PATHFINDER

October 14, 2003

Mr. Gary Janosko, Branch Chief
Fuel Cycle Facilities Branch
Division of Fuel Cycle Safety and Safeguards
Office of Nuclear Material Safety and Safeguards
U. S. Nuclear Regulatory Commission
11545 Rockville Pike
Rockville, Maryland 20852

Ref: Docket No. 40-2259, Source Material License No. SUA-672

Dear Mr. Janosko:

Pathfinder hereby requests an amendment to the referenced license to incorporate into the Lucky Mc license a revised surety amount for tailings and mill site reclamation as required by condition 27. A summary of the adjusted surety amount is shown below.

LUCKY Mc SITE

ACTIVITY	CURRENT SURETY	PROPOSED SURETY
1. Mill Decommissioning	$0	$0
2. Tailings Reclamation	684,673	270,719
3. Long Term Surveillance	667,282	681,684
SUBTOTAL	$ 1,351,955	$ 952,403
4. Contingency (15% of 1 & 2)	102,701	40,608
TOTAL	$1,454,656	$ 993,011
Increase/(Decrease)		($461,645)

The decrease to $993,011 for the proposed surety amount reflects a recalculation of the cost estimate based upon the completion of additional tailings reclamation work over the past year.

NMSS01

PATHFINDER Mines Corporation
935 Pendell Blvd., P.O. Box 730, Mills, WY 82644 - Tel. : (307) 234-5019 - Fax : (307) 473-7306

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The long term surveillance fee has been increased, consistent with the latest available CPI adjustment (August, 2003). Supporting information for the recalculated surety estimate is enclosed (two copies). Upon your written approval, we will proceed to obtain a rider for the existing Letter-of-Credit to reflect the revised surety amount.

Sincerely,

Tom Hardgrove

T. W. Hardgrove
Manager, Reclamation Operations

Enclosure

Cc: D. L. Wichers

LUCKY Mc TAILINGS AND MILL SITE RECLAMATION COST ESTIMATE
October 14, 2003

Table 1 presents a cost estimate summary for the reclamation of the Lucky Mc mill site and tailings to 10 CFR 40 Appendix A standards. This cost summary addresses the remaining activities: final reclamation of the evaporation pond and other residual tasks.

The material volume estimates and related costs on the Summary Table for the various activities have been adjusted to reflect the remaining work in light of what has been completed to date. Since the submittal of the last cost estimate (September, 2002) most of the regrading has been completed. The remainder relates to the last evaporation pond at the north end of the tailings system. The evaporation pond work will occur during the summer of 2004. The radon barrier clay placement has been nearly completed. The only clay placement retained in this estimate relates to the evaporation pond. All remaining rip rap, rock mulch, and filter bed needs will be fulfilled from existing stockpiles on site. No additional materials will purchased off site or hauled to the tailings area from the limestone quarry.

Cost estimates provided here for the various materials placement are based upon recent unit costs for which Pathfinder has contracted at Lucky Mc. The attached Exhibit "A" to this cost estimate is directly from the contract and is considered by Pathfinder as confidential information. Note that the material volumes listed in Exhibit "A" were only relevant to the contracting process in early May, 2001. Since then most of the material volumes have been placed, and the overall volume needs have been further refined.

The text following Table 1 provides supporting information for the unit costs or total costs developed for the various activities of the reclamation project as presented in Table 1.

Table 1. Pathfinder Mines Corporation, Lucky Mc Mine
Tailing and Mill Site Reclamation Cost Estimate Summary

14-Oct-03

Activity	Quantity		Unit Cost ($)		Cost	Footnote*
Regrading:	27,000	CY	1.38	/CY	$37,260	B
Tailings/millsite cover & protection:						
Radon barrier placement	22,750	CY	1.18	/CY	$26,845	C
Filter bed stockpiled on site	6,000	CY	1.30	/CY	$7,800	D
Rock mulch stockpiled on site	6,000	CY	1.40	/CY	$8,400	E
Small riprap stockpiled on site	1,700	CY	6.50	/CY	$11,050	F
Large riprap placement	1,000	CY	6.75	/CY	$6,750	G
Topsoil - Borrows	13,440	CY	0.82	/CY	$11,021	H
Revegetation:						
Discing & seeding	26	AC	105.50	/AC	$2,743	I
SUBTOTAL	—		—		$111,869	
Contractor profit, mobilization/demobilization (10%)					$11,187	
TOTAL RECLAMATION CONTRACTOR COST					$123,056	
Construction management (5% of contractor cost)					$6,153	J
Materials testing					$2,295	J
Groundwater restoration					$26,768	K
Solution evaporation					$0	L
Fencing					$18,400	M
Radiological surveys					$50,000	N
Environmental monitoring					$44,048	N
			TOTAL		$270,719	
			Contingency (15%)		$40,608	
			Site Surveillance		$681,684	
			GRAND TOTAL		$993,011	

* See the corresponding text section for an explanation of the derivation of costs.

