



INTERNATIONAL
URANIUM (USA)
CORPORATION

**White Mesa Mill – Rock Durability Test Results
Update To Reclamation Cost Estimate**

**So: Material License SUA – 1358
Docket No. 40 - 8681**

7811300237 781124
PDR ADOCK 04008681
C PER

November 24, 1998

Transp in file



INTERNATIONAL
URANIUM (USA)
CORPORATION

40-8681

Independence Plaza, Suite 950 • 1950 Seventeenth Street • Denver, CO 80265 • 303 628 7798 (main) • 303 389 4125 (fax)

November 24, 1998

VIA FEDERAL EXPRESS OVERNIGHT MAIL

Mr. Joseph J. Holonich
U.S. Nuclear Regulatory Commission
Uranium Recovery Branch
Office of Nuclear Materials Safety & Safeguards
Mail Stop T7J9
Two White Flint North
11545 Rockville Pike
Rockville, MD 20852-2738

**Re: *White Mesa Mill - Rock Durability Test Results
 Update to Reclamation Cost Estimate***

Dear Mr. Holonich:

Attached for your information and review are the results from the follow-up rock sampling and testing program as detailed in our letter of October 23, 1998. This program was in response to the less than satisfactory results obtained in our earlier program to assess the on-site sandstone material. We have now located three sites within 15 miles of the White Mesa Mill, which all exhibit rock characteristics suitable for the riprap and armor material required for final reclamation. All three of the sources score above 50% on the NRC Scoring Criteria, and one of the sources scores over 80% of the Maximum Possible Score. A description of the source locations, sampling procedure and preparation, laboratory test results and NRC Scoring calculations is included as Attachment 1 to this submittal.

For purposes of revision to the current reclamation cost estimate, IUSA assumed the rock would come from the North Pit, located approximately one (1) mile northeast of Blanding, Utah, and seven (7) miles from the White Mesa Mill site. Utilization of this source of rock results in a reduction in the total cost of riprap and armor material by \$2.80 per yd³. The 1996 Reclamation Cost Estimate (submitted to the NRC in February of 1997) assumed a total cost of \$5.19 per yd³, with total volume of 152,000 yd³. This total included a 25% oversizing factor due to the quality of the rock being less than 80% on the NRC Scoring Criteria. The North Pit rock has a delivered cost of \$2.31 per yd³. In addition, the North Pit rock requires only a 9.35% oversizing factor, although we have conservatively assumed a 15% factor for the revised cost estimate. The total revised quantity of rock required is 139,500 yd³. Additional placement costs have been assumed equal for all sources. The total reduction in cost of the rock for the complete reclamation of the site is \$466,635.

As a part of reviewing the cost of obtaining and placing the riprap material from the off-site source, we also have taken the opportunity to update the equipment and labor rates used in the cost estimate calculations. In addition, we have revised the cover design to exclude the one-foot thick clay layer on the side slopes of the reclaimed area.

The labor rates utilized in the reclamation cost estimate were taken from the Davis-Bacon rates published for the southern Utah region. These are the same labor rates utilized for the ongoing work on the U.S. Department of Energy, Monticello Remedial Action Project. The 1998 published rates were compared against the rates used in the 1996 cost estimate and were determined to be essentially the same. A comparison of the 1996 versus the 1998 Davis-Bacon labor rates is included as Attachment 2. Only minor adjustments were made in the labor cost component for the 1998 estimate.

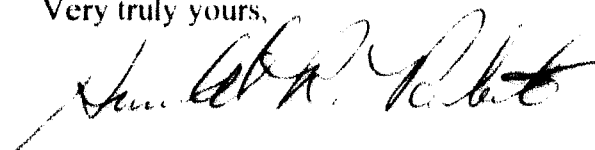
Equipment rental rates were updated by obtaining revised quotes from Butler Machinery Company. The revised quotes were obtained for rental periods which more closely match the anticipated project schedule. The rental and operating costs were revised according to Attachment 3 to this submittal. The revised rates vary from a decrease of \$2.49 per hour to an increase of \$18.34 per hour. The effect of these rate changes is summarized in the data included in Attachment 4.

The reclamation cover design has been modified to exclude the use of the one foot thick clay layer on the side slopes of the reclaimed area. The clay layer is designed to reduce radon emanation from the stored tailing sands and therefore serves no purpose over the side slopes of the reclaimed area. The effect of this modification is to reduce the required volume of compacted clay by 28,410 yd³. The volume is replaced by a like amount of random fill, for a reduction in material and placement costs from \$7.98/yd³ for the clay to \$0.43/yd³ for the random fill. The overall reduction in cost is \$7.55/yd³ (\$214,500). The design modification is detailed on the attached revisions (Attachment 5) to Figures A-5.1-1, A-5.1-2 and A-5.1-3.

The specific revisions for each task included in the Reclamation Cost Estimate is detailed in Attachment 6. The overall summary of the revised 1998 Reclamation Cost Estimate is included in Attachment 7. The 1998 updated estimate is \$10,445,505, which represents a reduction of \$585,455 from the original base estimate, plus the further reductions in the associated allowances for contractor profit, contingency, licensing and bonding. The calculation for the Long-Term Care Fund was also updated to the 1998 amount. The overall effect is a reduction of \$1,024,355 from the 1996 inflation adjusted estimate.

If you have any questions, please feel free to contact me at the letterhead phone or address.

