



# PATHFINDER

August 28, 2003

Mr. Charles Cain  
Section Chief  
U.S. Nuclear Regulatory Commission-Region IV  
Division of Radiation Safety and Safeguards  
611 Ryan Plaza Drive-Suite 400  
Arlington, Texas 76011

Re: Docket No. 40-2259, License No. SUA-672

Dear Mr. Cain:

Enclosed please find two copies of the semi-annual effluent monitoring report for the period January 1, 2003 through June 30, 2003 as required by 10 CFR 40.65 and SUA-672 license condition 22. Note that effective with amendment 64 to the license, dated February 20, 2003, all environmental monitoring requirements, except ground water, previously subject to reporting in the effluent report were eliminated. The data for external radiation and radon at the environmental monitoring sites reported here represent the last routine environmental/effluent monitoring data. Air particulate radionuclides and all other monitoring were immediately suspended with the approval of amendment 64. The ground water data collected as part of the approved Alternate Concentration Limits monitoring program are reported separately per the requirements of condition 60. Also included with this report is the annual land use survey as required by condition 21.

Please let me know if you have any questions concerning this report.

Sincerely,

T. W. Hardgrove  
Manager, Reclamation Operations

Enclosures

cc: M. Raddatz, U.S. NRC Headquarters  
D. L. Wichers

**Pathfinder Mines Corporation**

**Lucky Mc Mine**

**SUA-672**

**Docket No. 40-2259**

**Effluent Monitoring Report**

**1st and 2nd Quarters, 2003**

**August 28, 2003**

Pathfinder Mines Corporation  
 Lucky Mc Mine  
 Source Material License SUA-672  
 Semi-Annual Effluent Monitoring Report

Quarter: 1st, 2003  
 Sample Dates: 01/01/03-03/31/03

Ambient Radiation (External)

Location	Badge #	Exposure Rate (mR/qtr)	Error Est. (mR/qtr)	Avg. Exp. Rate (mR/qtr)	Avg. Exp. Rate Adj. for B'kgrd. (mR/qtr)
Control	16	ND	---	ND	---
	17	ND	---		
ER-1	1	15	10	15	---
	2	15	10		
	3	ND	10		
ER-2	4	20	10	18	3
	5	15	10		
	6	20	10		
ER-3	7	15	10	18	3
	8	20	10		
	9	20	10		
ER-4	10	15	10	15	0
	11	15	10		
	12	15	10		
ER-5	13	ND	10	10	-5
	14	10	10		
	15	ND	10		

Sample Type: TLD badges analyzed quarterly.

Location of sample points: Three TLD badges are located adjacent to each ambient air monitoring station. ER-1 is background.

A negative value in the last column indicates the site was less than the designated background. ND = Not Detectable. If NDs occurred at a location, they were not included in the calculation of the average exposure.

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 Lucky Mc Mine  
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 Semi-annual Effluent Monitoring Report

Quarter: 1st, 2003

Unrestricted Airborne Samples - Radon  
 (Average Concentrations from Quarterly Composites)

Sample Location	Radionuclide	Concentration uCi/ml	Error Est. uCi/ml	LLD uCi/ml	% ECL*
A - 1	Rn-222	1.0E-09	1.5E-10	3.0E-10	—
A - 2	Rn-222	8.0E-10	1.3E-10	3.0E-10	-2.0
A - 3	Rn-222	6.2E-09 **	4.7E-10	3.0E-10	52.0
A - 4	Rn-222	1.1E-09	1.6E-10	3.0E-10	1.0
A - 5	Rn-222	5.0E-10	9.0E-11	3.0E-10	-5.0

\*Adjusted for background value. A negative value indicates that the concentration was below the background A-1 value.

\*\*Detector at A-3 had fallen to the ground - data invalid.

PATHFINDER MINES CORPORATION  
Lucky Mc Mine  
SUA-672, License Condition No. 21

Attachment to the 1st and 2nd Quarters, 2003  
Effluent Report  
August 28, 2003

General land uses within five miles of the Lucky Mc restricted area boundary:

Land uses during 2002-2003 within five miles of the Lucky Mc restricted area boundary did not change significantly from what was reported for the previous year. The nearest (and only) full-time residence continued to be located 4.8 miles to the north-northwest of the northwest corner of the restricted area fence. Two adult individuals live full time at this ranching operation. A domestic water well is utilized at the site. Cattle have been grazing on the adjacent open range during late spring through the fall when they are typically removed for the winter.

Within the restricted area activities consisted of the continued operation of the ground water corrective action plan until the end of January, 2003, when operations were suspended after approval of Alternate Concentration Limits for the site. The tailings reclamation was completed with the exception of the remaining evaporation pond area which is not scheduled for closure until 2004. There has been virtually no activity within the restricted area in 2003. A contractor conducted the reclamation activities within the restricted area during 2002.

Aside from the one noted above, there are no other residences within five miles of the restricted area boundary. The only other potable water source in the area that was utilized this past year was the Lucky Mc No. 8 well which taps a deep aquifer. Further use of it as a source of potable water ceased in late August, 2002. There was use of an agricultural (stock) well installed in 2001 in the Reid Draw drainage in the SW1/4 of Section 33, T34N, R90W, approximately two miles NNW of the north boundary of the Lucky Mc restricted area. Livestock and wildlife have utilized surface stock watering ponds which occur within five miles of the restricted area boundary. The closest pond to the restricted area, the mine runoff settling pond immediately to the east of Tailings Pond #1, was fenced during the spring, 2003 to exclude cattle from the pond and the adjacent reclamation.

No uranium mining occurred during the past year in the Gas Hills. Utilizing a contractor, Pathfinder accomplished various mine reclamation projects primarily relating to channel construction over the past year. A contractor to the State of Wyoming also completed an Abandoned Mine Lands reclamation project in the Central Gas Hills, just south of the mill site.

The primary recreational use of the subject area continued to be the sport hunting of antelope, deer, and sage hens during the fall months, and cottontail rabbits and coyotes from fall through winter.

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**Lucky Mc Mine**

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