

40-3453

CONCEPTUAL DESIGN, COST AND
GROUND WATER COMPLIANCE INFORMATION
NUCLEAR REGULATORY COMMISSION
REQUEST FOR INFORMATION
MOAB, UTAH, URANIUM MILL SITE

1.0 INTRODUCTION

Canonie Environmental Services Corp. has prepared a response to the Nuclear Regulatory Commission's (NRC's) request for information in its letter dated October 8, 1993. The request for information relates to conceptual design and cost information for alternative disposal sites and ground water compliance to Atlas Corporation's (Atlas') Moab Mill site. The requested cost information is summarized in Table 1 and includes comparisons of the costs associated with the reclamation plan versus two conceptual off-site disposal alternatives. The costs associated with ground water monitoring for the in-place reclamation site and the alternative disposal sites are included in the cost estimates. Also, a discussion is provided on how proposed alternative concentration limits (ACLs) for ground water may be permitted considering applicable laws.

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PDR ADOCK 04003453
B PDR

RM/W/86-067/TRC1.RPT (Dec. 13, 1993)

w/lttr 12/13/93
94-0116

CanonieEnvironmental

2.0 RECLAMATION ALTERNATIVES

2.1 In-Place Reclamation

Appendix A shows the costs associated with in-place reclamation at the site consistent with the closure plan. These are direct costs exclusive of contractor profit and contingency. Table 1 provides an estimate of the total contract price. This estimate assumes a 10-percent variance from the number presented in the attachments. The range that could be expected for this scope of work, including contractor's fee and contingency, would be \$13 million to \$16 million for the reclamation. This estimate also addresses the cost associated with the current ground water treatment program. The direct costs are shown on Sheet 33 of Appendix A. The estimated costs for the ground water treatment program are \$96,000 per year. As requested, all costs are in 1993 dollars.

2.2 Alternative Disposal Site "A"

Appendix B shows the cost estimate for a disposal site designated as Site "A," as discussed in the Dames and Moore report entitled "Tailings Management and Reclamation Alternatives Study for Atlas Minerals at Moab, Utah" dated October 1977. This site is located approximately 8 miles from the tailings site as shown on Figure 1. A conceptual design for the site is included as Figure 2. Alternative Disposal Site A is located in a box canyon on the west side of Moab Canyon. The site slopes gently to the northwest and has a drainage area of approximately 0.6 square mile. The soil and bedrock conditions at the site consist of a thin veneer of coarse alluvium overlying the Moenkopi Formation. The Moenkopi Formation consists of siltstone and sandstone and is generally of low permeability. The sidewalls of the box canyon are over 400 feet high. The Chinle Formation, consisting of a basal conglomeratic sandstone and overlying mudstones, siltstones, and sandstones, is exposed on the canyon sidewalls. The formation is generally well cemented and stable in vertical cuts.

The costs in this estimate include moving approximately 10.5 million tons of tailings by truck and disposing them in the repository. Assuming the same 10-percent variance as presented in the on-site alternative, the range of costs that could be expected for this scope of work would be \$89 million to \$107 million. The cost for performing an environmental impact statement for this alternative site is included in this estimate. The cost for ground water monitoring is assumed to be the same as that presented in Appendix A. Additionally, as shown on Sheets 38 and 40, the estimated cost for ground water monitoring is \$84,000 per year during the treatment operations and a total of \$139,000 for subsequent long-term monitoring.

2.3 Alternative Disposal Site "B"

Appendix C shows the cost estimate for Alternative Disposal Site "B," located approximately 18 miles to the northwest of the tailings site. As shown on Figure 1, this site would be approximately 2.5 miles southwest of the airport. A conceptual design for the site is included on Figure 3. Alternative Disposal Site B is located in a relatively flat area known as Klondike Flat. The ground surface slopes up steeply north of the site and is relatively flat for several miles south, east and west of the site. The site is underlain by the Mancos Shale. The Mancos Shale consists mostly of a marine shale with some marine and non-marine sandstone units.

The costs included in this estimate include moving approximately 10.5 million tons of tailings by rail and disposing them in the repository. Assuming a 10-percent variance, the range of costs that could be expected for this scope of work would be \$94 million to \$114 million. A cost has also been included for performing an environmental impact statement for the new location. Additionally, as shown on Sheets 39 and 40, the estimated costs for ground water monitoring are the same as provided with the Alternative Disposal Site A estimate.

3.0 GROUND WATER ISSUES

Provisions for establishing ACLs have been incorporated into the NRC's regulations governing the disposal of uranium mill tailings (10 CFR Part 40, Appendix A). Also, the U.S. Environmental Protection Agency's (EPA's) protection standards for uranium and thorium mill tailings (40 CFR Part 192) indicate that ACLs can be established by EPA at designated processing or depository sites. It is our understanding that NRC has not finalized the guidance or methodology for establishing ACLs at uranium mills, however, the NRC regulations (10 CFR Part 40, Appendix A) provide the factors [Appendix A to Part 40, Criterion 5B(6)] for consideration when making a present and potential hazard finding for a particular constituent ACL. If these factors are followed, the constituent ACL will provide protection of human health and the environment based on health protection standards. Also, NRC has developed a "Draft Technical Position on Alternate Concentration Limits for Uranium Mills, Standard Format and Content Guide and Standard Review Plan for Alternate Concentration Limit Application" (June, 1988).

In making the present and potential hazard finding, the factors listed below will be addressed. Preliminary responses on how these factors relate to the Moab Mill site and additional technical analyses that may be required to support ACLs are provided.

- "(a) Potential adverse effects on ground-water quality, considering-
- (i) The physical and chemical characteristics of the waste in the licensed site including its potential for migration;"

Response - The physical and chemical characteristics of the waste have been well characterized. The active dewatering system and the minimization of infiltration by runoff control and capping will prevent expansion of the contaminant plume.

- "(ii) The hydrogeological characteristics of the facility and surrounding land;"

Response - The hydrogeological characteristics of the facility and surrounding land have been well characterized. However, some additional characterization of the interaction of the alluvial aquifer below the tailings with the deeper salt water or brine zone, the bedrock, and the Colorado River will be performed.

- "(iii) The quantity of ground water and the direction of ground-water flow;"

Response - The direction of ground water flow is defined. Using existing data, a model will be developed indicating ground water flow conditions after completion of reclamation.

- "(iv) The proximity and withdrawal rates of ground-water users;"

Response - No water supply wells exist in the vicinity of the facility.

- "(v) The current and future uses of ground water in the area;"

Response - The ground water in the vicinity of the facility is not being used and future use will be precluded by institutional controls.

- "(vi) The existing quality of ground water, including other sources of contamination and their cumulative impact on the ground-water quality;"

Response - The shallow ground water below the tailings has been impacted. The reduction of infiltration through the facility will improve water quality over time. The impact of infiltration on the existing ground water conditions under the reclaimed site will be evaluated.

- "(vii) The potential for health risks caused by human exposure to waste constituents;"

Response - Institutional controls that prevent human exposure to hazards in the ground water will be implemented.

"(viii) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents;"

Response - The reclamation plan and institutional controls will provide protection of the environment to exposure from contaminated ground water.

"(ix) The persistence and permanence of the potential adverse effects."

Response - Because of relatively low ground water velocities, uranium concentrations in the ground water below the tailings may be elevated for a number of years. However, implementation of the reclamation plan and institutional controls will minimize the impact on human health and the environment, and this persistence will have no significant adverse effect.

"(b) Potential adverse effects on hydraulically-connected surface water quality, considering -

"(i) The volume and physical and chemical characteristics of the waste in the licensed site;

"(ii) The hydrogeological characteristics of the facility and surrounding land;

"(iii) The quantity and quality of ground water, and the direction of ground-water flow;

"(iv) The patterns of rainfall in the region;"

Response - All of the above factors relate to the impact infiltration through the tailings will have on ground water quality. The active dewatering system and implementation of the reclamation plan will minimize infiltration. An evaluation of infiltration through the reclaimed site and the impact this infiltration will

have on ground water flow conditions and ground water quality will be performed.

"(v) The proximity of the licensed site to surface waters;

"(vi) The current and future uses of surface waters in the area and any water quality standards established for those surface waters;

"(vii) The existing quality of surface water including other sources of the contamination and the cumulative impact on surface water quality;"

Response - As previously mentioned, the interaction of site ground water with vicinity surface water will be evaluated. This will include an evaluation of the impact proposed ACLs for ground water will have on the Colorado River if ground water having these concentrations is discharged to the river. Also, the current and future uses of the Colorado River will be evaluated as will any future impact on surface water quality. Currently, ground water seepage to the Colorado River has no impact on surface water quality.

"(viii) The potential for health risks caused by human exposure to waste constituents;

"(ix) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents; and

"(x) The persistence and permanence of the potential adverse effects."

Response - A human health and ecological risk assessment will be performed to assess the potential hazards of ground water containing proposed ACLs being released to vicinity surface water.

It is recognized that Atlas must provide the basis for proposed ACLs, including consideration of practicable corrective actions and that the ACLs are as low as reasonably achievable (ALARA). Atlas has been implementing the only technically

feasible ground water remediation for the site, consisting of active dewatering of the tailings. The in-place reclamation plan will improve ground water quality further by controlling surface water infiltration to the dewatered tailings. Resultant seepage to the ground water system will be minimal.

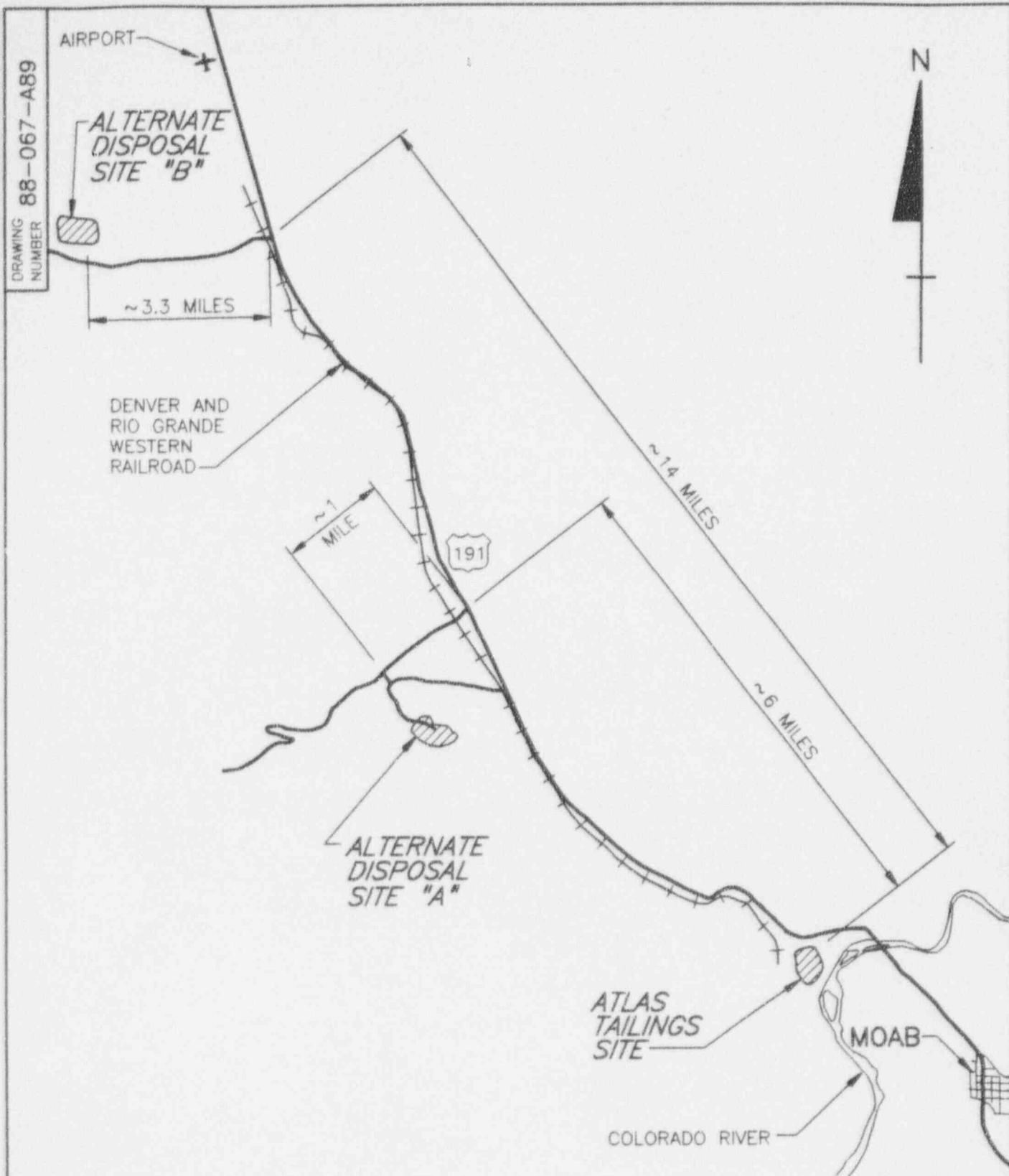
ACL application is appropriate since the majority of seepage has already entered the foundation soils; removal of the tailings will not influence seepage which has already migrated from the tailings. Pumping of that water adjacent to the Colorado River is not technically feasible. Therefore, considering the cost of off-site reclamation with little added benefit, the most practicable and cost-effective option is to implement in-place reclamation. The cost of in-place reclamation is \$10 to \$15 million. The cost of relocation is approximately \$100 million. The relocation option will require local and federal financial support.