Very truly yours,



Harold R. Roberts
Executive Vice President

HRR/pl

Mr. Joseph J. Holonich
November 24, 1998
Page 3

cc: Earl E. Hoellen
David C. Frydenlund
Michelle R. Rehmann

Robert A. Hembree
William N. Deal

ATTACHMENT

1

TO: Harold R. Roberts

cc: William N. Deal

FROM: Robert A. Hembree

DATE: November 20, 1998

SUBJECT: Rock Test Results - Blanding Area Gravel Pits

Attached you will find the results for lab tests that were performed on rock samples obtained from three gravel sources around the White Mesa Mill. These samples were taken from the Cow Canyon pit located just north of Bluff (15 miles south of the mill), the Brown Canyon pit located on the east side of Recapture Canyon four miles northeast of the mill, and the North Pit located one mile northeast of Blanding. A 75 pound sample of material was collected from each site, each sample was crushed and screened to a $+1/2 - 1\frac{1}{2}$ inch size. Testing was performed by Western Colorado Testing in Grand Junction, Colorado. All samples were tested for specific gravity, absorption, sulfate soundness and L.A. Abrasion.

Test results indicate that all three sites score high enough to be used as rip rap sources for the reclamation cover at the mill (see attached scoring calculations). The Cow Canyon site scores high enough that there would be no over-sizing required; it is suitable for use in channels as well as on side and top slopes. The Brown Canyon site requires the most over-sizing at nineteen percent (19%). The North Pit material would require over-sizing of 9.35%. These test results prove that there are sources of rip rap material within a reasonable distance of the mill site. The average over-sizing factor for the three sites is 9.5%, which is well below the 25% number used in the 1996 reclamation cost estimate. The over-sizing factor used in the Titan Design Study was also 25%.

Based on the results of the testing IUC could use any of these three sites. The North Pit would be the most reasonable choice of material sites since it has a lower over-sizing factor than the Brown Canyon site and is closer to the mill than the Cow Canyon site. The North Pit also has the advantage of being an established public pit on BLM administered land.

RAH/rah

**International Uranium (USA) Corp.
WHITE MESA MILL RECLAMATION**

NRC Rip Rap Scoring Calculations

Weighting Factors for Igneous Rocks

Oversizing for side slopes, top slopes, and well drained toes and aprons

Rock Scoring less than 50% is rejected, rock scoring over 80% does not require oversizing

Cow Canyon Pit (Bluff)

Lab Test	Lab Results	Score	Weight	Score x Weight	Max Score
Specific Gravity	2.63	7.5	9	67.5	90
Absorption, %	0.47	8.25	2	16.5	20
Sodium Sulfate Sound, %	0.2	10	11	110	110
L.A. Abrasion, %	6.4	7.5	1	7.5	10
Totals				201.5	230

Overall Score 87.61 %

Oversizing none %

Brown Canyon Site

Lab Test	Lab Results	Score	Weight	Score x Weight	Max Score
Specific Gravity	2.525	5.5	9	49.5	90
Absorption, %	2.61	1.75	2	3.5	20
Sodium Sulfate Sound, %	5.5	7.5	11	82.5	110
L.A. Abrasion, %	10.3	4.75	1	4.75	10
Totals				140.25	230

Overall Score 60.98 %

Oversizing 19.02 %

North Pit (N. Blanding)

Lab Test	Lab Results	Score	Weight	Score x Weight	Max Score
Specific Gravity	2.557	6.25	9	56.25	90
Absorption, %	2.84	1.25	2	2.5	20
Sodium Sulfate Sound, %	3.2	8.75	11	96.25	110
L.A. Abrasion, %	6.3	7.5	1	7.5	10
Totals				162.5	230

Overall Score 70.65 %

Oversizing 9.35 %



**WESTERN
COLORADO
TESTING,
INC.**

529 25 1/2 Road Suite B 101
Grand Junction, Colorado 81505
(970) 241-7700 • Fax (970) 241-7783

**November 16, 1998
WCT #811898**

**International Uranium USA Corporation
Independence Plaza
1050 17th Street
Denver, Colorado 80265**

Attention: Mr. Bob Hembree

Reference: Rock Durability Testing

As requested, three (3) potential sources of riprap for use in reclamation of tailings ponds in Blanding, Utah were tested for rock durability. The riprap material was obtained, crushed to testing size, and delivered to Western Colorado Testing, Inc. by the client. The three sources of material were tested for specific gravity and absorption (ASTM C127), Sodium Sulfate Soundness (ASTM C88), and Los Angeles Abrasion (ASTM C131). The results of the testing are provided below.

Material Source: Cow Canyon	
Test	Result
Bulk Specific Gravity, g/cc	2.630
SSD Specific Gravity, g/cc	2.642
Apparent Specific Gravity, g/cc	2.663
Water Absorption, %	0.47
Sodium Sulfate Soundness, Avg. % Loss	0.2
L.A. Abrasion, % Loss @ 100 Rev.	6.4

Page 2
International Uranium USA Corporation
WCT #811898
November 16, 1998

Material Source: Brown Canyon	
Test	Result
Bulk Specific Gravity, g/cc	2.460
SSD Specific Gravity, g/cc	2.525
Apparent Specific Gravity, g/cc	2.629
Water Absorption, %	2.61
Sodium Sulfate Soundness, Avg. % Loss	5.5
L.A. Abrasion, % Loss @ 100 Rev.	10.3

Material Source: North Pit	
Test	Result
Bulk Specific Gravity, g/cc	2.485
SSD Specific Gravity, g/cc	2.557
Apparent Specific Gravity, g/cc	2.674
Water Absorption, %	2.84
Sodium Sulfate Soundness, Avg. % Loss	3.2
L.A. Abrasion, % Loss @ 100 Rev.	6.3

If there are any questions or if additional testing is needed,
please feel free to contact our office.

Respectfully Submitted:
WESTERN COLORADO TESTING, INC.