A. Hourly Costs

The only additional equipment beyond that provided by the contractor which is utilized in this cost estimate is a small backhoe/loader. Its use is based on a total hourly cost (exclusive of operator cost) from the PRIMEDIA Cost Reference Guide for Construction Equipment (2003).

Equipment	Total Hrly. Cost
Case 580L Tractor/Backhoe	$14.20

Hourly Labor Cost:

The technician/operator pay rate is $25.50 per hour; the laborer pay rate is $20.50 per hour. Labor rates are based on what Pathfinder has paid during 2003 on a contractual basis.

B. Regrading:

Regrading encompasses the cuts and fills to create the design topography, including the excavation of designed channels. The remaining regrading is limited to the evaporation pond (Area 4). Costs are based upon recent contractual experience with Carr Construction.

Regrading Unit Cost = **$1.38/CY**

C. Radon Barrier Placement:

Remaining radon barrier clay placement is limited to the Area 4 evaporation pond. All other radon barrier placement is done. Costs are based upon recent contractual experience.

Radon Barrier Unit Cost = **$1.18/CY**

D. Placement of Filter Bed Already Stockpiled at the Tailings Site:

The cost for the remaining placement of stockpiled (tailings site) filter bed is based upon recent contractual experience.

On Site Filter Bed Unit Cost = **$1.30/CY**

E. Placement of Rock Mulch Already Stockpiled at the Tailings Site:

The cost for the remaining placement of stockpiled (tailings site) rock mulch is based upon recent contractual experience.

On Site Rock Mulch Unit Cost = **$1.40/CY**

F. Placement of Small Riprap Already Stockpiled at the Tailings Site:

The cost for the placement of stockpiled small riprap (D50 of 0.5 feet) at the site is based upon recent contractual experience.

On Site Small Riprap Unit Cost = **$6.50/CY**

G. Placement of Large Riprap Stockpiled at the Tailings Site:

The placement cost of large rip rap is based upon recent contractual experience.

On Site Large Riprap Unit Cost = **$6.75/CY**

H. Topsoil Placement:

Some stockpiled topsoil will be placed on the clay borrow areas in 2004. Plcement cost is based upon recent contractual experience.

Topsoil Unit Cost = **$0.82/CY.**

I. Revegetation:

Unit costs for the various operations in the revegetation of areas that are not covered with rock are based upon contractor rates quoted in September, 2003 for similar work. The windblown tailings cleanup areas and related contaminated soils cleanup areas as well as the topsoiled areas directly on top of tailings have been reclaimed, leaving limited acreage in the clay borrow area that is planned for seeding. The unit costs are as follows.

Discing and Seeding:	
Labor and equipment* -	$65.50/AC
Seed -	40.00/AC

Total	**$105.50/AC**

*Includes mobilization/demobilization charge prorated per acre.

J. Construction Management and Materials Testing:

An estimated five percent of construction costs is applied to construction management.

Materials Testing Costs:

Most of the radon barrier gradation testing as well as other material testing has been completed. Based on the materials testing proposals in Section 11.0 of the tailings reclamation plan, and utilizing quotes from a local geotechnical testing firm, the following costs are applicable.

Radon Barrier Testing	
gradation - 0 tests @ $45/test =	$ 0
Atterberg limits - 5tests @ $35/test =	175
single pt. Proctor - 7 tests @ $40/test =	280
complete Proctor - 3 tests @ $75/test =	225
in place density & moisture - 5 days @ $323/day =	1,615
Total	**$2,295**

K. Groundwater Restoration:

Alternate concentration limits (ACLs) have been approved for the site. The corrective action program has been terminated for the site.

Well Plugging:

There are some 142 wells associated with the tailings/millsite or the groundwater restoration effort. An average depth for these wells is about 70 feet while the average water column height is about 40 feet. Plugging will involve the filling of each well to an elevation above the water level with bentonite pellets. Most of the balance of the well will be backfilled with soil. The casing will be cut off two feet below the land surface, and a concrete plug will be installed. The hole will then be backfilled with soil to the land surface. A cost summary for this activity follows:

Equipment:

A Case 580L tractor/backhoe/loader will be utilized to dig out the top two feet of casing below the land surface and provide adjacent fill dirt for the backfilling of the dry portion of each well. The cost for this equipment is $14.20/hr.