Because of the extreme cost, long duration, and impact on human health and environment related to the relocation option, Atlas chooses to establish ACLs for use as ground water protection standards at this site. The human health and environmental impacts related to relocation include air quality impacts related to excavation and transportation, increased accident and fatality frequency and a longer period of impact on tourism and property development.

TABLE 1

ESTIMATED RANGE OF COSTS
ON-SITE CLOSURE VS. OFF-SITE DISPOSAL

Item Description	On-site Control Estimated Range (000's)		Alternate Site A Estimated Range (000's)		Alternate Site B Estimated Ranges (000's)	
Direct Cost	\$9,429	\$11,409	\$66,526	\$80,497	\$70,804	\$85,674
Subtotal	\$9,429	\$11,409	\$66,526	\$80,497	\$70,804	\$85,674
Contractor Overhead and Profit (15%)	\$1,414	\$1,711	\$9,979	\$12,074	\$10,621	\$12,851
Subtotal	\$10,843	\$13,120	\$76,505	\$92,571	\$81,425	\$98,525
Contingency (15%)	\$1,626	\$1,968	\$11,476	\$13,886	\$12,214	\$14,779
NRC Long Term Surveillance	\$650	\$650	\$650	\$650	\$650	\$650
Total Estimated Cost	\$13,119	\$15,738	\$88,631	\$107,107	\$94,289	\$113,954



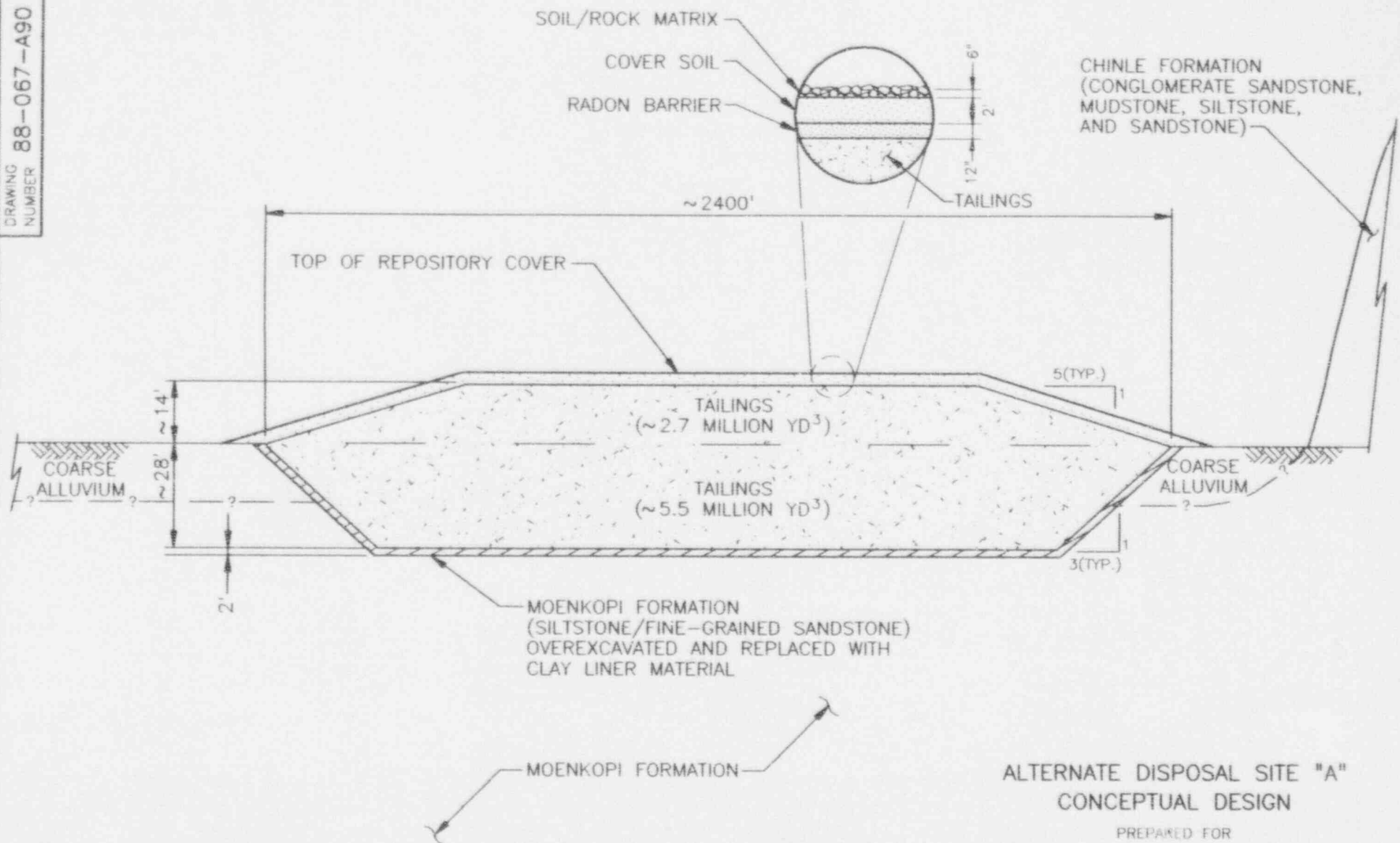
ALTERNATE DISPOSAL LOCATIONS

PREPARED FOR

ATLAS CORPORATION

CanonieEnvironmental

12/6/93	ISSUED FOR RESPONSE TO NRC COMMENTS	M.T.H.	DJR	25	DATE: 12-8-93	FIGURE 1	DRAWING NUMBER 88-067-A89
No.	DATE	ISSUE / REVISION	DWN.	BYCK'D BY	AP'D BY	SCALE: AS SHOWN	

DRAWING
NUMBER

ALTERNATE DISPOSAL SITE "A"
CONCEPTUAL DESIGN

PREPARED FOR

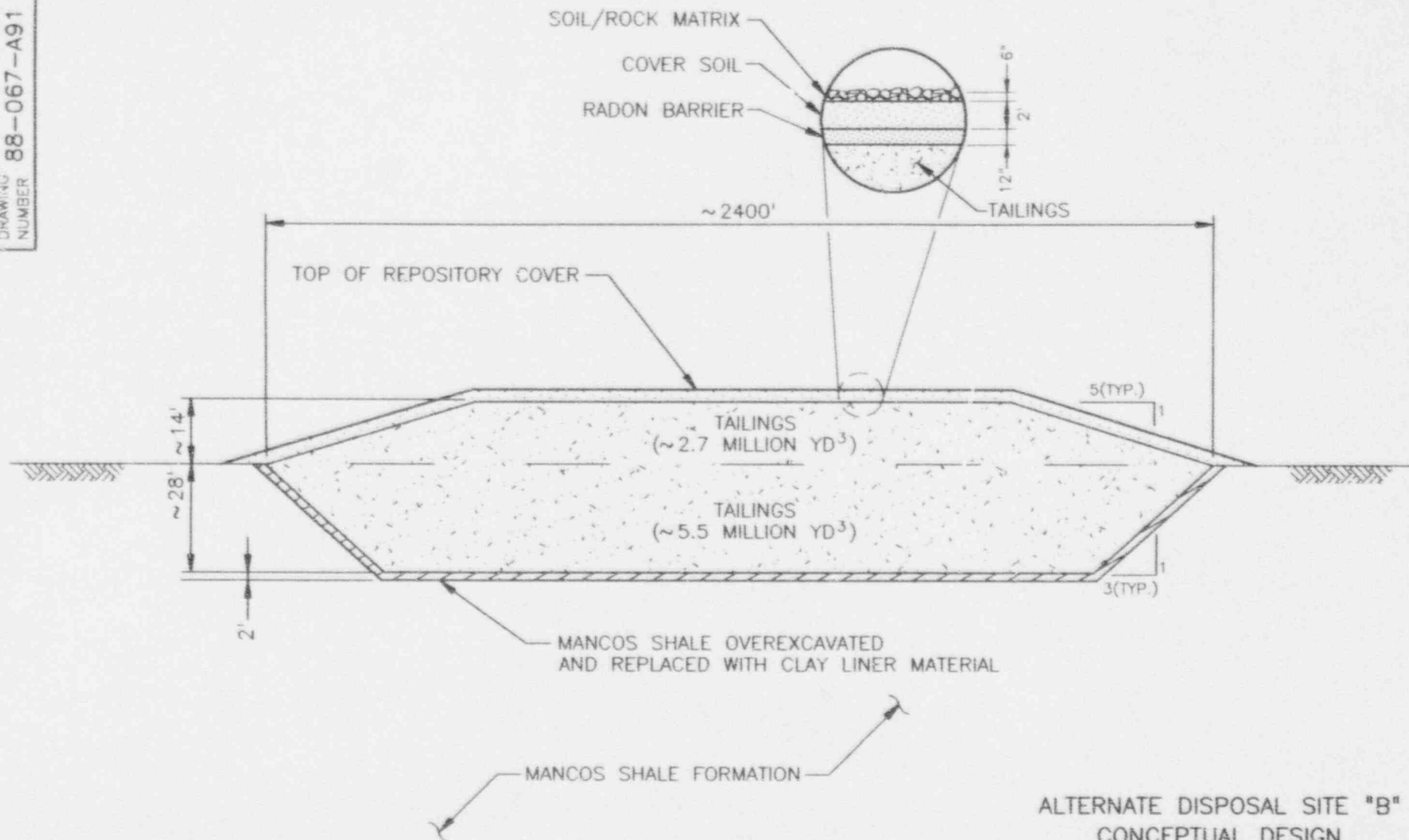
ATLAS CORPORATION

CanonieEnvironmental

⚠	12/13/04	ISSUED FOR RESPONSE TO NRC COMMENTS	P.M.W.	JWS	SW
No.	DATE	ISSUE / REVISION	OWN.	BY CK'D BY	AP'D BY

DATE: 12-10-93	FIGURE 2	DRAWING NUMBER
SCALE: N.T.S.		88-067-A90

DRAWING
NUMBER 88-067-A91



ALTERNATE DISPOSAL SITE "B"
CONCEPTUAL DESIGN

PREPARED FOR

ATLAS CORPORATION

CanonieEnvironmental

△	12/13/93	ISSUED FOR RESPONSE TO NRC COMMENTS	P.M.W.	J.W.S.	Bickel
No.	DATE	ISSUE / REVISION	OWN.	BY	CK'D BY

DATE: 12-10-93
SCALE: N.T.S.

FIGURE 3

DRAWING NUMBER
88-067-A91

PROJECT: Atlan Minerals Revised HRC ReESTIMATOR: CRS
 CLIENT: Atlan Minerals
 JOB NO.: 88-061-10
 LOCATION: m... Utah

FILE NAME: Atlan.wrl
 DATE: 98-Dec-93
 TIME: 04:44 PM

SHT 1 OF SHT 35

ESTIMATE SUMMARY

ITEM DESCRIPTION	DETAIL SHEET	QUANTITY	UNIT	LABOR	INT EQUIP	EXT EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIAL	SUBS	TRAVEL	UNIT COSTS	TOTAL COSTS
TOTAL FIXED COSTS SITE SUPERVISOR	SHT 6	1 LS		0	0	0	0	0	0	0	0	0	0.00	0
VARIABLE JOBSITE SUPERVISION	SHT 7	75 WEEKS		734,855	56,550	313,039	44,700	37,013	73,875	0	0	0	16,000.42	1,240,031
Mobilization	SHT 8	1 ea		8,228	0	8,293	1,260	1,000	2,500	0	35,000	0	56,361.00	56,361
Site Security	SHT 9	75 wks		0	0	0	0	0	0	0	105,000	0	1,000.00	105,000
Radiological Monitoring	SHT 10	75 wks		0	0	0	0	0	0	0	201,250	0	3,750.00	201,250
Regrade Impoundment Slopes	SHT 11	295,500 cy		47,569	0	176,972	23,220	15,795	0	0	0	0	0.89	263,556
Windblown Tailings	SHT 12	71,000 cy		14,027	0	56,009	7,254	4,096	0	0	0	0	1.16	82,106
Flood Dike Removal	SHT 13	14,700 cy		3,714	0	16,364	2,004	1,392	0	0	0	0	1.60	23,554
S.R. Contaminated Soil	SHT 14	25,000 cy		6,499	0	20,630	3,647	2,436	0	0	0	0	1.65	41,220
Regrade Tailings	SHT 15	223,500 cy		50,901	0	160,926	21,334	10,796	0	62,500	0	0	1.39	310,457
Slimes Excavation	SHT 16	15,000 cy		13,090	0	27,045	2,250	1,900	0	0	0	0	3.01	45,005
Utility Relocation	SHT 17	1 ea		0	0	0	0	0	0	0	1,055,003	0	1,055,003	1,055,003
Contaminated Soils Excavation	SHT 18	200,000 cy		42,201	0	156,906	20,037	13,972	0	0	0	0	1.17	233,196
Clean Fill Excavation	SHT 19	710,300 cy		144,753	0	530,530	70,659	40,065	0	0	0	0	1.12	802,007
Construct Ditches	SHT 20	50,000 sy		4,660	0	10,656	1,430	1,375	0	0	0	0	0.36	10,129
Rip-Rap Ditches	SHT 21	15,505 cy		4,490	0	5,629	872	733	0	161,996	74,424	0	16.00	248,144
Armor Stone, Emb. Slopes	SHT 22	49,906 cy		20,330	0	35,514	5,503	4,623	0	506,095	239,549	0	10.04	900,413
Rockwall Toe Protection	SHT 23	3,052 cy		4,274	0	13,511	1,791	1,242	0	45,300	10,490	0	21.96	84,607
Clay Cover	SHT 24	73,300 cy		140,741	0	416,590	13,720	10,506	0	30,849	10,000	0	8.57	628,422
Soil Rock Matrix (Rock)	SHT 25	54,260 cy		23,270	0	29,101	4,522	3,790	0	825,620	260,440	0	21.14	1,166,047
Soil Rock Matrix (Soil)	SHT 26	40,640 cy		9,002	0	37,696	5,063	3,366	0	0	0	0	1.15	55,927
Revegetation	SHT 27	220 ac		0	0	0	0	0	0	0	220,000	0	1,000.00	220,000
Demobilization	SHT 28	1 ea		8,228	0	8,293	1,260	1,000	2,500	0	35,000	0	56,361.00	56,361
Clearing and Grubbing	SHT 29	5 ac		2,206	0	1,730	275	225	500	0	0	0	1,003.20	5,016
Fencing	SHT 30	10,700 lf		0	0	0	0	0	0	0	140,400	0	7.94	140,400
Backfill Contaminated Soil Exc.	SHT 31	75,000 cy		6,435	0	14,100	2,200	1,500	0	0	0	0	0.32	24,235
Filter Rock	SHT 32	50,754 cy		20,031	0	36,143	5,601	4,704	0	557,000	243,619	0	17.20	876,706
Radiological Survey	SHT 33	1 ea		0	0	0	0	0	0	0	26,250	0	26,250.00	26,250
Well Maintenance	SHT 34	10 yr		307,677	0	104,000	20,000	20,000	106,000	66,700	250,750	0	95,601	956,007
HRC Copyright Costs	SHT 35	10 yr		0	0	0	0	0	0	0	415,072	0	41,507	415,072
SUBTOTAL				1,715,669	56,550	2,195,053	257,490	195,297	185,375	2,345,027	3,419,055	0		10,371,923
												check		10,371,923