Kyle Alpha
Construction Services Manager

KA/mh
WCT#811898

ATTACHMENT

2

Labor Rate Comparison
WHITE MESA MILL RECLAMATION COST REVIEW
Attachment 2

Heavy Construction Labor Classification	1996 Estimate Labor Rates*		1998 Estimate Labor Rates**		Difference	
	Base Rate	Fringe	Base Rate	Fringe	Base Rate	Fringe
Boiler Makers	\$18.48	\$7.89	\$19.60	\$8.76	\$1.12	\$0.87
Millwrights	\$19.27	\$2.65	\$19.83	\$3.25	\$0.56	\$0.60
Ironworkers	\$17.75	\$4.46	\$19.92	\$6.66	\$2.17	\$2.20
Carpenters	\$10.81		\$10.81		\$0.00	\$0.00
Cement Masons	\$11.52		\$11.52		\$0.00	\$0.00
Electricians	\$14.52	\$2.71	\$14.52	\$2.71	\$0.00	\$0.00
Ironworkers - Reinforcing	\$11.00		\$11.00		\$0.00	\$0.00
Laborers (including pipelayers)	\$7.65	\$1.60	\$7.65	\$1.60	\$0.00	0.00
Pipefitters	\$12.60		\$12.60		\$0.00	\$0.00
POWER EQUIPMENT OPERATORS						
Backhoes	\$10.00		\$10.00		\$0.00	\$0.00
Cranes	\$10.43		\$10.43		\$0.00	\$0.00
Dozers++	\$13.10		\$13.10		\$0.00	\$0.00
Graders	\$12.67		\$12.67		\$0.00	\$0.00
Loaders	\$11.26		\$11.26		\$0.00	\$0.00
Scrapers+	\$10.00		\$10.00		\$0.00	\$0.00
Trackhoes	\$10.00		\$10.00		\$0.00	\$0.00
Tractors	\$9.42		\$9.42		\$0.00	\$0.00
TRUCK DRIVERS	\$9.42		\$9.42		\$0.00	\$0.00

Note: Base rates do not include FICA, worker comp, unemployment, or company benefits which increase the cost per hour by 30%

* General Decision UT940009 - Modification 2 - 9/09/94

** General Decision UT980009 - Modification 0 - 2/13/98

+ Operator Rate used in 1996 estimate

++ Operator Rate used in 1998 estimate

Rate for mechanic used in 1996 estimate was \$19.25 (loaded). The basis for this rate was a Class A mill mechanic. The task performed by this labor class in the mill decommissioning is actually equivalent to Class B or C mechanic who are paid at the rate of a \$13.60 (loaded). There is no equivalent rate class under the Heavy Construction General Decision for Utah.

ATTACHMENT

3

ATTACHMENT 3

WHITE MESA MILL RECLAMATION COST HOURLY EQUIPMENT COSTS 1998 DOLLARS

Actual equipment rates quoted from Butler machinery 6 month rental period
November 3, 1998

	RATE		MTCE EXPENDABLES	FUEL USAGE	FUEL @ \$0.86	TOTAL COST	Difference 1996
	MONTHLY	HOURLY					
637E Scraper	21,200	120.45	2.05	24.0	20.64	143.14	(\$2.402)
D8N Dozer	10,800	61.36	1.15	8.5	7.31	69.82	(\$0.019)
D7H Dozer	9,100	51.70	0.95	7.0	6.02	58.67	(\$0.891)
825C Compactor	9,600	54.55	1.10	14.0	12.04	67.69	(\$0.981)
980 F Loader	10,000	56.82	1.15	9.0	7.74	65.71	(\$1.639)
988 F Loader	15,000	85.23	1.45	12.0	10.32	97.00	(\$2.446)
769C Haul Truck	9,200	52.27	1.50	9.0	7.74	61.51	(\$0.288)
375 Excavator	19,600	111.36	1.90	14.0	12.04	125.30	\$18.340
651 Water Wagon	10,000	56.82	1.80	18.0	15.48	74.10	(\$1.656)
5000 gal Water Truck	5,700	32.39	0.75	10.0	8.60	41.74	\$0.279
14G Maintainer	7,700	43.75	1.05	5.5	4.73	49.53	(\$0.071)
16G Maintainer	11,000	62.50	1.20	8.5	7.31	71.01	(\$1.806)

Butler



Butler Machinery Company • (701) 232-0033 • FAX (701) 298-1717 • 1351 Page Dr. • Box 9558 • Fargo, ND 58106

NOVEMBER 3, 1998

INTERNATIONAL URANIUM CORPORATION
ATTN: BOB HEMBREE
1050 SEVENTEENTH ST. SUITE 950
DENVER CO 80265

DEAR BOB:

THANK YOU FOR THE INVITATION TO QUOTE INTERNATIONAL URANIUM CORPORATION (IRC) THE EQUIPMENT NEEDED FOR THEIR MINING PROJECT IN BLANDING, UTAH. BUTLER MACHINERY COMPANY (BUTLER) RESPECTFULLY SUBMITS OUR PROPOSAL FOR A MAINTAINED FLEET OF CATERPILLAR MACHINES.

LISTED ON ATTACHMENT A, YOU WILL FIND THE MODELS, QUANTITIES, MONTHLY RENTAL RATES, HOURS ALLOWED PER MONTH, EXCESS HOUR CHARGE, GUARANTEED NUMBER OF MONTHS RATES ARE BASED UPON, TOTAL FREIGHT CHARGES AND THE MAINTENANCE RATE PER HOUR FOR MATERIALS ONLY.

ALL RATES SHOWN ON ATTACHMENT A DO NOT INCLUDE ANY STATE, LOCAL, PROPERTY OR ANY OTHER TAXES THAT MAY BE APPLICABLE.

