poison Canyon No. 1 Mine is opened by a 9'x9' adit, some 3,500 feet inby connected to the workings of the Gosset Mine. This adit is being utilized for ventilation, for hauling materials, for hauling ore and waste and as a travelway.

VENTILATION AND RADIATION

Poison Canyon No. 1 Mine is ventilated by some 88,000 cubic feet per minute of air delivered and exhausted through the following openings:

<u>Opening</u>	<u>Size I.D.</u>	<u>Air Direction</u>	<u>Air Vo- lume c.f.m.</u>	<u>Make of Fan</u>	<u>Fan HP</u>	<u>Depth Of Opening</u>
Adit	9'x9'	intake	56,000	-	-	3500' horiz.
1500W BH	44"	exhaust	13,000	Joy Series 1000	1-7½	185'
9W BH	52"	exhaust	22,300	Joy Series 1000	1-10	200'
No. 9 BH	14"	exhaust	1,500	Hartzell	1-3	200'
18 NW BH	30"	exhaust	6,300	Hartzell	1-20	193'
18 SW BH	30"	exhaust	16,000	Reliance	1-20	168'
2100 BH	30"	intake	32,000	Westinghouse	1-40	200'
3100 BH	30"	exhaust	9,000	Reliance	1-20	195'

Main fans were electrically powered and they were axial-flow type units. These fans were mounted at the surface collar of the ventilation holes (BH). Boreholes 1500W and 9W were shot-creted throughout the length of the opening, and the rest of the vent holes were not lined with any kind of material.

Air underground was distributed to the working places by directing the airflow towards the working places with the aid of auxiliary fans and vent tubing.

Airflow underground was controlled by bulkheads, air seals, brattices and curtains.

The following is a list of radon-daughter concentrations, air volume measurements, and time-weighted exposure for each of the various classes of mine personnel.

<u>Sample No.</u>	<u>Sample Location</u>	<u>Ventilation c.f.m.</u>	<u>Man-Shift Exposure</u>			<u>Working Level</u>
			<u>M&M</u>	<u>Stopes</u>	<u>Haulages</u>	
1	3100 drift development drill***	3,000	0.5	2.0		0.8
2	3100 exhaust borehole	9,000 Control Sample				3.1
3	3100 eating place**	convection	0	1.0		2.5*
4	3100 haulage**	2,700	0.5		2.0	5.6*
5	3300 stope drill**	1,500	0.5	4.0		0.4
6	3300 haulage**	1,000	0.5		2.0	8.1*
7	2100 haulage	12,000	0.5		2.0	0.2
8	main lunch room	4,000	0.5	1.0	1.0	0.2
9	1500 drift development	6,000	0.5	2.0		0.3
10	1500 haulage	6,000	0.5		1.0	0.4
11	from 1500 to #9 bulkhead haulage	56,000	0.5		0.5	0.1
12	from #9 bulkhead to surface haulage	56,000	0.5		0.5	0.1
13	3300 haulage - Resampled, Order cancelled.					1.9
14	3100 exhaust - Resampled, Control Sample, No Exposure.					1.5
15	3100 eating place - Resampled, Order cancelled.					2.8

Sample No.	Sample Location	Ventilation c.f.m.	Man-Shift Exposure			Working Level
			M&M	Stopes	Haulages	
16	3100 haulage - Resampled, Cease Work Order Abated.					0.9
17	2100 haulage - Resampled, Control Sample.					0.3
18	3300 haulage - Resampled, Order Cancelled.					1.5
19	3100 haulage - Resampled, Control Sample.					0.3
TOTALS			5.0	10.0	9.0	

* Cease Work Orders issued for high radon-daughter concentrations.

** Cease Work Orders issued for lack of ventilation volume to run diesel equipment.

The average time-weighted exposure for the various classes of mine personnel and the mine exposure index are as follows:

Maintenance and Management - 1.7 x working levels
Stopes and Developments - 0.7 x working levels
Haulageways - 3.2 x working levels
Total Mine Exposure Index - 1.8 x working levels

ORDERS ISSUED JUNE 15, 1978

Order No. 1, SIM Rule No. 76-1(2c): Employees shall not be exposed to radon-daughter concentrations above 1.0 working levels in 3100 eating place. (57.5-39M) Abated June 15, 1978.