PROJECT: Atlas Option 2 Truck Transportation
 CLIENT: ATLAS CORP.
 JOB NO.: 88-67-10
 LOCATION: Road 64A

DATE: 03-Dec-93
 TIME: 07:17 AM
 ESTIMATOR: AGS

SHT 2 OF 37

ESTIMATOR NOTES:

1. ASSUME THE FOLLOWING PRICES FOR ROCK AND AGGREGATE

SUB TOTAL SPREAD COSTS

FILTER I	76,430 YB	47,769 CY	6.20	296,168	503,485
FILTER II	4,776 YB	2,985 CY	4.52	13,492	22,937
ROCK MULCH 1"	61,000 YB	38,130 CY	7.10	270,723	460,229
ROCK MULCH 3"	25,000 YB	16,130 CY	11.62	187,431	318,632
UPPER DRAINAGE CHANNEL	10,320 YB	6,455 CY	5.72	36,923	62,768
LOWER S.W. DRAINAGE CHANNEL	7,600 YB	4,750 CY	6.55	31,113	52,891
LOWER IMPOUNDMENT CHANNEL	6,800 YB	4,300 CY	5.00	21,044	37,135
10:2 ENHANCEMENT AGG	86,013 YB	53,750 CY	6.28	337,600	596,100

SUBTOTAL	270,843 YB	174,277 CY			2,054,186
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DILL AND SHOOT	219,137 CY	2.50	547,843
OVERSHOOT AT 201	43,827 CY	2.50	109,569
MOVE INTO STOCKPILE	262,964 CY	0.50	131,482
PIT PERMITTING	1 BA	35,000.00	35,000
PIT RECLAMATION	10 AC	3,500.00	35,000

850893.2
 0.41811048
 1.7

2,054,186

AVERAGE COST PER TON 7.37 PER TON

AVERAGE COST OF RIPRAP 6.16 PER TON
 AVERAGE COST OF ROCK MULCH 8.97 PER TON
 AVERAGE COST OF FILTER MATH. 6.48 PER TON
 AVERAGE COST 10:1 AND 10:3 6.93 PER TON

ASSUME AGGREGATE PIT IS 20 MILES FROM SITE.

LOCATION: Mohab Utah
WEEKLY WORK HOUR BASIS:
1) PROJECT BASED ON WORKING 64 HOURS PER WEEK.
2) RATES ARE BASED ON CAROLINE RATES AS USED FOR Utah

SUBSTITUTE AND TRAVEL COST CALCULATIONS: AMOUNTS APPLIED TO THE FIRST 40 HOURS OF WORK

SAT CLASS	GENERAL DESCRIPTION	TRAVEL BASIS (WEEKS/PER)	TRAVEL COST (PER TRIP)	TRAVEL LOADING SUBSISTENCE COST (PER WEEK)	MOBILE COSTS	TOTALS
FULL TIME PERSONNEL:						
S1	TRAVEL BY AIR	2	\$8.00	\$8.00	\$8.00	\$8.00
S2	TRAVEL BY AUTO (DISTANT)	2	\$8.00	\$8.00	\$8.00	\$8.00
S3	TRAVEL BY AUTO (LOCAL)	1	\$8.00	\$8.00	\$8.00	\$8.00
S4			ERR	ERR	ERR	ERR
S5			ERR	ERR	ERR	ERR
SITE RIDE PERSONNEL:						
R1	TRAVEL BY AIR	3	\$8.00	\$8.00	\$8.00	\$8.00
R2	TRAVEL BY AUTO (DISTANT)	3	\$8.00	\$8.00	\$8.00	\$8.00
R3	TRAVEL BY AUTO (LOCAL)	1	\$8.00	\$8.00	\$8.00	\$8.00
R4			ERR	ERR	ERR	ERR
R5			ERR	ERR	ERR	ERR

TAX AND INSURANCE CALCULATIONS:

DESCRIPTION	NON-SEF	SALARY	REMARKS
* FICA	9.80%	9.80%	STANDARD FEDERAL RATE APPLIED TO ALL WAGES PAID
* SUI	2.60%	2.60%	RATE VARIES WITH STATE, APPLIES TO ALL WAGES PAID
* FICA	7.65%	7.65%	STANDARD FEDERAL RATE APPLIED TO ALL WAGES PAID
* HC	6.12%	6.12%	VARIES BY CRAFT SEE RATE TABLE, BASE WAGE ONLY
HEALTH (WELFARE)	\$350	\$350	MONTHLY COST, CAROLINE COVERAGE, FIRST 40 HOURS (AVG \$350)
LTL	R/A	1.10%	SALARY EMPLOYERS ONLY, BASE WAGE ONLY.
STRAIGHT	17.17%	18.35%	
OVERTIME	11.45%	11.45%	

CLIENT:
JOB NO.:
LOCATION:

Atlas Minerals
88-967-18
Road 8748

Atlas Minerals Revised HRC Estimate

08-Dec-93

TIME: 04:44 PM

ESTIMATOR: CES

BASIC RATE TABLE

C	D	E	F	G	H	I	J	K	L	*****BORELY SITE HIRSES*****																			
										DESCRIPTION	MULTIPLIER	SUB & TRVL CLASS	BASE RATE	VARIABLE PRICES				NON-TABLE PRICES				CAMMIE ADDITIONS							
														VACATION	OTHER	ALL	HEA	ALL	OTHER	HEA	TRV	WKS COMP	HEALTH	SUB &	TRAVEL				
														1.00			\$13.72								6.12%	\$1.99	\$0.00		
														1.00			\$13.92									6.12%	\$1.99	\$0.00	
														1.00			\$11.60									6.12%	\$1.99	\$0.00	
														1.00			\$12.76									6.12%	\$1.99	\$0.00	
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														1.00												6.12%	\$0.00	\$0.00	
														1.00												6.12%	\$0.00	\$0.00	
														1.00												6.12%	\$0.00	\$0.00	
														1.00												6.12%	\$0.00	\$0.00	
														1.00												6.12%	\$0.00	\$0.00	
														1.00												6.12%	\$0.00	\$0.00	
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														1.00												6.12%	\$0.00	\$0.00	
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														1.00												6.12%	\$0.00	\$0.00	
														1.00												6.12%	\$0.00	\$0.00	
														1.00												6.12%	\$0.00	\$0.00	
														1.00												6.12%	\$0.00	\$0.00	
														1.00															

LOCKYON:	MOB FLAG	ESTIMATOR:	CBS	UPON PAYING	PER GALLO				
EQUIPMENT RENTAL RATES									
BASED ON OPERATING		176 HOURS PER MONTH	F	G	H	I	J	K	L
DESCRIPTION	TYPE	MONTHLY RENTAL	USE TAX	HOURLY RENTAL 176 HR/MO	HOURLY FUEL RATE	HOURLY REPAIRS RATE	PERIOD USAGE D, W, N	ADJUSTMENT FACTOR APPLIED	
***** INTERNAL EQUIPMENT *****									
121				1.00	\$0.00	\$0.00	\$0.00		0.00
122				1.00	\$0.00	\$0.00	\$0.00		0.00
123				1.00	\$0.00	\$0.00	\$0.00		0.00
124				1.00	\$0.00	\$0.00	\$0.00		0.00
***** INTERNAL EQUIPMENT *****									
126 CASE 500 LDR/REN	LOADER/BACKHOE	\$2,500	1.00	\$15.00	\$3.00	\$2.00 H		1.00	
127 CAT 215 BEE	BACKHOE (1.25 LCT)		1.00	\$0.00	\$4.00	\$3.50		0.00	
128 CAT 8L 100	BACKHOE (1.62 LCT)	\$4,150	1.00	\$24.99	\$4.50	\$4.25 H		1.00	
129 CAT 235 BEE	BACKHOE (2.75 LCT)	\$11,500	1.00	\$69.26	\$6.50	\$6.00 H		1.00	
130 CAT 245 BEE	BACKHOE (3.75 LCT)	\$17,400	1.00	\$104.00	\$11.00	\$7.50 H		1.00	
131									
132 CAT 936 FEL	FEL (2.75 LCT)		1.00	\$0.00	\$4.00	\$4.00		0.00	
133 CAT 950 FEL	FEL (3.25 LCT)		1.00	\$0.00	\$5.00	\$5.00		0.00	
134 CAT 966 FEL	FEL (4.50 LCT)	\$7,650	1.00	\$46.07	\$7.00	\$6.00 H		1.00	
135 CAT 980 FEL	FEL (7.00 LCT)	\$16,265	1.00	\$97.95	\$8.00	\$10.00 H		1.00	
136 CAT 943 FEL	FEL/track (2.50 LCT)	\$7,350	1.00	\$44.51	\$4.00	\$6.00 H		1.00	
137 CAT 05 DER	DOZER		1.00	\$0.00	\$4.00	\$4.50		0.00	
138 CAT 06 DER	DOZER	\$5,745	1.00	\$34.60	\$5.50	\$4.50 H		1.00	
139 CAT 06 DER/LG	DOZER/LGP	\$8,610	1.00	\$51.00	\$5.50	\$4.50 H		1.00	
140 CAT 07 DER	DOZER		1.00	\$0.00	\$7.00	\$5.25		0.00	
141 CAT 08 DER	DOZER	\$11,705	1.00	\$70.50	\$11.00	\$7.50 H		1.00	
142 CAT 09 DER	DOZER	\$14,640	1.00	\$80.29	\$16.00	\$10.00 H		1.00	
143 CAT 09 DER	DOZER	\$16,120	1.00	\$97.05	\$16.00	\$10.00 H		1.00	
144 CAT 14 GOR	GRADER	\$8,410	1.00	\$50.65	\$6.00	\$6.50 H		1.00	
145 CAT 16 GOR	GRADER	\$13,730	1.00	\$82.69	\$8.00	\$8.00 H		1.00	
146 CAT 12 GOR	GRADER	\$4,700	1.00	\$28.31	\$6.00	\$6.50 H		1.00	
147 CAT 563 VIB COMP	COMPACTOR	\$4,315	1.00	\$25.99	\$5.00	\$6.00 H		1.00	
148 BOMAG WALK BEHIND	COMPACTOR (40 INCH)		1.00	\$0.00	\$2.00	\$2.00		0.00	
149 CAT 815 COMP	COMPACTOR SHEEPSFOOT	7985	1.00	\$48.05	\$10.00	\$6.00 H		1.00	
150									
151 CAT 615 SCPR	SCRAPER/RELEV (16 LCT)	9950	1.00	\$59.93	\$8.75	\$8.75 H		1.00	
152 CAT 631 SCPR	SCRAPER/SINGLE (31 LCT)	20330	1.00	\$122.44	\$14.75	\$9.50 H		1.00	
153 CAT 627 SCPR/T	SCRAPER/TWIN (20 LCT)	\$17,070	1.00	\$102.01	\$17.75	\$12.50 H		1.00	
154 CAT 637 SCPR/T	SCRAPER/TWIN (31 LCT)	\$20,210	1.00	\$169.90	\$23.75	\$17.50 H		1.00	
155									
156 WATER WAGON	SCRAPER 631	\$13,000	1.00	\$70.30	\$7.00	\$6.00 H		1.00	
157 TANDEN WATER TRUCK	MISC. EQUIPMENT	\$3,500	1.00	\$21.00	\$3.00	\$4.00 H		1.00	
158 4"/6" PUMP	MISC. EQUIPMENT		1.00	\$0.00	\$1.00	\$0.50		0.00	
159 350 CFM COMPRESSOR	MISC. EQUIPMENT		1.00	\$0.00	\$4.00	\$2.00		0.00	
160 65 TON CRANE	MISC. EQUIPMENT		1.00	\$0.00	\$5.00	\$4.00		0.00	
161 RENTAL TRUCK		\$0,000	1.00	\$53.00	\$0.00	\$0.00 H		1.00	
162 Red Dumps	MISC. EQUIPMENT	11400	1.00	\$60.66	\$0.00	\$0.00 H		1.00	
163	MISC. EQUIPMENT		1.00	\$0.00	\$0.00	\$0.00		0.00	