RATES ARE BASED UPON ELECTRIC HOUR METER READINGS WHICH ARE ATTACHED TO THE DASH OF EACH MACHINE. RATES ARE BASED ON 176 HOURS OF USE EACH MONTH. EXCESS HOUR CHARGES, IF ANY, WILL BE CALCULATED AND INVOICED AT THE END OF THE PROJECT. THERE WOULD BE NO CREDIT ISSUED FOR ANY HOURS UNDER THE ALLOWED DURING THE TERM OF THIS PROPOSAL. IF IRC ELECTS TO DOUBLE SHIFT MACHINES, THEN BUTLER WOULD INVOICE THOSE HOURS AT THE END OF EACH MONTH. (TO FIGURE THE DOUBLE SHIFT RATES, TAKE THE EXCESS HOUR RATE SHOWN ON ATTACHMENT A TIMES THE NUMBER OF HOURS).

RATES ARE BASED UPON A MINIMUM GUARANTEE OF 6 MONTHS AND A PACKAGE DEAL.

MAINTENANCE:

THE MAINTENANCE RATES PER HOUR LISTED ON ATTACHMENT A INCLUDES THE MATERIAL PART ITEMS ONLY, SUCH AS AIR, OIL, AND FUEL FILTERS, LUBRICANT OILS, GREASE, ANTI-FREEZE, BATTERIES, FAN BELTS, LIGHTS AND MAKE-UP OILS. BUTLER WOULD INVOICE IRC ACTUAL HOURS USED ON MACHINES AT THE END OF EACH MONTH.

Fargo 58106
3412 38th Ave. S.
P.O. Box 9558

Bismarck 58402
3630 Minn. Ave.
P.O. Box 757

Moorhead 56502
1606 Hwy. 2, Bypass E
P.O. Box 1056

Grand Forks 58208
1201 S. 48th St.
P.O. Box 12280

Rapid City 57708
3801 Deadwood Ave. N
P.O. Box 2070

Sioux Falls 57101
3201 N. Louise Ave.
P.O. Box 1307

Aberdeen 57402
4950 E. Highway 12
P.O. Box 38

NOVEMBER 3, 1998

PAGE 2

OUR MONTHLY MAINTENANCE CHARGE WOULD BE \$29,500.00, WHICH INCLUDES OUR LABOR, SPECIALIZED LUBE TRUCKS, SUPPORT VEHICLES AND EQUIPMENT, SPECIALIZED TOOLING, SCHEDULED OIL SAMPLING, PARTS TRAILERS AND INVENTORIES, MILEAGE AND TRAVEL EXPENSE. BUTLER WILL PROVIDE TWO (2) FULL-TIME MAINTENANCE TECHNICIANS ON SITE FIFTY (50) HOURS PER WEEK ON A SCHEDULE TO BE DETERMINED, MONDAY THROUGH FRIDAY. IRC WOULD HAVE TO SCHEDULE THE MACHINES AVAILABLE FOR A TIME FRAME YET TO BE DETERMINED ADEQUATE FOR BUTLER MAINTENANCE PERSONNEL TO PERFORM THE REQUIRED MAINTENANCE. BUTLER WOULD INVOICE IRC FOR THE MONTHLY MAINTENANCE CHARGE AT THE BEGINNING OF EACH MONTH.

REPAIRS:

BUTLER WOULD BE RESPONSIBLE FOR ALL REPAIRS INCLUDING PARTS AND LABOR ON OUR MACHINES OTHER THAN FAILURES CAUSED BY DAMAGES OR MIS-USE. REPAIRS INCLUDE ITEMS AS MINOR AS STARTERS, ALTERNATORS, WATER PUMPS, HYDRAULIC HOSES, ETC. TO THE MAJOR ITEMS SUCH AS ENGINES, TRANSMISSIONS, DIFFERENTIALS, BRAKES, HYDRAULIC PUMPS AND CYLINDERS, ETC. IF TIME PERMITS AND IRC REQUESTS BUTLER'S TECHNICIAN TO PERFORM REPAIRS OR MAINTENANCE ON THEIR MACHINES, OUR HOURLY CHARGE WOULD BE \$47.00 PER HOUR PLUS MATERIALS.

FREIGHT:

FREIGHT CHARGES INCLUDE BOTH DELIVERY AND RETURN, ASSEMBLY, AND DISASSEMBLY OF EQUIPMENT.

IRC'S RESPONSIBILITIES INCLUDE:

OPERATORS. PROVIDE THE OPERATORS AS NEEDED TO OPERATE MACHINES AS STATED IN CATERPILLAR'S OPERATING GUIDE. BUTLER WILL PROVIDE, AT NO EXPENSE TO IRC, QUALIFIED TRAINING INSTRUCTORS FOR THE PURPOSES OF TRAINING OPERATORS. THIS TRAINING WOULD TAKE PLACE ON THE JOBSITE AT THE INITIAL START UP OF THE JOB AND WOULD INCLUDE CLASSROOM, WALK AROUND, AND IN IRON DEMONSTRATIONS.

FUEL. SUPPLY AND FILL ALL FUEL FOR EQUIPMENT INCLUDING BUTLER'S SERVICE VEHICLES.

DAMAGES. THIS INCLUDES GLASS BREAKAGE, BENT HANDRAILS, STEP LADDERS, FENDERS, ETC. BUTLER'S NORMAL POLICY FOR REPAIRING DAMAGES TO RENTAL MACHINES IS TO REPAIR THEM WHEN THE RENTAL PERIOD IS COMPLETED, HOWEVER, IF THE DAMAGED ITEM IS OF A SAFETY CONCERN, WE WOULD REPAIR THE DAMAGES AS SOON AS POSSIBLE AFTER THEY OCCURRED. AN ITEMIZED LIST OF THE PARTS AND LABOR REQUIRED WOULD BE PROVIDED TO IRC PRIOR TO STARTING THE REPAIR, AND INVOICED AT CURRENT LIST PRICES PLUS FREIGHT UPON COMPLETION.