Materials:

Five inch diameter wells with an average 40 ft. of water in them will require 5.5 CF of bentonite pellets to seal through the aquifer. Two inch diameter wells with an average of 40 feet of water in them will require 1 CF of bentonite pellets. Five - sixteen inch diameter wells with an average of 30 ft. of water in them will require 42 CF of bentonite pellets. Two thirty - six inch diameter sumps will each require 71 CF of bentonite pellets. A 50 lb. bag of pellets cost $7.00/bag. One CF of pellets equals 70 lbs.

70 lbs/CF/50 lbs/bag x $7.00/bag = $9.80/CF bentonite.
$9.80/CF x 5.5 CF = $53.90 bentonite for 5" well.
$9.80/CF x 1 CF = $9.80 bentonite for 2" well.
$9.80/CF x 42 CF = $411.60 bentonite for 16"well.
$9.80/CF x 71 CF = $695.80 bentonite for 36"well.

1 bag of sacked concrete will be required for each well at $3.00/bag. Larger wells/sumps will require 4 bags of concrete.

	5" Well	2" Well	16"Well	36"Well
Bentonite Pellets	$53.90	$ 9.80	$411.60	$695.80
Sacked Concrete	3.00	3.00	12.00	12.00
Total Materials	$56.90	$12.80	$423.60	$707.80

Labor:

2 personnel will be required, one to operate the backhoe, the other as a manual laborer.

$25.50/hr. + $20.50/hr = $46.00/hr.

It is assumed that each well requires two hours to plug. Therefore, labor = 2 hr./well x $46.00/hr = $92.00/well.

Total Costs for Each Size Well:

	5" Well	2" Well	16"Well	36"Well
Equipment	$28.40	$ 28.40	$ 28.40	$ 28.40
Materials	56.90	12.80	$423.60	707.80
Labor	92.00	92.00	92.00	92.00
Total	$177.30	$133.20	$544.00	$828.20

100 - 5" wells x $177.30/well = $17,730

35 -	2" wells x	$133.20/well =	$ 4,662
5 -	16"wells x	$544.00/well =	$ 2,720
2 -	36"wells x	$828.20/well =	$ 1,656
		Total	$26,768

Total Expense for Groundwater Restoration = **$26,768.**

L. Solution Evaporation:

Solution evaporation is complete. A minor amount of water left in the evaporation pond will evaporate by next summer without any spraying.

M. Fencing:

It is assumed that the restricted area will be expanded prior to site transfer to the DOE, requiring 16,000 feet of new fencing. Based upon recent contracted fencing work, a unit cost of $1.15/linear ft. of fence is appropriate, including materials and labor.

16,000 ft x $1.15/ft = **$18,400.**

N. Radiological Survey and Environmental Monitoring:

Post Reclamation Ra226 Survey:

Remaining post reclamation gamma/Ra226 survey work will entail the examination of approximately fifty acres. Recent experience using a contractor indicates that such an effort, including soil sample analyses, will cost about $1,000 per acre, or a total of **$50,000.**

Environmental Monitoring:

An environmental monitoring program will consist solely of the quarterly sampling of seven monitor wells. Monitoring will continue for two years until the anticipated site transfer to DOE by late 2005. Labor costs, semi-annual report preparation, and other miscellaneous expenses are based on the use of a consultant at current rates that Pathfinder has paid.

Labor and Program Administration -

1 technician for 24 hrs/qtr for a two year duration:
24 hrs/qtr x 4 qtr/yr x 2 yrs x $44.00/hr = $8,448.

Administration and general overhead, and general engineering/consultant oversight (including report

preparation) -

Administration/overhead = $500/mo x 12 mo/yr x 2 yrs = $12,000.

Engineering/consultants = $400/mo x 12 mo/yr x 2 yr = $9,600.

Analytical Work -
Based upon current costs for the outside analytical work done at Lucky Mc to maintain the environmental monitoring program as required by the license (post-ACLs approval), the following would apply:

	Annual Cost
Water sample analyses	$ 7,000

Total Analytical Costs for 2 Years:

$7,000/yr x 2 yrs = $14,000.

Total Costs for Environmental Monitoring:

$8,448 + $12,000 + $9,600 + $14,000 = **$44,048.**