DESCRIPTION	REQUIRED Y OR N	REQUIRED QUANTITY	UNIT RATE	I LABOR	J EQUIP	K EQUIP	L FUEL
*****SITE UTILITY WORKUPS*****							
185 ELECTRIC			1200				
186 WATER (NO WATER VLT ON BEFLM PROJECT)			500				
187 SEWER							
188 GAS							
189 TELEPHONE			350				
190							
*****INITIAL HEALTH AND SAFETY COSTS*****							
192 PHYSICALS			1300				
193 H & S TRAINING-OPERATORS			1,178				
194 H & S TRAINING-LABORERS			1,061				
195 TRAINING CLASS COSTS-EXTERNAL			700				
196 TRAINING CLASS COSTS-INTERNAL			650				
197 INITIAL H & S PURCHASES			350				
198							
199							
200							
*****INSURANCE AND TAXES*****							
202 CLIENT NAMED AS ADDITIONAL INSURED			8750				
203 BUILDERS RISK INSURANCE (0.60 % OF REV.)							
204 POLLUTION LIABILITY INSURANCE							
205 SPECIAL TAXES							
206							
207							
*****SITE OFFICE EQUIPMENT*****							
209 OFFICE FURNITURE (PER UNIT)			75				
210 FAX MACHINE			450				
211 COMPUTER			750				
212 COMPUTER SOFTWARE			250				
213							
214							
*****MISCELLANEOUS COSTS*****							
216 PERMITS			300				
217 ROYALTIES ON PROCESSES							
218 TEMPORARY FENCING			1.5				
219 MOVING EXPENSES (LONG TERM PROJECT)							
220 PROJECT SIGN			150				
221							
222							
223							
224							
225							
TOTAL FIELD COSTS SITE SUPERVISION				0	0	0	0

CL 8126 06618
 JOB NO.: 88-067-10
 LOCATION: Moab Utah
 TIME: 11:56 AM
 ESTIMATOR: CBS
 PROJECT DURATION: 75.0
 VARIABLE COST JOBSITE OVERHEADS

DESCRIPTION	REQUIRED Y OR N	REQUIRED QUANTITY	DURATION	UNIT RATE	I TOTAL LABOR	J WEEKLY LABOR	K WEEKLY INT EQUIP	L WEEKLY EXT EQUIP
*****FULL TIME EMPLOY*****								
246 PROJECT MANAGER			75	\$1,636	0	0		
247 SUPERINTENDENT	Y	1	77	\$1,394	107,338	1,431	154	
248 PROJ. SUPERVISOR			75	\$1,309	0	0		
249 PROJ. ENGINEER	Y	1	77	\$1,172	90,244	1,203		
250 H&S OFFICER	Y	1	5	\$1,104	5,520	74		
251 CURRIST			75	\$1,104	0	0		
252			75					
253			75					
*****FULL TIME NON-EMPLOY*****								
254 H&S TECHNICIAN			75	\$1,513	0	0		
257 AST. PROJ. ENG.			75	\$1,513	0	0		
258 ENGINEER TECH.	Y	1	75	\$1,377	103,275	1,377		
259			75					
260			75					
*****MOBILE SITE HIRING*****								
263 FIELD FORMAN	Y	1	75	\$1,213	90,955	1,213		
264 MECHANIC	Y	1	75	\$1,213	90,955	1,213		
265 MECHANIC HELPER	Y	1	75	\$1,024	76,790	1,024		150
266 OFFICE MANAGER			75	\$853	0	0		
267 CLERK	Y	1	75	\$772	57,900	772		
268			75					
269			75					
*****INTERNAL EQUIPMENT RENTAL*****								
272 PRESSURE WASHER (INTERNAL RATE)			75	\$30			0	
273 SAFETY EQUIPMENT (AIR SAMPLING/OVA)			75	\$130			0	
274 SITE PICKUPS	Y	4	75	150			600	200
275			75				0	
*****INTERNAL EQUIPMENT RENTAL*****								
278 OFFICE TRAILER	Y	2	75	\$100				200
279 TOOL TRAILER	Y	1	75	\$75				75

282 TRAILER			75	\$100		0
283 PULP TRUCK	Y	1	75	\$221		221
284 GARBAGE TRUCK	Y	1	75			0
285 MISC. EQUIP			75	\$75		0
286 SITE SCALES			75	\$500		0
287 PROJECT VEHICLES			75	\$150		0
288 STREET SWEEPER			75	\$390		0
289			75			0
290			75			0

*****SUPPLIES*****

293 OFFICE SUPPLIES	Y	1	75	\$25		
294 SURVEY SUPPLIES	Y	1	75	\$50		
295 SAFETY SUPPLIES	Y	1	75	\$600		
296 COPY MACHINE	Y	1	75	\$50		
297 PHONE SERVICE	Y	1	75	\$150		
298 UTILITY SERVICES			75	\$40		
299 POTABLE WATER	Y	1	75	\$60		
300 SANITARY FACILITIES	Y	1	75	\$30		
301 SMALL TOOLS	Y	1	75	\$25		
302 JOBSITE PHOTOS	Y	1	75	\$15		
303 ON-SITE QC TESTING EQUIP.			75	\$200		
304 ON SITE LAB SUPPLIES			75			
305 DECONTAMINATION SUPPLIES			75			
306			75			
307 Grader for Haul Roads	Y	1	75		746	2,279
308 Water Truck for Haul Roads	Y	1	75		746	949
309			75			
310			75			

*****SUBCONTRACTS*****

313 SURVEY CREW (BASED ON \$140/HR FOR 40 HRS)			75	\$5,600		
314 SECURITY (FULL TIME AT \$12/HOUR)			75	\$2,016		
315			75			
316			75			
317			75			

*****TRAVEL COSTS*****

320 TRAVEL, EXECUTIVE			75	\$250		
321 KEY OPERATOR ADJUSTMENT			75	\$0	0	
322 KEY LABORER ADJUSTMENT			75	\$0	0	
323			75			

VARIABLE JOBSITE SUPERVISION (WEEKLY)			9,798	754	4,174
VARIABLE JOBSITE SUPERVISION (TOTAL)	75 WEEKS		734,855	56,550	313,039

PROJECT: Alton Minerals Revised BAC Estimate
 CLIENT: Alton Minerals
 JOB NO: 00-947-10
 LOCATION: Road Rehab
 ITEM DESCRIPTION: Mobilization

ESTIMATOR: CES
 DATE: 04 Dec 93
 JOB QUANTITY: 1 EA

ESTIMATE NOTES AND ASSUMPTIONS:

Allow 3 weeks to mobilize to jobsite
 Include site set-up.

RECEIPT	QUANTITY	UNIT	LABOR	MATERIALS	FUEL	REPAIRS	SUPPLIES	TRAVEL	TOTAL	UNIT COST
CEM 94A PUL	1.00 EA		18.64							
LOCAL LABORER	2.00 HS		77.87							

RECEIPT	QUANTITY	UNIT	LABOR	MATERIALS	FUEL	REPAIRS	SUPPLIES	TRAVEL	TOTAL	UNIT COST
CEM 94A PUL	1.00 EA		18.64							
LOCAL LABORER	2.00 HS		77.87							

TOTALS 8,228 0 8,293 1,268 1,808 2,500 0 35,000 0 56,381 56,381

EXTENSION:	CDS	SPT 3	OP	SPT 35
DATE:	00 DEC 83	TIME:	06:46 PM	
		JOB (PARTY):		75 WDA

[illegible]

Provide radiological monitoring of all personnel working on the site for a duration of 7 weeks.

[illegible][illegible]

PROJECT: Atlas Minerals Revised BAC Estimate
 CLIENT: Atlas Minerals
 JOB #: 80-867-18
 LOCATION: Road 808
 ITEM DESCRIPTION: Upgrade Impoundment Slopes
 ESTIMATE NO: 255,500.00

ESTIMATE NOTES AND ASSUMPTIONS:

Existing impoundment slopes (terraced) to be graded to uniform 18:1 slope.
 Material to be hauled into impoundment and used for grading of impoundment area.
 Average Haul Distance = 1000 ft.

DESCRIPTION	QUANTITY	UNIT	LABOR	FUEL	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TOTAL	UNIT	COST
GRV 431 S708	4.00	EA	74.55		489.76	53.00	38.00			0.00		
GRV 08 028	1.00	EA	18.64		38.50	11.00	7.50			0.00		
GRV 08 018	2.00	EA	37.28		77.00	22.00	15.00			0.00		
GRV 541 418 COMP	1.00	EA	18.64		25.59	5.00	4.00			0.00		
LOCAL LAB-RED	2.00	EA	27.07							0.00		

DESCRIPTION	QUANTITY	UNIT	LABOR	FUEL	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TOTAL	UNIT	COST
GRV 431 S708	4.00	EA	74.55		489.76	53.00	38.00			0.00		
GRV 08 028	1.00	EA	18.64		38.50	11.00	7.50			0.00		
GRV 08 018	2.00	EA	37.28		77.00	22.00	15.00			0.00		
GRV 541 418 COMP	1.00	EA	18.64		25.59	5.00	4.00			0.00		
LOCAL LAB-RED	2.00	EA	27.07							0.00		

TOTALS: 178.18 0.00 435.45 84.00 58.50 0.00 0.00 0.00 0.00 0.00 261.556 916.13

4). 3,000 cf of tallows are located in a 50 acre area at a 6 inch depth.

[illegible][illegible]

三、關於「*中國共產黨*」一節，應改為「*中國共產黨*」，並應註明「*中國共產黨*」。

DESCRIPTION	QUANTITY	UNIT	LABOR	1977 EQUIP	1977 EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SPRS	TRAVEL	TOTAL	UNIT COST
200 631 2020	2.00	LS	1.00	47	873.00	182.25	66.50				\$ 0.00		
200 631 2020	1.00	LS	18.44		78.50	11.00	7.50				\$ 0.00		
200 631 2020	1.00	LS	37.28		67.20	11.00	.00				\$ 0.00		
200 543 473 COMP	1.00	LS	18.44		25.99	5.00	4.00				\$ 0.00		
200 543 473 COMP	2.00	LS	27.00								\$ 0.00		

[illegible]

	STRAITS	1974	1975	1976	1977	1978	1979	1980	TOTAL
1974	1,114	0	16,164	0	0	0	0	0	17,278
1975	1,114	0	16,164	0	0	0	0	0	17,278
1976	1,114	0	16,164	0	0	0	0	0	17,278
1977	1,114	0	16,164	0	0	0	0	0	17,278
1978	1,114	0	16,164	0	0	0	0	0	17,278
1979	1,114	0	16,164	0	0	0	0	0	17,278
1980	1,114	0	16,164	0	0	0	0	0	17,278
TOTALS	1,114	0	16,164	0	0	0	0	0	17,278

[illegible]

PROJECT: Atlas Minerals Revised BSC Estimate
 CLIENT: Atlas Minerals
 JOB NO: 88-067-28
 LOCATION: Beach Road
 ITEM DESCRIPTION: Upgrade Tailings
 ESTIMATE: 88 Dec-93
 DATE: 11-30-88
 JOB QUANTITY: 225,500 CY

ESTIMATE NOTES AND ASSUMPTIONS:
 -Reshaping of tailings impoundment area to establish drainage grades prior to capping.
 -Average haul distance = 1000 ft.