NOVEMBER 3, 1998

PAGE 3

UNDERCARRIAGE AND TIRES: IRC WOULD BE RESPONSIBLE FOR ALL TIRE WEAR INCLUDING TIRE DAMAGES ON THE MACHINES WITH AN ASTERISK LISTED ON ATTACHMENT A. EQUIPMENT WOULD HAVE TO BE RETURNED WITH SAME BRAND AND MODEL TIRES AS WHEN DELIVERED, OR PRORATED ACCORDINGLY BY PERCENTAGE OF TIRE WEAR AND CONDITION AT TERMINATION OF RENTAL PERIOD.

UPON DELIVERY OF MACHINES, A REPRESENTATIVE OF BUTLER, A REPRESENTATIVE OF IRC AND A REPRESENTATIVE FROM AN INDEPENDENT TIRE DEALER OR MANUFACTURER WOULD JOINTLY VERIFY IN WRITING THE CONDITION, PERCENTAGE OF WEAR, AND TIRE VALUE. UPON TERMINATION OF RENTAL, WE WOULD AGAIN HAVE THE REPRESENTATIVES MENTIONED ABOVE DETERMINE THE CONDITION, PERCENTAGE OF WEAR, AND TIRE VALUES. ANY DIFFERENCES NOTED, WOULD THEN BE CHARGED OR CREDITED TO IRC INCLUDING BOTH MATERIALS AND LABOR.

UNDERCARRIAGE WEAR ON ALL TRACK TYPE MACHINES WOULD BE BUTLER'S EXPENSE.

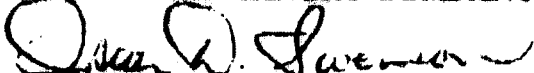
GROUND ENGAGING TOOLS:

IRC WOULD BE RESPONSIBLE FOR ALL PARTS RELATING TO GROUND ENGAGING TOOLS (G.E.T.), I.E. CUTTING EDGES, RIPPER TIPS AND PROTECTORS, BUCKET TIPS AND ADAPTERS, EDGES BETWEEN ADAPTERS, WEAR PLATES ON BOTTOM OF BUCKETS AND ALL MOUNTING HARDWARE. BUTLER WOULD INSTALL THESE ITEMS ON AN AS NEEDED BASIS AT THE CURRENT CATERPILLAR LIST PRICE PLUS FREIGHT AT NO ADDITIONAL LABOR COSTS. ALL MACHINES WOULD BE DELIVERED WITH NEW G.E.T. ITEMS AND ARE TO BE RETURNED WITH NEW.

WE WISH TO THANK IRC AND YOU FOR GIVING US THE OPPORTUNITY TO PRESENT OUR PROPOSAL AND FOR ALL THE CONSIDERATION WE RECEIVE.

SINCERELY YOURS,

BUTLER MACHINERY COMPANY



OSCAR D. SWENSON

RENTAL FLEET MARKETING MANAGER

ODS/del

cc: JOEL NIKLE, RENTAL FLEET MANAGER

ATTACHMENT A
INTERNATIONAL URANIUM CORPORATION
EQUIPMENT NEEDED FOR JOB IN BLANDING, UTAH
NOVEMBER 3, 1998

<u>MODEL</u>	<u>QTY</u>	<u>MONTHLY RENTAL RATE</u>	<u>HOURS ALLOWED PER MONTH</u>	<u>EXCESS HOUR CHARGE</u>	<u>MINIMUM GUARANTEED NUMBER OF MONTHS RATE BASED UPON</u>	<u>TOTAL** FREIGHT CHARGES TO & FROM</u>	<u>MAINTENANCE RATE PER HOUR</u>
*637E	4	\$21,200 EA.	176 EA.	\$66 EA.	6 EA.	\$10,800 EA.	\$2.05 EA.
D9N RIPPER	1	13,300	176	42	6	8,600	1.40
D6N RIPPER	1	10,800	176	34	6	7,400	1.15
D7H RIPPER	1	9,100	176	28	6	6,400	.95
825C	1	9,600	176	30	6	7,300	1.10
980F	1	10,000	176	32	6	7,300	1.15
*988F	1	15,000	176	48	6	8,600	1.45
*769C	4	9,200 EA.	176 EA.	28 EA.	6 EA.	7,400 EA.	1.50 EA.
375L	1	19,600	176	56	6	15,000	1.90
10,000 GALLON WATER WAGON	1	10,000	176	30	6	8,000	1.80
5,000 GALLON WATER WAGON	1	5,700	176	18	6	3,000	.75
14G RIPPER	1	7,700	176	24	6	5,600	1.05
16G RIPPER	1	11,000	176	34	6	6,800	1.20

* PLUS TIRE WEAR

** INCLUDES ASSEMBLY AND DISASSEMBLY

11/03/98 TUE 10:51 PM 1701 288 1717

BUTLER EQUIPMENT

0003

ATTACHMENT

4

Equipment Cost Adjustment By Task
WHITE MESA MILL RECLAMATION COST REVIEW
Attachment 4