Order No. 2, SIM Rule No. 76-1(2c): Employees shall not be exposed to radon-daughter concentrations above 1.0 working level in 3100 haulage. (57.5-39M) Abated 6-15-78.

Order No. 3, SIM Rule No. 76-1(2c): Employees shall not be exposed to radon-daughter concentrations above 1.0 working level in 3300 haulage. (57.5-39M) Abated June 15, 1978.

Order No. 4, Rules Governing Diesel Equipment in Underground Mines for the State of New Mexico, Rule No. 4: At least 75 cubic feet per minute of fresh air per brake horsepower of fresh air shall be provided to run diesel equipment, in 3100 drift development. Abated June 15, 1978.

Order No. 5, Rules Governing Diesel Equipment in Underground Mines for the State of New Mexico, Rule No. 4: At least 75 cubic feet per minute per brake horsepower of fresh air shall be provided to run diesel equipment in 3100 haulage. Abated June 15, 1978.

Order No. 6, Rules Governing Diesel Equipment in Underground Mines for the State of New Mexico, Rule No. 4: At least 75 cubic feet per minute per brake horsepower of fresh air shall be provided to run diesel equipment in 3300 stope drill. Abated June 15, 1978.

Order No. 7, Rules Governing Diesel Equipment in Underground Mines for the State of New Mexico, Rule No. 4: At least 75 cubic feet per minute per brake horsepower of fresh air shall be provided to run diesel equipment in 3300 haulage. Abated June 15, 1978.

NOTICES ISSUED JUNE 15, 1978

Notice No. 1, SIM Rule No. 76-1(2c): Evidence of smoking was found in main entry haulage. (57.5-41M) Abated June 15, 1978.

Notice No. 2, SIM Rule No. 76-1(2c): Evidence of smoking was found in the main lunchroom. (57.5-41M) Abated June 15, 1978.

Notice No. 3, SIM Rule No. 76-1(2c): Evidence of smoking was found in 1500 haulage. (57.5-41M) Abated June 15, 1978.

Notice No. 4, SIM Rule No. 74-1(2c): The electric blasting device shall be kept locked in 3100 drift development. (57.6-128M) Abated June 15, 1978.

Notice No. 5, SIM Rule No. 74-1(2c): The electric blasting device shall be kept locked in 3300 drift development. (57.6-128M) Abated June 15, 1978.

Notice No. 6, SIM Rule No. 74-1(2c): The electric blasting device shall be kept locked in 1500 drift development. (57.6-128M) Abated June 15, 1978.

Notice No. 7, Section 63-28-1, NMSA: The area in 3100 explosive storage shall be supported. (57.3-20M) Abated June 15, 1978.

Notice No. 8, SIM Rule No. 75-1(2c): The high pressure hose in 3100 drift development shall be provided with safety chain. (57.13-21M) Abated June 15, 1978.

Notice No. 9, SIM Rule No. 71-2(2c): The box type magazine in 3100 drift shall be repaired and provided with covers. (57.6-27M) Abated June 15, 1978.

Notice No. 10, Rules and Regulations Effective in the Uranium Mines, Rule No. 1(a): The drill position in 3100 drift development shall be provided with safety jacks or stulls. Abated June 15, 1978.

Notice No. 11, SIM Rule No. 75-2(2c): Only approved type of respirators shall be provided for men working in this mine. (55.5-5(a)M) Abated June 15, 1978.

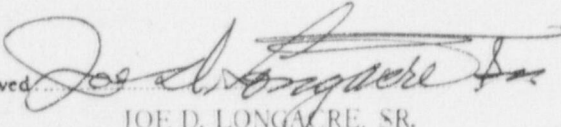
The above orders and notices were discussed with Messrs. Don Woodard and Bam Rolando.

ACKNOWLEDGEMENT

The courtesy and cooperation of staff and personnel of the Poison Canyon Mine during this inspection are hereby gratefully acknowledged.

Inspected and Reported by:
L. A. Quinones
Dust and Mine Gas Engineer
Deputy Inspector of Mines

jmz

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