DESCRIPTION	QUANTITY	UNIT	LABOR	EQIP	EQIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT COST
CAP 631 SEPR	4.00 EA		74.55		485.16	59.00	35.00					6.00	
CAP 68 128	1.00 EA		18.64		78.50	11.00	7.50					0.00	
CAP 66 128	2.00 EA		37.20		65.20	11.00	9.00					0.00	
CAP 563 418 COMP	1.00 EA		18.64		25.95	5.00	4.00					0.00	
LOCAL LABORED	2.00 EA		27.07		46.87	7.00	5.00					0.00	
CAP 566 FEL	1.00 EA		18.64									0.00	
LOCAL LABORED	1.00 EA		27.07									0.00	

DESCRIPTION	QUANTITY	UNIT	LABOR	EQIP	EQIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT COST
CAP 631 SEPR	4.00 EA		74.55		485.16	59.00	35.00					6.00	
CAP 68 128	1.00 EA		18.64		78.50	11.00	7.50					0.00	
CAP 66 128	2.00 EA		37.20		65.20	11.00	9.00					0.00	
CAP 563 418 COMP	1.00 EA		18.64		25.95	5.00	4.00					0.00	
LOCAL LABORED	2.00 EA		27.07		46.87	7.00	5.00					0.00	
CAP 566 FEL	1.00 EA		18.64									0.00	
LOCAL LABORED	1.00 EA		27.07									0.00	

DESCRIPTION	QUANTITY	UNIT	LABOR	EQIP	EQIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT COST
CAP 631 SEPR	4.00 EA		74.55		485.16	59.00	35.00					6.00	
CAP 68 128	1.00 EA		18.64		78.50	11.00	7.50					0.00	
CAP 66 128	2.00 EA		37.20		65.20	11.00	9.00					0.00	
CAP 563 418 COMP	1.00 EA		18.64		25.95	5.00	4.00					0.00	
LOCAL LABORED	2.00 EA		27.07		46.87	7.00	5.00					0.00	
CAP 566 FEL	1.00 EA		18.64									0.00	
LOCAL LABORED	1.00 EA		27.07									0.00	

DESCRIPTION	QUANTITY	UNIT	LABOR	EQIP	EQIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT COST
CAP 631 SEPR	4.00 EA		74.55		485.16	59.00	35.00					6.00	
CAP 68 128	1.00 EA		18.64		78.50	11.00	7.50					0.00	
CAP 66 128	2.00 EA		37.20		65.20	11.00	9.00					0.00	
CAP 563 418 COMP	1.00 EA		18.64		25.95	5.00	4.00					0.00	
LOCAL LABORED	2.00 EA		27.07		46.87	7.00	5.00					0.00	
CAP 566 FEL	1.00 EA		18.64									0.00	
LOCAL LABORED	1.00 EA		27.07									0.00	

DESCRIPTION	QUANTITY	UNIT	LABOR	EQIP	EQIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT COST
CAP 631 SEPR	4.00 EA		74.55		485.16	59.00	35.00					6.00	
CAP 68 128	1.00 EA		18.64		78.50	11.00	7.50					0.00	
CAP 66 128	2.00 EA		37.20		65.20	11.00	9.00					0.00	
CAP 563 418 COMP	1.00 EA		18.64		25.95	5.00	4.00					0.00	
LOCAL LABORED	2.00 EA		27.07		46.87	7.00	5.00					0.00	
CAP 566 FEL	1.00 EA		18.64									0.00	
LOCAL LABORED	1.00 EA		27.07									0.00	

TOTALS

58,591 0 108,576 11,316 18,796 0 67,500 0 319,457

1.25

一、總論
二、本國之經濟
三、外國之經濟
四、國際經濟
五、經濟學之發展
六、經濟學之應用
七、經濟學之批判
八、經濟學之展望
九、經濟學之結論
十、經濟學之附錄

[illegible][illegible]

ESTIMATOR:	CUS	SEP 17	OP	SEP 15
DATE:	68 DEC 31	TIME:	11:56 AM	
				1 1/2

[illegible]

DISTRIBUTION NOTES AND ASSUMPTIONS:
Soil is located in the area of the existing wall. Depth of excavation may and some of the material will be below water table.
This material will be uploaded into scrapers with a backhoe and transported to the impoundment.
163,000 cu of material is scrapers excavation.
Average haul distance = 4.000 ft.

[illegible]

500

ESTIMATING NOTES AND ASSUMPTIONS:

This material will be removed from the area of the reconstructed channel and hauled 100' southwest area

Material is considered #

Average haul distance = 1000 ft

DURATION = 822 HOURS

DESCRIPTION	QUANTITY	UNIT	LABOR	EQUIP	FUEL	REFRIGS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT COST
CAT 431 SCPE	4.00 EA		74.55		489.76					0.00		
CAT 90 D2R	1.00 EA		18.64		38.50					0.00		
CAT 90 D2R	2.00 EA		37.20		69.28					0.00		
CAT 543 P18 COMP	1.00 EA		18.64		35.95					0.00		
LOCAL LABORER	2.00 EA		27.87							0.00		

CHGR	576.10	0.00	655.45	84.00	58.50	0.00	0.00	0.00	0.00	0.00	976.12
SUBTOTAL	822 HOURS	144.753	0	538.538	39.659	48.065	0	0	0	0	1.12

MATERIALS:

	0	0	0	0	0	0	0	0	0	0	0
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TOTAL 144.753 0 538.538 39.659 48.065 0 0 0 0 0 0 822.6

PROJECT: Kolan Materials Revised BOC Estimate
 CLIENT: Kolan Materials
 JOB NO: 90-45-10
 LOCATION: Wash Creek
 FROM DESCRIPTION: Contract Bidders
 ESTIMATE: CES
 DATE: 06-26-92
 JOB QUANTITY: 25,000 CY
 UNIT: 11.56 MM
 UNIT: 11.56 MM

ESTIMATE NOTES AND ASSUMPTIONS:
 -See Bids and Grader to finish
 -Bath already moved to Clear Fill Extension

DESCRIPTION	QUANTITY	UNIT	LABOR	EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT	COST
CAT 14 D2B	1.00	EA	15.54	50.65	5.00	5.50				0.00			
CAT 96 D2B	1.00	EA	18.44	34.64	5.50	8.50				0.00			

DESCRIPTION	QUANTITY	UNIT	LABOR	EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT	COST
CAT 14 D2B	1.00	EA	15.54	50.65	5.00	5.50				0.00			
CAT 96 D2B	1.00	EA	18.44	34.64	5.50	8.50				0.00			

TOTALS	4.64		18.536	1.415	1.375								
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ESTIMATOR:	CEB	SMT 11	OF	SMT 55
DATE:	08-Dec-91	TIME:	11:56 AM	
		JOB QUANTITY:	15,545 cty	

-Place material with Cat 946 (c) and spread with small dozer (Cat B6)
-Assume all material is delivered to the immediate area

DESCRIPTION	QUANTITY	UNIT	LABOR	INT EQUIP	EXT EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT COST	74 HOURS	
														DURATION	74 HOURS
CAT 94G PBL	1.00	EA	18.54		46.87	7.00	6.00					0.00			
CAT DG CDR	1.00	EA	29.64		34.50	5.50	6.50					0.00			
LOCAL LABORER	2.00	EA	27.97									0.00			
CREW			68.35	0.00	88.67	12.50	18.50	0.00	0.00	0.00	0.00			MOBILITY CREW COSTS	168.82
SUBTOTAL	74 HOURS		4,450	0	5,429	872	733	0	0	0	0	11,724			0.76
MATERIALS:															
Rip Rap	24,880	to							161,996			161,996			
Basal Rock	24,880	to								74,424		74,424			
														0	
														0	
														0	
														0	
														0	
														0	
														0	
														0	
														0	
TOTALS			4,450	0	5,429	872	733	0	161,996	74,424	0	14,144			

5571000	005	587 22	02	587 25
5872	000 000 001	7100		11:56 AM
		000 000 001		00 000 001

Pine material with Cat 561e1 and spread with small dozer (Cat 66) because all material is delivered to the immediate area.

[illegible]

PROJECT: Atlas Materials Revised WBS Estimate
 CLIENT: Atlas Materials
 JOB NO: 88-0617-18
 LOCATION: Road Work
 TYPE DESCRIPTION: Rockwall Toe Protection

ESTIMATE: (CS) SPT 23 OF SPT 25
 DATE: 08 Dec 81 TIME: 11:56 AM
 JOB QUANTITY: 3,851 cy

ESTIMATION NOTES AND ASSUMPTIONS:

- Assume excavation of toe to 12 feet deep vertically
- Assume excavation and soil replacement by scraper spread
- Assume rock placement by loader and dump
- Final Soil Excavation @ 18,500 cy
- Total stone placement at 3718 cy

DESCRIPTION	QUANTITY	UNIT	LABOR	EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	19 MOOS	
												UNIT	COST
CRT 611 SCR	4.00 EA		74.55										
CRT 612 SCR	1.00 EA		18.64										
CRT 613 SCR	1.00 EA		18.64										
LOCAL LABORER	2.00 EA		27.67										
CRT 543 VIB COMP	1.00 EA		18.64										
CRT 544 PUL	1.00 EA		18.64										
CRT 545 PUL	1 EA		18.63012										
LOCAL LABORER	2 EA		27.67015										

COST	19 MOOS	EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	MOOSLY	
										COSTS	1,000 \$
	221.85	0.00	781.52	93.00	64.50	0.00	0.00	0.00	0.00	1,041.87	
SUBTOTAL	19 MOOS	4,274	0	13,511	1,791	1,742	0	0	0	19,318	5.00

MATERIALS	QUANTITY	UNIT	COST	TOTAL
Reinforcement Rock	6,163 cu		45.300	45.300
Rock Rock	6,163 cu		15.490	15.490

TOTALS	8,174	0	13,511	1,791	1,742	0	45,300	15,490	0	84,607	11.50
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JOB QUANTITY: 21,100 CY

- Clay haul estimated at 18.5 miles
- include equipment to excavate/load/place
- Transport using enddump trailers

DESCRIPTION	QUANTITY	UNIT	LABOR	DURATION - 489 HOURS										UNIT COST
				INT EQUIP	EXT EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL		
CAT 944 FEL	1.00	EA	18.64		46.07	7.00	6.00					0.00		
CAT D6 DZR	2.00	EA	37.28		69.20	11.00	9.00					0.00		
CAT 74 GRP	1.00	EA	18.64		50.65	6.00	6.50					0.00		
LOCAL LABORER	2.00	EA	27.07									0.00		
End Bumps	10.00	EA	186.10		686.60	0.00	0.00					0.00		
CREW													1,166.03	
			280.01	0.00	952.52	24.00	21.50	0.00	0.00	0.00	0.00	HOURLY CREW COSTS		
SUBTOTAL	489 HOURS		140.761	0	616.598	11,720	10,506	0	0	0	0	579.571	7.91	
MATERIALS:														
Clay	73,500	cy								10,049		10,049		
Seed and Mulch	10	ac								10,000		10,000		
												0		
												0		
												0		
												0		
												0		
												0		
												0		
												0		
TOTALS			140.761	0	616.598	11,720	10,506	0	10,049	10,000	0	6,341		

[illegible]

ESTYING PCB WATERS 180 1-528-9471 (MS)

city is a total of 20, 100 cy of 1 inch wrap and 16, 100 cy of 1 inch wrap. Above, there's no directly dump in place.

DESCRIPTION	QUANTITY	UNIT	LABOR	147 EQUIP	EST EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SBS	TOTAL	ASSD	ALR
CAT 147 FUEL	1.00	EA	12.54		45.47	7.96	4.50				66.43		
CAT 147 OIL	1.00	EA	12.54		14.58	5.50	4.50				37.12		
CAT 147 LUBR	2.00	EA	27.07								54.14		

Case	64.35	66.60	68.67	72.58	78.58	86.00	96.00	108.02
Cost	23.246	0	29.181	4.522	3.798	6	0	0
Profit	36.705	0	39.488	67.058	74.782	80.00	106.00	118.02

[illegible]

1000

[illegible]

PROJECT: Atlas Minerals Revised HRC Estimate
 CLIENT: Atlas Minerals
 JOB NO: 85-867-18
 LOCATION: Moab Utah
 ITEM DESCRIPTION: Soil Rock Matrix (Soil)

ESTIMATOR: CES
 DATE: 08 Dec 93
 SHT 26 OF 35
 TIME: 11:56 AM
 JOB QUANTITY: 68,140 cy

ESTIMATOR NOTES AND ASSUMPTIONS:

-This material will be excavated from the area of the reconfigured channel and ditches.
 -assume compacting this material into the previously placed rock using a sheepfoot compactor.
 -Average Haul distance = 3000 ft.

DESCRIPTION	QUANTITY	UNIT	LABOR	DURATION = 56 HOURS							TOTAL	UNIT COST
				INT EQUIP	EXT EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBG	TRAVEL	
CAT 431 SCR	4.00 EA		74.55		459.76	59.00	10.00				0.00	
CAT 330 DCR	1.00 EA		18.64		70.50	11.00	7.50				0.00	
CAT 34 DCR	2.00 EA		37.28		69.28	11.00	9.00				0.00	
CAT 315 COMP	1.00 EA		18.64		48.09	10.00	6.00				0.00	
LOCAL LABORER	2.00 EA		27.07								0.00	

CREW	56 HOURS	WEEKLY CREW COSTS										1,005.23
		LABOR	INT EQUIP	EXT EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBG	TRAVEL	TOTAL	
SUBTOTAL	56 HOURS	9,802	0	37,696	5,863	3,366	0	0	0	0	55,927	1.15

MATERIALS:

0
0
0
0
0
0
0
0
0
0
0

TOTALS	9,802	0	37,696	5,863	3,366	0	0	0	0	0	55,927	1.15
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Allow 1 week to debit/credit to Jobsite

[illegible]

PROJECT: Allan Minerals Revised BRC Estimate
 CLIENT: Allan Minerals
 JOB NO: 88-467-18
 LOCATION: Wash Creek
 ESTIMATOR: Clearing and Grubbing
 DATE: 40 Dec 83
 TIME: 11:58 AM
 JOB QUANTITY: 5 AC

ESTIMATION NOTES AND ASSUMPTIONS:

Includes removal of light brush in area of S.B. Contaminated Soil excavation.
 One dump to place in piles and then burn.

DESCRIPTION	QUANTITY	UNIT	LABOR	EQUIP	EQUIP	FUEL	SERVICES	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT COST
CUT ON DEN	1.00	EA	18.54			34.42	5.50	4.50			0.00		
LOCAL LABORERS	2.00	EA	27.07								0.00		

DESCRIPTION	QUANTITY	UNIT	LABOR	EQUIP	EQUIP	FUEL	SERVICES	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT COST
CUT ON DEN	1.00	EA	18.54			34.42	5.50	4.50			0.00		
LOCAL LABORERS	2.00	EA	27.07								0.00		

1.74 0 1.74 25 56 0 0 5.05

PROJECT: Atlas Minerals Revised BSC Estimate
 CLIENT: Atlas Minerals
 JOB NO: 88-067-10
 LOCATION: Wash Utah
 ITEM DESCRIPTION: Fencing

ESTIMATOR: CES
 DATE: 88 Dec 93
 SMT 30 OF SMT 35
 TIME: 11:56 AM
 JOB QUANTITY: 10,700 LF

ESTIMATOR NOTES AND ASSUMPTIONS:

-Installation of a total of 10,700 LF of 4 ft chainlink with 4 strand barbwire.
 -Installation of a total of 8,000 LF of 4 strand barbwire.