	Equip Hrs	1998 Cost Adjust/Hr	Total Cost Adjustment
Mill Decommissioning			
Mill Building Demolition			
769 Trucks	640	(\$0 029)	(\$18 43)
988 Loader	160	(\$2 446)	(\$391 36)
245 Excavator (now 375 Excav)	160	\$18 340	\$2 934 40
Ore Feed Demolition			
769 Trucks	64	(\$0 029)	(\$1 84)
988 Loader	16	(\$2 446)	(\$39 14)
245 Excavator (now 375 Excav)	16	\$18 340	\$293 44
SX Building Demolition			
769 Trucks	320	(\$0 029)	(\$9 22)
988 Loader	80	(\$2 446)	(\$195 68)
245 Excavator (now 375 Excav)	80	\$18 340	\$1 467 20
CCD Circuit Removal			
769 Trucks	120	(\$0 029)	(\$3 46)
988 Loader	30	(\$2 446)	(\$73 38)
245 Excavator (now 375 Excav)	30	\$18 340	\$550 20
Sample Plant Removal			
769 Trucks	32	(\$0 029)	(\$0 92)
988 Loader	8	(\$2 446)	(\$19 57)
245 Excavator (now 375 Excav)	8	\$18 340	\$146 72
Boiler Demolition			
769 Trucks	160	(\$0 029)	(\$4 61)
988 Loader	40	(\$2 446)	(\$97 84)
245 Excavator (now 375 Excav)	40	\$18 340	\$733 60
Vanadium Oxidation Circuit Removal			
769 Trucks	64	(\$0 029)	(\$1 84)
988 Loader	16	(\$2 446)	(\$39 14)
245 Excavator (now 375 Excav)	16	\$18 340	\$293 44
Main Shop/Warehouse			
769 Trucks	128	(\$0 029)	(\$3 69)
988 Loader	32	(\$2 446)	(\$78 27)
245 Excavator (now 375 Excav)	32	\$18 340	\$586 88
Office Building			
769 Trucks	96	(\$0 029)	(\$2 76)
988 Loader	24	(\$2 446)	(\$58 70)
245 Excavator (now 375 Excav)	24	\$18 340	\$440 16

Equipment Cost Adjustment By Task
WHITE MESA MILL RECLAMATION COST REVIEW
Attachment 4

	Equip Hrs	1998 Cost Adjust/Hr	Total Cost Adjustment
Misc Tankage & Spare Parts			
769 Trucks	32	(\$0 029)	(\$0 92)
988 Loader	8	(\$2 446)	(\$19 57)
245 Excavator (now 375 Excav)	8	\$18 340	\$146 72
Mill Yard Decontamination			
637 Scraper	257	(\$2 402)	(\$617 31)
D8N Dozer w/ripper	65	(\$0 019)	(\$1 24)
651 Water Wagon	65	(\$1 656)	(\$107 64)
D7 Dozer	65	(\$0 891)	(\$57 92)
14G Motor Grader	65	(\$0 071)	(\$4 62)
988 Loader	65	(\$2 446)	(\$158 99)
Ore Storage Pad Decontamination			
637 Scraper	189	(\$2 402)	(\$453 98)
D8N Dozer w/ripper	48	(\$0 019)	(\$0 91)
651 Water Wagon	48	(\$1 656)	(\$79 49)
D7 Dozer	48	(\$0 891)	(\$42 77)
14G Motor Grader	48	(\$0 071)	(\$3 41)
988 Loader	48	(\$2 446)	(\$117 41)
Equipment Storage Area			
637 Scraper	69	(\$2 402)	(\$165 74)
D8N Dozer w/ripper	17	(\$0 019)	(\$0 32)
651 Water Wagon	17	(\$1 656)	(\$28 15)
D7 Dozer	17	(\$0 891)	(\$15 15)
14G Motor Grader	17	(\$0 071)	(\$1 21)
988 Loader	17	(\$2 446)	(\$41 58)
Revegetate Mill Yard & Ore Pad			
637 Scraper	132	(\$2 402)	(\$317 06)
D8N Dozer w/ripper	33	(\$0 019)	(\$0 63)
D7 Dozer	33	(\$0 891)	(\$29 40)
14G Motor Grader	33	(\$0 071)	(\$2 34)
Wind Blown Contamination			
637 Scraper	680	(\$2 402)	(\$1 633 36)
D8N Dozer w/ripper	170	(\$0 019)	(\$3 23)
D7 Dozer	170	(\$0 891)	(\$151 47)
14G Motor Grader	170	(\$0 071)	(\$12 07)
Total Equip. Diff. Mill Decommissioning			\$2,486.04

Equipment Cost Adjustment By Task
WHITE MESA MILL RECLAMATION COST REVIEW
Attachment 4

	Equip Hrs	1998 Cost Adjust/Hr	Total Cost Adjustment
<u>Reclamation of Cell 2</u>			
Place Remainder of Bridging Lift			
637 Scraper	224	(\$2 402)	(\$538 05)
D8N Dozer w/ripper	56	(\$0 019)	(\$1 06)
D7 Dozer	56	(\$0 891)	(\$49 90)
825 Compactor	56	(\$0 981)	(\$54 94)
651 Waterwagon	56	(\$1 656)	(\$92 74)
14G Motor Grader	56	(\$0 071)	(\$3 98)
Place Lower Random Fill			
637 Scraper	402	(\$2 402)	(\$965 60)
D8N Dozer w/ripper	100	(\$0 019)	(\$1 90)
D7 Dozer	100	(\$0 891)	(\$89 10)
825 Compactor	100	(\$0 981)	(\$98 10)
651 Waterwagon	100	(\$1 656)	(\$165 60)
14G Motor Grader	100	(\$0 071)	(\$7 10)
Clay Layer			
637 Scraper	0	(\$2 402)	\$0 00
D8N Dozer w/ripper	880	(\$0 019)	(\$16 72)
D7 Dozer	0	(\$0 891)	\$0 00
825 Compactor	880	(\$0 981)	(\$863 28)
651 Waterwagon	880	(\$1 656)	(\$1 457 28)
14G Motor Grader	880	(\$0 071)	(\$62 48)
980 Loader cost added left out of estimate	880	\$65 710	\$57 824 80
Upper Random Fill			
637 Scraper	773	(\$2 402)	(\$1 856 75)
D8N Dozer w/ripper	193	(\$0 019)	(\$3 67)
D7 Dozer	193	(\$0 891)	(\$171 96)
825 Compactor	193	(\$0 981)	(\$189 33)
651 Waterwagon	193	(\$1 656)	(\$319 61)
14G Motor Grader	193	(\$0 071)	(\$13 70)
Rock Armour on Top			
637 Scraper	235	(\$2 402)	(\$564 47)
D8N Dozer w/ripper	59	(\$0 019)	(\$1 12)
D7 Dozer	59	(\$0 891)	(\$52 57)
825 Compactor	59	(\$0 981)	(\$57 88)
651 Waterwagon	59	(\$1 656)	(\$97 70)
14G Motor Grader	59	(\$0 071)	(\$4 19)
Total Equip. Diff. Reclaim Cell 2			\$50,024.03