DESCRIPTION	QUANTITY	UNIT	LABOR	INT EQUIP	EXT EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUB	DURATION - HOURS		UNIT COST
											TRAVEL	TOTAL	
CREW			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL	0 HOURS		0	0	0	0	0	0	0	0	0	0	0.00
MATERIALS:													
Chain Link w/Barb Wire	10,700 LF								125,400			125,400	
Barbed Wire (4 strand)	8,000 LF								24,000			24,000	
													0
													0
													0
													0
													0
													0
													0
													0
													0
													0
TOTALS			0	0	0	0	0	0	149,400	0	0	149,400	0

ESTIMATING COSTS AND ASSUMPTIONS

[illegible]

PROJECT: Atlas Minerals Revised BOC Estimate
 CLIENT: Atlas Minerals
 JOB NO.: 59-067-18
 LOCATION: Wash Creek
 ITEM DESCRIPTION: Filter Rock
 ESTIMATE: 40 Dec 93
 DATE: 11-56-98
 JOB QUANTITY: 58,354 cy

ESTIMATE NOTES AND ASSUMPTIONS:

Channel 8117 1573
 Embankment 17429
 80' 1812
 3" Rock Wall 591
 4" Rock Wall 47168 2885 58354

DESCRIPTION	QUANTITY	UNIT	LABOR	EQUIP	EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TOTAL	UNIT	COST
CAT 944 FEL	1.00	EA	18.64		65.87	7.00	6.00						
CAT 944 DCR	1.00	EA	18.64		54.68	5.50	6.50						
LOCAL LABORER	2.00	EA	21.47										

DESCRIPTION	QUANTITY	UNIT	LABOR	EQUIP	EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TOTAL	UNIT	COST
CAT 944 FEL	1.00	EA	18.64		65.87	7.00	6.00						
CAT 944 DCR	1.00	EA	18.64		54.68	5.50	6.50						
LOCAL LABORER	2.00	EA	21.47										

DESCRIPTION	QUANTITY	UNIT	LABOR	EQUIP	EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TOTAL	UNIT	COST
CAT 944 FEL	1.00	EA	18.64		65.87	7.00	6.00						
CAT 944 DCR	1.00	EA	18.64		54.68	5.50	6.50						
LOCAL LABORER	2.00	EA	21.47										

TOTALS 58,354 0 58,354 0 58,354 0 58,354 0 58,354 0 58,354 0 58,354 0

[illegible]

DATE/TIME: 02/03/2005 10:05

[illegible][illegible]

Totals

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ESTIMATOR:      0      SBT 37      OF      0
DATE:      00 Dec-93      TIME:      13.56 AM
JOB QUANTITY:      10 yr
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Assume using 1 operator and 1 truck full time	Labor =	20500
	Bells @	175 lf/year
7- 4 inch Extraction Wells	Pumps @	1.5 ea/year
7 1.75 inch extraction pumps		

Period of time = 10 years

DESCRIPTION	QUANTITY	UNIT	LABOR	INT EQUIP	EXT EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT COST
LOCAL OPERATION	1.00	EA	19										
Pickup	1.00	EA			5	1.00	1.00						

CREW		10.64	0.00	5.00	1.00	1.00	0.00	0.00	0.00	0.00	MOBILITY	
											CREW COSTS	25.64
SUBTOTAL	20,000 HOURS	387,677	0	104,000	20,000	20,000	0	0	0	0	533,277	533,277.10
MATERIALS:												
Buy Pumps and Meter	35 ea							66,700			66,700	
Well Installation	1,750 lf								50,750		50,750	
-STS for Wells	10 yrs						10,000				10,000	
ELECTRICAL	1,200,000 KWH						95,000				95,000	
-CONSTRUCT EVAPORATION POND	2 AC								200,000		0	
											0	
											0	
											0	
											0	
											0	
											0	
TOTALS		467,477	0	104,000	20,000	20,000	105,000	66,700	250,750	0	753,927	753,927.10

[illegible]

ESTIMATE SUMMARY

[illegible]

50870162

WEATHER FACTOR USED IN CALC. =

TOTAL ESTIMATE

	MARK UP	39%	TOTAL	
		(15%)		
				CASH ANALYSIS
				73,179,425 (+/-) ESTIMATE CHECK
				+ 1,020,435 (= 118,185.0)
				1,00%

[illegible]

SIMPLEY OF MATERIAL AND SUBCONTRACT PRICES USED IN CURRENT ESTIMATE

DESCRIPTION	QUANTITY	UNIT	QUOTED UNIT PRICE	SALES TAX	PRICE WITH TAX	TOTAL PRICE
PERMANENT MATERIAL PRICES						
1. 100' 10" TIE PILE	10.00	LN	\$6.16	1.00	\$6.53	\$244,875.00
2. 100' 10" TIE PILE	10.00	LN	\$3.00	1.00	\$3.18	\$119,250.00
3. 100' 10" TIE PILE	10.00	LN	\$8.97	1.00	\$9.51	\$244,875.00
4. 100' 10" TIE PILE	10.00	LN	\$3.00	1.00	\$3.18	\$119,250.00
5. 100' 10" TIE PILE	10.00	LN	\$8.97	1.00	\$9.51	\$244,875.00
6. 100' 10" TIE PILE	10.00	LN	\$3.00	1.00	\$3.18	\$119,250.00
7. 100' 10" TIE PILE	10.00	LN	\$8.97	1.00	\$9.51	\$244,875.00
8. 100' 10" TIE PILE	10.00	LN	\$3.00	1.00	\$3.18	\$119,250.00
9. 100' 10" TIE PILE	10.00	LN	\$8.97	1.00	\$9.51	\$244,875.00
10. 100' 10" TIE PILE	10.00	LN	\$3.00	1.00	\$3.18	\$119,250.00
11. 100' 10" TIE PILE	10.00	LN	\$8.97	1.00	\$9.51	\$244,875.00
12. 100' 10" TIE PILE	10.00	LN	\$3.00	1.00	\$3.18	\$119,250.00
13. 100' 10" TIE PILE	10.00	LN	\$8.97	1.00	\$9.51	\$244,875.00
14. 100' 10" TIE PILE	10.00	LN	\$3.00	1.00	\$3.18	\$119,250.00
15. 100' 10" TIE PILE	10.00	LN	\$8.97	1.00	\$9.51	\$244,875.00
16. 100' 10" TIE PILE	10.00	LN	\$3.00	1.00	\$3.18	\$119,250.00
17. 100' 10" TIE PILE	10.00	LN	\$8.97	1.00	\$9.51	\$244,875.00
18. 100' 10" TIE PILE	10.00	LN	\$3.00	1.00	\$3.18	\$119,250.00
19. 100' 10" TIE PILE	10.00	LN	\$8.97	1.00	\$9.51	\$244,875.00
20. 100' 10" TIE PILE	10.00	LN	\$3.00	1.00	\$3.18	\$119,250.00
21. 100' 10" TIE PILE	10.00	LN	\$8.97	1.00	\$9.51	\$244,875.00
22. 100' 10" TIE PILE	10.00	LN	\$3.00	1.00	\$3.18	\$119,250.00
23. 100' 10" TIE PILE	10.00	LN	\$8.97	1.00	\$9.51	\$244,875.00
24. 100' 10" TIE PILE	10.00	LN	\$3.00	1.00	\$3.18	\$119,250.00
25. 100' 10" TIE PILE	10.00	LN	\$8.97	1.00	\$9.51	\$244,875.00
26. 100' 10" TIE PILE	10.00	LN	\$3.00	1.00	\$3.18	\$119,250.00
27. 100' 10" TIE PILE	10.00	LN	\$8.97	1.00	\$9.51	\$244,875.00
28. 100' 10" TIE PILE	10.00	LN	\$3.00	1.00	\$3.18	\$119,250.00
29. 100' 10" TIE PILE	10.00	LN	\$8.97	1.00	\$9.51	\$244,875.00
30. 100' 10" TIE PILE	10.00	LN	\$3.00	1.00	\$3.18	\$119,250.00
31. 100' 10" TIE PILE	10.00	LN	\$8.97	1.00	\$9.51	\$244,875.00
32. 100' 10" TIE PILE	10.00	LN	\$3.00	1.00	\$3.18	\$119,250.00
33. 100' 10" TIE PILE	10.00	LN	\$8.97	1.00	\$9.51	\$244,875.00
34. 100' 10" TIE PILE	10.00	LN	\$3.00	1.00	\$3.18	\$119,250.00
35. 100' 10" TIE PILE	10.00	LN	\$8.97	1.00	\$9.51	\$244,875.00
36. 100' 10" TIE PILE	10.00	LN	\$3.00	1.00	\$3.18	\$119,250.00
37. 100' 10" TIE PILE	10.00	LN	\$8.97	1.00	\$9.51	\$244,875.00
38. 100' 10" TIE PILE	10.00	LN	\$3.00	1.00	\$3.18	\$119,250.00
39. 100' 10" TIE PILE	10.00	LN	\$8.97	1.00	\$9.51	\$244,875.00
40. 100' 10" TIE PILE	10.00	LN	\$3.00	1.00	\$3.18	\$119,250.00
41. 100' 10" TIE PILE	10.00	LN	\$8.97	1.00	\$9.51	\$244,875.00
42. 100' 10" TIE PILE	10.00	LN	\$3.00	1.00	\$3.18	\$119,250.00
43. 100' 10" TIE PILE	10.00	LN	\$8.97	1.00	\$9.51	\$244,875.00

PROJECT: Atlas Option Alternate Size A DATE: 09-Dec-93 SHT 2 OF SHT 40
 CLIENT: ATLAS COPCO
 JOB NO.: 99-0010 TIME: 02:17 PM
 LOCATION: Moab Utah ESTIMATOR: AGS PROJECT DURATION = 624.0 WEEKS
 VARIABLE COST JOBSITE OVERHEADS

DESCRIPTION	REQUIRED Y OR N	REQUIRED QUANTITY	DURATION	UNIT RATE	I TOTAL LABOR	J WEEKLY LABOR	K WEEKLY INT EQUIP	L WEEKLY EXT EQUIP	M WEEKLY FUEL	N WEEKLY REPAIRS	O WEEKLY SUPPLIES	P WEEKLY SUBS	Q WEEKLY TRAVEL	Q WEEKLY TOTALS
*****FULL TIME EXEMPT*****														
246 PROJECT MANAGER	Y	1	624	\$1,659	1,035,216	1,659							0	1,659
247 SUPERINTENDENT			624	\$1,413	0	0							0	0
248 PROJ. SUPERVISOR			624	\$1,327	0	0							0	0
249 PROJ. ENGINEER	Y	2	624	\$1,188	1,482,624	2,376							100	2,476
250 HSE OFFICER	Y	1	624	\$1,119	698,256	1,119							50	1,169
251 CHEMIST			624	\$1,119	0	0							0	0
252			624										0	0
253			624										0	0
*****FULL TIME NON-EXEMPT*****														
256 HSE TECHNICIAN			624	\$1,292	0	0							0	0
257 APT. PROT. ENG.			624	\$1,292	0	0							0	0
258 ENGINEER TECH.			624	\$1,177	0	0							0	0
259			624										0	0
260			624										0	0
*****HOURLY SITE HIRES*****														
263 FIELD FORMAN			624	\$1,267	0	0							0	0
264 MECHANIC			624	\$1,185	0	0		0					0	0
265 MECHANIC HELPER			624	\$925	0	0							0	0
266 OFFICE MANAGER	Y	1	624	\$697	434,928	697							0	697
267 FLYER			624	\$632	0	0							0	0
268			624										0	0
269			624										0	0
*****INTERNAL EQUIPMENT RENTAL*****														
272 PRESSURE WASHER (INTERNAL RATE)			624	\$30				0						0
273 SAFETY EQUIPMENT (AIR SAMPLING/OVA)			624	\$130				0						0
274			624					0						0
275			624					0						0
*****EXTERNAL EQUIPMENT RENTAL*****														
278 OFFICE TRAILER			624	\$100				0						0
279 TOOL TRAILER			624	\$75				0						0
280 CHANGE TRAILER			624	\$100				0						0
281 DECONTAMINATION TRAILER			624	\$225				0						0
282 LAB TRAILER			624	\$100				0						0
283 FUEL TRUCK			624	\$321				0						0
284 GREASE TRUCK			624					0						0
285 MISC. EQUIP.			624	\$75				0						0
286 SITE SCALES			624	\$100				0						0
287 PROJECT VEHICLES			624	\$150				0						0
288 STREET SWEEPER			624	\$100				0						0

ESTIMATOR	AGE	GENDER	DATE	TIME	NO. OF ICE QUANTITY
		M	06 Dec 93	07:18 AM	1.5

RECELUTATION, REMOVAL, DECONTAMINATION

ESTIMATOR NOTES AND ASSUMPTIONS:

DURATION = 1,524 HOURS

DECONTAMINATION, ASSUME TWO LABORERS AT 2 HOURS PER EACH

[illegible]

	HOURS	PER HOUR	TOTAL COSTS	HOURLY CREW COSTS
CREW	36.79	0.00	0.00	0.00
EQUIPMENT	36.79	0.00	0.00	0.00
MATERIAL	36.79	0.00	0.00	0.00
SUBTOTAL	110.37	0.00	0.00	0.00
TOTAL	110.37	0.00	0.00	0.00

TABLE 1.21

ESTIMATE#:	AUG	SMT 9	56	SMT 40	0
DATE:	07 Dec 73	TIME:	07:12 PM		
				JOB QUANTITY:	18.506

ASSUME THAT THE EIGHT MILE LENGTH OF ROAD WILL REQUIRE FILLING AND ASPHALT OVERLAY
 ASSUME TWO LOTS PER ACH IN ASPHALT
 AT THE TOTAL OF 10,000 TONS REQUIRED

PROJECT	ESTIMATION	DATE	TIME	ITEM NO
ATLAS OILFIELD SILENA	ASS	09 DEC 92	03:16 PM	1
CLIENT				
ATLAS CORP				
JOB NO.				
88-6710				
LOCATION				
MOB UNIT 4				
ALLOCATION				
ITEM DESCRIPTION				
ATLAS SILENA				
ITEM QUANTITY				
1				

ESTIMATOR NOTES AND ASSUMPTIONS:

- ASSUME CONSTRUCTION OF 2500 LF CONVEYOR SYSTEM TO TRUCK LOADING AREA
- ASSUME CONSTRUCTING A FEED HOPPER STRUCTURE FOR LOADING BY DOZER
- ASSUME USING A FIELD LOADING FACILITY AT THE SIDING WITH 1200 TON CAPACITY

DESCRIPTION	QUANTITY	UNIT	LABOR	INT	EQUIP	EXT	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT COST	HOURS
DURATION =															

[illegible]

ESTIMATOR NOTES AND ASSUMPTIONS:		7,600,000
ASSUME PRODUCTION BASED ON LOADING FACILITY AND TRANSPORTATION CAPACITY		
ASSUME 40 MINUTE PER TRUCK CYCLE	0.8	
ASSUME AVERAGE CONVERSION OF TAILING AT 1.4 TONS PER CY		
PRODUCTION = 4500 TONS PER DAY = 3461 CY PER DAY		
DURATION =		
	7800000 CY /	
	3461 CY/DAY =	2253.68390 DAYS OR =
ASSUME USING 1 C37, 2 C9, 1 WATER TRUCK AND 1 GRADER FOR EXCAVATION		6.1747645 YEARS AT 7 DAYS PER WEEK ALL YEAR ROUND
ASSUME USING 3 CONVEYOR AND LOADING OPERATORS AND 3 LABORSERS		8.66801502 YEARS AT 5 DAYS PER WEEK ALL YEAR ROUND
		3640 HR/YR
		2600 HR/YR

DESCRIPTION	QUANTITY	UNIT	LABOR	INT EQUIP	EXT EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT COST
CAT 637 SUPER	1.00	EA	24.61		136.60	23.75	17.50				0.00		
CAT 14 GDE	1.00	EA			51.73	6.00	6.50						
CAT 08 GDE	2.00	EA	47.21		142.58	22.00	15.00				0.00		
PUMP	1.00	EA			4.92	3.00	2.00						
CAT 966 FEL	1.00	EA	24.61		47.05	7.00	6.00				0.00		
LOCAL OPERATOR	3.00	EA	73.82								0.00		
TOTAL LABORE	3.00	EA	55.49								0.00		

[illegible]

ESTIMATOR NOTES AND ASSUMPTIONS:
 -ASSUME MATERIALS CAN BE PLACED WITHIN 100 FEET OF FILL PLACEMENT
 -ASSUME USING A DR, GRADER, WATER TRUCK AND COMPACTOR AND FORMMAN

[illegible][illegible]

[illegible]

35000
25000
45000
35000

140000

DURATION = HOURS

DESCRIPTION	QUANTITY	UNIT	LABOR	INT EQUIP	EXT EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT COST
CREW			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL	0	HOURS	0	0	0	0	0	0	0	0	0	0	0.00
MATERIAL													
ELECTRICAL	*****												
UTILITY SERVICES	1	EA						1,000.000		140.000		1,000.000	140.000
TOTALS			0	0	0	0	0	1,000.000	0	140.000	0	1,140.000	1,140.000

PROJECT: Atlas Option Alternate Site A
 CLIENT: ATLAS CORP.
 JOB NO: 00-47-10
 LOCATION: Mob. Utah
 ITEM DESCRIPTION: SITE RECLAMATION

ESTIMATOR: AGS
 DATE: 09-Dec-93
 SHT 14 OF SHT 40
 TIME: 03:17 PM
 JOB QUANTITY: 340 AC

ESTIMATOR NOTES AND ASSUMPTIONS:
 -ASSUME RECLAMATION OF 130 ACRES
 -ASSUME PLACEMENT OF SILTY SOILS FOR GROUND COVER AT 4 INCHES THICK
 -QUANTITY IS ASSUMED TO BE 69212 CY
 -USE 2 SCRAPERS AT COMBINED PRODUCTION OF 360 CY/HR AT 2000 FT HAUL
 -DURATION = 192.25555 HOURS

DESCRIPTION	QUANTITY	UNIT	LABOR	INT EQUIP	EXT EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	192 HOURS	
													UNIT	COST
CAT 627 SCRAPER	2.00	EA	49.21		273.20	47.50	35.00				0.00			
CAT DR DZR	1.00	EA	24.61		71.29	11.00	7.50				0.00			
CAT 14 GOR	1.00	EA	24.61		51.73	6.00	6.50				0.00			
WATER TRUCK	1.00	EA	24.61		25.22	4.00	3.00				0.00			
LOCAL LABORER	1.00	EA	18.50								0.00			
FIELD FORMAN	1.00	EA	25.39								0.00			
PICUP	1.00	EA			2.46	1.50	1.00				0.00			

CREW	186.92	0.00	423.90	70.00	53.00	0.00	0.00	0.00	0.00	0.00	0.00	713.82
SUBTOTAL	32.091	0	81.497	13,458	10,190	0	0	0	0	0	0	403.64

MATERIAL
 HYDROSEED AND MULCH
 IRRIGATION

204,000
 136,000

0
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TOTALS	32.091	0	81.497	13,458	10,190	0	0	0	0	0	0	1,403.44
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PROJECT: Atlas Option Alternate Site A
 CLIENT: ATLAS CORP.
 JOB NO: 88-67-10
 LOCATION: Moab Utah
 ITEM DESCRIPTION: ROCK ARMOR
 ESTIMATOR: 465
 DATE: 09-Dec-93
 TIME: 03:17 PM
 JOB QUANTITY: 26,000 CY

ESTIMATOR NOTES AND ASSUMPTIONS:
 -ASSUME CONVERSION AT 1.5 TNS PER CY
 -PLACE ROCK BY ROZEL, LOADER AND TRACK LOADER
 -ASSUME DELIVER OF STONE AT 1000 CY/DAY = 1500 TN/DAY
 -TOTAL LOADS AT 23 TON PER LOAD = 65 TRUCKS PER DAY

-ASSUME SAME QUANTITY OF FILTER MATERIAL

DURATION = 520 HOURS									
DESCRIPTION	QUANTITY	UNIT	LABOR	INT EQUIP	EXT EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS
CAT 96A FEL	1.00	EA	24.61		47.05	7.00	6.00		
CAT 96B DGR	1.00	EA	24.61		71.29	11.00	7.50		
CAT 96J FEL/T	1.00	EA	24.61		45.45	6.00	7.00		
LOCAL LABORER	2.00	EA	36.99						

DURATION = 520 HOURS									
DESCRIPTION	QUANTITY	UNIT	LABOR	INT EQUIP	EXT EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS
CREW	110.81			0.00	163.79	24.00	20.50	0.00	0.00
SUBTOTAL	57.622			0	85.171	12.480	10.660	0	0

DURATION = 520 HOURS									
DESCRIPTION	QUANTITY	UNIT	LABOR	INT EQUIP	EXT EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS
ROCK ARMOR (FOR PIT)	39,000	TN							
ROCK ARMOR TRANSPORTATION	39,000	TN							
FILTER MATERIAL (FOR PIT)	36,400	IN							
FILTER MATERIAL TRANSPORTATION	36,400	IN							

TOTALS	57.622			0	85.171	12.480	10.660	0	0
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39.49

PROJECT: Atlas Option Alternate Site A
 CLIENT: ATLAS CORP
 JOB NO: 00-6-10
 LOCATION: Moab Utah
 ITEM DESCRIPTION: RIPRAP PLACEMENT
 ESTIMATOR: AGS
 DATE: 09-Dec-93
 TIME: 03:17 PM
 JOB QUANTITY: 25,000 CY

ESTIMATOR NOTES AND ASSUMPTIONS:
 ASSUME CONVECTION AT 1.5 IN/5 PER CY
 PLACE ROCK BY DOZER, LOADER AND TRACK LOADER
 ASSUME DELIVER OF STONE AT 1.20 CY/DAY = 1500 TN/DAY
 TOTAL LOADS AT 23 TON PER LOAD = 45 TRUCKS PER DAY
 ASSUME PLACING RIPRAP IS DRAINAGE DITCHES AND CHANNELS
 ASSUME SAME THICKNESS OF FILTER LAYER

DURATION = 500 HOURS

DESCRIPTION	QUANTITY	UNIT	LABOR	INT EQUIP	EXT EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT COST
CAT 96B FEL	1.00	EA	24.61		47.05	7.00	6.00				0.00		
CAT 98 DZR	1.00	EA	24.61		71.29	11.00	7.50				0.00		
CAT 74J FEL/T	1.00	EA	24.61		45.45	6.00	7.00				0.00		
LOCAL LABORER	2.00	EA	36.99								0.00		

	CREW	500 HOURS	110.81	0.00	163.79	24.00	20.50	0.00	0.00	0.00	0.00	319.10
	SUBTOTAL		55.406	0	61.895	12,000	10,250	0	0	0	0	6.38
	MATERIALS											
	RIP RAP (FOB FILL)	37,500 TN							244.875			244.875
	RIP RAP TRANSPORTATION	37,500 TN							119,250			119,250
	FILTER MATERIAL (FOB FILL)	25,000 TN							240,450			240,450
	FILTER MATERIAL TRANSPORTATION	25,000 TN							111,300			111,300
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CERTAIN DRAINAGE STRUCTURES WILL BE REQUIRED, FROM BOX CURB TO HEADWALLS.
-ASSUME AN ALLOWANCE TO 100,000 FOR ENTIRE PROJECT

DURATION = HOURS

[illegible]

TOTAL \$ 60,789.00

PROJECT	SALES OPTION alternate size A	ESTIMATOR	SMT 20	SMT 40
INITIALS	ALIAS (GSS)			
DOB	01-08-93			
INCIDENT	NO-03-03-03	DATE	09-Dec-93	TIME
				03:17 PM
ITEM DESCRIPTION	(CONV) CONDITION CLAY LINER			
				425.000 CY
				200 QUANTITY

ESTIMATOR NOTES AND ASSUMPTIONS:

- ASSUME OVEREXCAVATING 3 FOOT OF LINER AND RECOMPACTING AND CONDITIONING.
-USE SCRAPERS TO MOVE THE MATERIALS
-INCLUDE AN ADDITIONAL 0.9 FOR RIPPING OF ROCK
-INCLUDE TWO COMPACTOR TO KEEP UP WITH COMPACTION EFFORTS.
-EXECUTION AT 1100 CY/HR
DURATION = 425000 CY / 1100 CY/HR = 386
ASSUME WATER AVAILABLE ON SITE FROM STORAGE SURGE TANK FOR DUST CONTROL. #
ASSUME HAZ. DISTANCE OF 1200 FT

425000 CV/
1100 CV/HR = 386.363636

DURATION = 42500 CY/ 1100 CY/HR = 386.363636
ASSUME WATER AVAILABLE ON SITE FROM STORAGE SURGE TANK FOR DUST CONTROL AND COMPACTION NEEDS

-ASSUME HAZ. DISTANCE OF 1200 FT

duration = 786 hours

DESCRIPTION	QUANTITY	UNIT	LABOR	INT EQUIP	EXT EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT COST
CAT D7 DZR	2.00	EA	49.21		179.56	32.00	20.00				0.00		
CAT D8 DZR	1.00	EA	24.61		71.29	11.00	7.50				0.00		
CAT 14 GDR	1.00	EA	24.61		51.73	6.00	6.50				0.00		
CAT 825 COMP	2.00	EA	49.21		132.86	20.00	12.00				0.00		
CAT 631 SUPER	5.00	EA	123.04		524.95	73.75	47.50				0.00		
WATER WAGON	2.00	EA	49.21		77.50	17.50	17.50				0.00		
LOCAL LABORER	3.00	EA	55.49								0.00		
FIELD FORMAN	2	EA	50.774628								0		
TOTAL					4.92	3	2						

	CREW	426.15	0.00	1041.81	163.25	113.00	0.00	0.00	0.00	0.00	HOURLY CREW COSTS	1,744.21
SUBTOTAL	386 HOURS	164,650	0	402,518	61,074	43,659	0	0	0	0	673,701	1.59
MATERIALS												
PRESET COMPACTION	425,000	55,250.00		85,000.00							0	
											140,250	
											0	
											0	
											0	
											0	
											0	
											0	
											0	
TOTALS		219,700	0	487,518	61,074	43,659	0	0	0	0	1,371	1.59

DURATION = 191 HOURS

PROJECT: Atlas Option Alternate Site A
 CLIENT: ATLAS CORP.
 JOB NO: 98-67-10
 LOCATION: Road 0164
 ITEM DESCRIPTION: FENCING
 ESTIMATOR: AGJ
 DATE: 01 Dec 93
 TIME: 01:17 PM
 SMT 23
 SMT 40
 JOB QUANTITY: 15,000 LF