Equipment Cost Adjustment By Task
WHITE MESA MILL RECLAMATION COST REVIEW
Attachment 4

	Equip	Hrs	1998 Cost Adjust/Hr	Total Cost Adjustment
Reclamation of Cell 3				
Lower Random Fill				
637 Scraper		956	(\$2 402)	(\$2 296 31)
D8N Dozer w/ripper		239	(\$0 019)	(\$4 54)
D7 Dozer		239	(\$0 891)	(\$212 95)
825 Compactor		239	(\$0 981)	(\$234 46)
651 Waterwagon		239	(\$1 656)	(\$395 78)
14G Motor Grader		239	(\$0 071)	(\$16 97)
Lower Random Fill (upper 12")				
637 Scraper		777	(\$2 402)	(\$1 866 35)
D8N Dozer w/ripper		195	(\$0 019)	(\$3 71)
D7 Dozer		195	(\$0 891)	(\$173 75)
825 Compactor		195	(\$0 981)	(\$191 30)
651 Waterwagon		195	(\$1 656)	(\$322 92)
14G Motor Grader		195	(\$0 071)	(\$13 85)
Clay Layer				
637 Scraper		0	(\$2 402)	\$0 00
D8N Dozer w/ripper		1022	(\$0 019)	(\$19 42)
D7 Dozer		0	(\$0 891)	\$0 00
825 Compactor		1022	(\$0 981)	(\$1 002 58)
651 Waterwagon		1022	(\$1 656)	(\$1 692 43)
14G Motor Grader		1022	(\$0 071)	(\$72 56)
980C Loader Left out of original estimate		1022	\$65 710	\$67 155 62
Upper Random fill				
637 Scraper		941	(\$2 402)	(\$2 260 28)
D8N Dozer w/ripper		235	(\$0 019)	(\$4 47)
D7 Dozer		235	(\$0 891)	(\$209 39)
825 Compactor		235	(\$0 981)	(\$230 54)
651 Waterwagon		235	(\$1 656)	(\$389 16)
14G Motor Grader		235	(\$0 071)	(\$16 69)
Total Equip. Diff. Reclaim Cell 3				\$66,526.24
Cell 4A Work				
Remove Liner to Cell 3				
769 Trucks		606	(\$0 029)	(\$17 45)
988 Loader		303	(\$2 446)	(\$741 14)
Total Equip. Diff. Cell 4A Work				(\$758.59)

Equipment Cost Adjustment By Task
WHITE MESA MILL RECLAMATION COST REVIEW
Attachment 4

	Equip Hrs	1998 Cost Adjust/Hr	Total Cost Adjustment
<u>Reclamation of Cell 1</u>			
Crystal Removal			
D8N Dozer w/ripper	539	(\$0 019)	(\$10 24)
D7 Dozer	539	(\$0 891)	(\$480 25)
825 Compactor	539	(\$0 981)	(\$528 76)
769 Trucks	2157	(\$0 029)	(\$62 12)
988 Loader	539	(\$2 446)	(\$1 318 39)
245 Excavator (now 375 Excav)	539	\$18 340	\$9 885 26
Contaminated Materials Removal			
637 Scraper	308	(\$2 402)	(\$739 82)
D8N Dozer w/ripper	77	(\$0 019)	(\$1 46)
651 Water Wagon	77	(\$1 656)	(\$127 51)
14G Motor Grader	77	(\$0 071)	(\$5 47)
Topsoil Application			
637 Scraper	154	(\$2 402)	(\$369 91)
D8N Dozer w/ripper	39	(\$0 019)	(\$0 74)
651 Water Wagon	39	(\$1 656)	(\$64 58)
14G Motor Grader	39	(\$0 071)	(\$2 77)
Construct Channels			
D8N Dozer w/ripper	6	(\$0 019)	(\$0 11)
Rock Protection			
D7 Dozer	15	(\$0 891)	(\$13 37)
651 Water Wagon	15	(\$1 656)	(\$24 84)
14G Motor Grader	15	(\$0 071)	(\$1 07)
769 Trucks	58	(\$0 029)	(\$1 67)
988 Loader	15	(\$2 446)	(\$36 69)
Total Equip. Diff. Reclamation Cell 1			\$6,095.49

<u>Mobilization/Demobilization Cost</u>	1996 Quote	1998 Quote	Difference
Mob/Demob Cost Difference	\$131 000 00	\$156 800 000	\$26,800.00

ATTACHMENT

5

OVERSIZE DOCUMENT PAGE(S) PULLED

SEE APERTURE CARD FILES

APERTURE CARD/PAPER COPY AVAILABLE THROUGH NRC FILE CENTER
.....

NUMBER OF OVERSIZE PAGES FILMED ON APERTURE CARD(S) 3
.....

ACCESSION NUMBERS OF OVERSIZE PAGES:

9811300237-01-03

ATTACHMENT

6

NRC Adjustment Detail
WHITE MESA MILL RECLAMATION COST REVIEW
Attachment 6

Adjustments to Reclamation Estimate by Major Area

Mill Decommissioning

Operator Labor	Note 1	\$16,120
Mechanics Labor	Note 2	(\$10,150)
Mobile Equipment Cost	Note 3	\$2,485
Scoping Survey		\$2,500
Decontamination Cost		\$0
Salvage Value of Equipment	Note 4	\$0

Mill Decommissioning Net Adjustment \$10,955

Note 1: Heavy Equipment Operator wage rate was increased by \$1.58 per hour to match loaded dozer operator rate in the 201598 Wage Database for Heavy Construction (J7-180004)

Note 2: Mechanics wage rate was decreased by \$4.43 per hour to match the rate for a Class B Mechanic. This modification matches the skills required for the tasks performed in the estimate.

Note 3: Adjustments made to equipment lease costs based on vendor quotes received in Oct. 1998 & other equipment cost changes as detailed on Attachment 4.

Note 4: Credit for value of equipment salvaged was not included in this estimate.

Cell 2 Closure

Operator Labor	Note 1	\$57,250
Mobile Equipment Cost	Note 3	\$50,024
Delete Side Slope Clay	Note 5	(\$69,000)
Reduce RipRap Thickness	Note 6	(\$24,400)
RipRap Production Cost	Note 7	(\$140,600)
BLM Royalty Deduct	Note 10	(\$60,134)
Cell 2 Closure Net Adjustment		<u>(\$186,880)</u>

Note 5: Cost saving as a result of eliminating the 1 foot clay layer on the exterior side slopes. Ongoing field tests show that radon emanation rates from side slopes fall far below max allowed levels without the need of the clay layer.

Note 6: Cost saving as a result of using rock from an off site location which is more durable. This reduces the amount of over sizing of rock and decreases the thickness of the armor layer.

Note 7: Cost saving realized through the use of a local rock source which requires only screening to make the product. Elimination of the need to crush the material decreased equipment cost and increased production rate resulting in lower cost/cy.

Cell 3 Closure

Operator Labor	Note 1	\$73,200
Mobile Equipment Cost	Note 3	\$55,525
Delete Side Slope Clay	Note 5	(\$145,500)
Reduce RipRap Thickness	Note 6	(\$38,900)
RipRap Production Cost	Note 7	(\$166,500)
BLM Royalty Deduct	Note 10	(\$71,194)
Cell 3 Closure Net Adjustment		<u>(\$293,369)</u>

Note 8: Office trailers were taken out of the estimate since the mill office building can remain until the site is reclaimed. There is more than enough room in the existing building to house all of the staff and technicians required for the project.

Note 9: Adjustment to reflect mobilization cost for construction equipment based on Oct. 1998 quotation.

Cell 4A Reclamation

Operator Labor	Note 1	\$3,830
Mobile Equipment Cost	Note 3	(\$759)

Cell 4A Reclamation Net Adjustment \$3,071

Note 10: Riprap produced from BLM land used on Federally administered projects is not subject to the royalty which a private project has to pay. Based on this a credit of \$6,064.00 is applied to the tasks in which riprap is used.

Cell 1 Reclamation

Operator Labor	Note 1	\$22,800
Mobile Equipment Cost	Note 3	\$6,096
RipRap Production Cost	Note 7	(\$14,100)
BLM Royalty Deduct	Note 10	(\$6,048)
Cell 1 Reclamation Net Adjustment		<u>\$8,748</u>

Miscellaneous Costs

Delete Office Trailers	Note 8	(\$97,000)
Fuel Cost Adjustment		(\$56,600)
Mobilization	Note 9	\$25,800

Misc. Cost Net Adjustment (\$127,800)

Total Net Adjustment (\$648,455)

ATTACHMENT

7

WHITE MESA MILL RECLAMATION COST REVIEW
NRC Estimate Cost Adjustment
Attachment 7

		<u>1996 Estimate</u>	<u>1998 Adjust</u>	<u>1998 Estimate</u>
Mill Decommissioning		\$1,484,551	\$10,955	\$1,495,506
Cell 2		\$1,735,852	(\$186,860)	\$1,548,992
Cell 3		\$2,215,999	(\$293,369)	\$1,922,630
Cell 4A		\$114,756	\$3,071	\$117,827
Cell 1		\$738,371	\$8,547	\$746,918
Miscellaneous		\$2,045,035	(\$127,800)	\$1,917,235
Subtotal Direct Costs		<u>\$8,334,564</u>	<u>(\$585,455)</u>	<u>\$7,749,109</u>
Profit Allowance	10.00%	\$833,456	(\$58,545)	\$774,911
Contingency	15.00%	\$1,250,185	(\$87,818)	\$1,162,366
Licensing & Bonding	2.00%	\$166,691	(\$11,709)	\$154,982
Long Term Care Fund		\$585,300	\$18,836	\$604,136
Total Reclamation		<u>\$11,170,196</u>	<u>(\$724,692)</u>	<u>\$10,445,505</u>
Adjustment for Inflation as Required by NRC**		\$299,663	(\$299,663)	\$0
Current Bond Amount		<u>\$11,469,859</u>	<u>(\$1,024,355)</u>	<u>\$10,445,505</u>

**Adjustment for Inflation as required by NRC guidelines has increased the bonded amount for reclamation by 2.68% since 1996