ESTIMATOR NOTES AND ASSUMPTIONS:
 ASSUME FENCING OF PERIMETER OF REPOSITORY FOR INSTITUTIONAL CONTROL

DURATION =													HOURS	
DESCRIPTION	QUANTITY	UNIT	LABOR	INT	EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT	COST

DURATION =													HOURS	
DESCRIPTION	QUANTITY	UNIT	LABOR	INT	EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT	COST
CREW			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00
SUBTOTAL	0 HOURS		0	0	0	0	0	0	0	0	0	0		0.00
MATERIALS:														
FENCE INSTALLATION	15,000 LF								180.000			180.000		0.00
TOTALS			0	0	0	0	0	0	180.000			180.000		18.00

DATE	09-Dec-80
SOURCE	SHS
TO	CHS
CITY	CHS
JOB COUNTRY	USA

ESTIMATOR NOTES AND ASSUMPTIONS:

- ASSUME INSTALLATION OF 10 PIEZOMETERS

[illegible]

PROJECT: ATLAS OPTION Alternate Site A
 CLIENT: ATLAS CORP
 JOB NO: 89-87-10
 LOCATION: Wash Utah
 ITEM DESCRIPTION: ACCESS ROADS

ESTIMATOR: AGS
 DATE: 09-Dec-93
 TIME: 03:17 PM
 JOB QUANTITY: 20,000 LF

ESTIMATOR NOTES AND ASSUMPTIONS:

ASSUME ACCESS ROAD ALONG NEW REPOSITORY AREA
 ASSUME ROAD AT 12 FOOT WIDE AND 4 INCHES THICK

QUANTITY = 2933.3333 CY
 ASSUME CONCRETE AT 50 LF BE = 400 HOURS

DESCRIPTION	QUANTITY	UNIT	LABOR	INT EQUIP	EXT EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT
													COST
DURATION = 400 HOURS													
EAT 14.50R	1.00	EA	24.81		51.73	6.00	6.50				0.00		
EAT 09.02R	1.00	EA	24.81		71.29	11.00	7.50				0.00		
WATER TROUGH	1.00	EA	24.81		25.22	4.00	3.00				0.00		
LOCAL LABORER	1.00	EA	18.50								0.00		
PICKUP	1.00	EA			2.46	1.50	1.00						
FIELD FORMAN	1.00	EA	25.39								0.00		

CREW	SUBTOTAL	400 HOURS	117.70	0.00	150.70	22.50	18.00	0.00	0.00	0.00	0.00	HOURLY CREW COSTS		308.90
			47,082	0	60,380	9,000	7,200	0	0	0	0	123,562		6.18

MATERIALS														
CRUSHED TINE (FOR SITE)			4,400 TN											
									32,000			32,340		
												0		
												0		
												0		
												0		
												0		
												0		
												0		
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TOTALS	47,082	0	60,380	9,000	7,200	0	0	0	0	0	0	123,562		7.80
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PROJECT: Atlas Option Alternate Site A

CLIENT: ATLAS CORP.

JOB NO: 85-11-10

LOCATION: ROAD UPA

ITEM DESCRIPTION: PLACEMENT EMBANKMENT SOILS

ESTIMATOR NOTES AND ASSUMPTIONS:

ASSUME DUMPING, TAILERS AND SPREADING WITH DB SPREAD.

ESTIMATOR: AGG
DATE: 09-Dec-93
JOB QUANTITY: 100,000 CY
TIME: 03:17 PM
SHT 29 OF SHT 40

DURATION = 289 HOURS

DESCRIPTION	QUANTITY	UNIT	LABOR	INT EQUIP	EXT EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT COST
CAT DB DZR	1.00	EA	24.61		71.29	11.00	7.50				0.00		
CAT B25 COMP	1.00	EA	24.61		66.43	10.00	6.00				0.00		
WATER TRUCK	1.00	EA	24.61		25.22	4.00	3.00				0.00		
CAT 14 GOR	1.00	EA	24.61		51.73	6.00	6.50				0.00		
FIELD FOREMAN	1.00	EA	25.39								0.00		
PICKUP	1.00	EA	24.61		2.46	1.50	1.00				0.00		
LOCAL OPERATOR	1	EA	24.607104								0		
LOCAL LABORER	2	EA	36.990718								0		

	289 HOURS	210.82	0.00	217.13	32.50	24.00	6,936	0	0	0	0	139,776	483.65
Crew													
SUBTOTAL													
MATERIALS													

TOTALS	60,836	0	62,751	9,291	6,336	0	139,776	0	0	0	0	1,40
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PROJECT: Atlas Option Alternate Site A
 CLIENT: ATLAS CORP.
 JOB NO: 88-17-10
 LOCATION: Road 17th
 ITEM DESCRIPTION: TRANSPORT WILL DEMO DEBRIS
 ESTIMATOR: AGS
 DATE: 09-Dec-93
 TIME: 03:17 PM
 JOB QUANTITY: 25,000 CY

ESTIMATOR NOTES AND ASSUMPTIONS:

WITH DEMO DEBRIS ASSUME IN CY PER LB CY END DUMP
 ASSUME TRANSPORTING BY TAPERED END DUMP # 2 HR ROUND TRIP
 USE 10 TRUCKS AT 10 HOURS PER DAY = 50 LOAD PER DAY
 DURATION = 35000 CY / 500 CY PER DAY = 70 DAYS
 700 HOURS

DURATION = 700 HOURS

DESCRIPTION	QUANTITY	UNIT	LABOR	INT EQUIP	EXT EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT COST
CAT 235 P/H	1.00	EA	24.61		55.36	6.50	6.00				0.00		
CAT 264 FEL	1.00	EA	24.61		47.05	7.00	6.00				0.00		
END DUMP TRUCK	10.00	EA	246.07		541.20	0.00	5.00				0.00		

CREW	275.29	0.00	643.71	13.50	17.00	0.00	0.00	0.00	0.00	0.00	0.00	969.50	
SUBTOTAL	206,700	0	450,597	7,450	11,900	0	0	0	0	0	0	678,647	13.17

MATERIALS

TOTALS 206,700 0 450,597 7,450 11,900 0 0 0 0 0 0 0 678,647 13.17

PROJECT: Atlas Option Alternative Site A

CLIENT: ATLAS CORP.

JOB NO: 10-4-10

LOCATION: Road 10-4-10

ITEM DESCRIPTION: DUST CONTROL WATER TRANSPORT

ESTIMATOR NOTES AND ASSUMPTIONS:

-ASSUME DUST CONTROL IS NEEDED OVER CERTAIN AREA OF HAUL AND ACCESS ROAD OVER COURSE OF PROJECT

-USE ONE WATER TRUCK, PUMP AND DRIVER

-ASSUME INSTALLATION OF 6 INCH HOSE WATER LINE

ESTIMATOR: AGG
DATE: 09 Dec 13
JOB QUANTITY: 11 YEAR
TIME: 03:17 PM
SHT 31 OF 381 40

DURATION: 22,000 HOURS

DESCRIPTION	QUANTITY	UNIT	LABOR	INT EQUIP	EXT EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT COST
TEAMSTERS	1.00 EA		21.10								0.00		

CREW	21.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21.10	
SUBTOTAL	464,116	0	0	0	0	0	0	0	0	0	0	464,116	42,132.16

MATERIALS:

HOSE 6 INCH WATER LINE (FOR 2 111,936 LF

PUMP 1 EA

PUMP 1 EA

3000 GAL

FOR WATER TRUCK

1,231,296

15,000

135,000

200,000

1,000,000

0

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TOTALS	464,116	15,000	135,000	45,000	52,000	0	0	0	0	0	0	1,000,000	200,155.64
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EXP. DATE:	465	SIN 32	DE	31 40
DATE:	03 Dec 93	TIME:	00 17 PM	
		JME QUANTITY:		1.24

2050 HOURS

DURATION = 2.080 HOURS

[illegible][illegible]

ESTIMATOR	DATE	TIME	QTY	UNIT	PRICE
865	10/10/73	1:40	1.00	HR	1.00

ASSUME DESIGN FOR: OF 500000

[illegible][illegible]

PROJECT: Atlas Option Alameda Site A
 CLIENT: ATLAS CORP.
 JOB NO: 88-42-10
 LOCATION: P.O. BOX 10
 ITEM DESCRIPTION: RITE MONITORING, HEALTH AND SAFETY
 ESTIMATOR: AGS
 DATE: 09 Dec 93
 TIME: 05:17 PM
 JOB QUANTITY: 11 YR

ESTIMATOR NOTES AND ASSUMPTIONS:
 - ASSURE MONITORING FOR AMBIENT DUST PM 10
 - ASSURE 4 STATIONS IN THE EXCAVATION AND 3 AT THE REPOSITORY
 - ASSURE ONE TECH TO RUN SYSTEM ALONG WITH RADON MONITORS AND MINI RAD AND PERSONAL MONITORS.
 - ASSURE 10AT TEAM ONCE PER YEAR MONITORS QA/QC

DURATION = 22,300 HOURS

DESCRIPTION	QUANTITY	UNIT	LABOR	INT EQUIP	EXT EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT COST
HRS TECHNICIAN	2.00	EA	51.69									2.00	

	CREW	51.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	53.69
SUBTOTAL	22,300 HOURS	1,152,637	0	0	0	0	0	0	0	0	44,600	1,197,237	109,839.73

MATERIALS

AIR MONITORING EQUIPMENT	1 EA	100,000											0
RIO AS/NHS	11 YR	40,000											40,000
TLD BADGES	11 YR	5,000											5,000
HSS SUPPLIES	11 YR	132,000											132,000
10AT	11 YR	44,000											44,000
		0											0
		0											0
		0											0
		0											0
		0											0

TOTAL: 1,152,637 109,839.73 1,197,237 109,839.73

[illegible]

ASSUME PURCHASE OF LAND FOR RETORTORY AND ACCESS ROADS

[illegible]

TOTALS

ESTIMATOR:	445	SW 20	OF	DATE:	10
DATE:	03-Dec-73	TIME:	03:22 PM	DATE:	10
				100 DIAMETER	100

AT-TIME MONITORING ONCE PER WEEK * LOCATION FOR 1 WEEKS = 4000 SAMPLES PLUS OR - 35 PER EACH

26.06 77

[illegible]

rate	per hour
year 1	17.5 hours/year
year 2-10	90 hours/year

DESCRIPTION	QUANTITY	UNIT	LABOR	INT	EXT	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT	COST
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8	1	1	1	1	1	1	1	1	1	1	1	1	1	1
9	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11	1	1	1	1	1	1	1	1	1	1	1	1	1	1
12	1	1	1	1	1	1	1	1	1	1	1	1	1	1
13	1	1	1	1	1	1	1	1	1	1	1	1	1	1
14	1	1	1	1	1	1	1	1	1	1	1	1	1	1
15	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16	1	1	1	1	1	1	1	1	1	1	1	1	1	1
17	1	1	1	1	1	1	1	1	1	1	1	1	1	1
18	1	1	1	1	1	1	1	1	1	1	1	1	1	1
19	1	1	1	1	1	1	1	1	1	1	1	1	1	1
20	1	1	1	1	1	1	1	1	1	1	1	1	1	1
21	1	1	1	1	1	1	1	1	1	1	1	1	1	1
22	1	1	1	1	1	1	1	1	1	1	1	1	1	1
23	1	1	1	1	1	1	1	1	1	1	1	1	1	1
24	1	1	1	1	1	1	1	1	1	1	1	1	1	1
25	1	1	1	1	1	1	1	1	1	1	1	1	1	1
26	1	1	1	1	1	1	1	1	1	1	1	1	1	1
27	1	1	1	1	1	1	1	1	1	1	1	1	1	1
28	1	1	1	1	1	1	1	1	1	1	1	1	1	1
29	1	1	1	1	1	1	1	1	1	1	1	1	1	1
30	1	1	1	1	1	1	1	1	1	1	1	1	1	1
31	1	1	1	1	1	1	1	1	1	1	1	1	1	1
32	1	1	1	1	1	1	1	1	1	1	1	1	1	1
33	1	1	1	1	1	1	1	1	1	1	1	1	1	1
34	1	1	1	1	1	1	1	1	1	1	1	1	1	1
35	1	1	1	1	1	1	1	1	1	1	1	1	1	1
36	1	1	1	1	1	1	1	1	1	1	1	1	1	1
37	1	1	1	1	1	1	1	1	1	1	1	1	1	1
38	1	1	1	1	1	1	1	1	1	1	1	1	1	1
39	1	1	1	1	1	1	1	1	1	1	1	1	1	1
40	1	1	1	1	1	1	1	1	1	1	1	1	1	1
41	1	1	1	1	1	1	1	1	1	1	1	1	1	1
42	1	1	1	1	1	1	1	1	1	1	1	1	1	1

[illegible]

Assume quarterly compounding, i yields for 10 years

[illegible]

TOTAL

Assume cost of CTS at 1.5 million

PROJECT: Atlas Option 1 RR Transportat
 CLIENT: ATLAS CORP.
 JOB NO.: 88-47-10
 LOCATION: Moab Utah

DATE: 08-Dec-93

FILE NAME: Atlas

TIME: 05:54 PM

SHT 1 OF SHT 41

ESTIMATE SUMMARY

ITEM DESCRIPTION	DETAIL SHEET	QUANTITY	UNIT	LABOR	INT EQUIP	EXT EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIAL	SUBS	TRAVEL	UNIT COSTS	TOTAL COSTS	UNIT BID	TOTAL BID
TOTAL FIXED OVERHEADS	SHT 6	1 LS		0	0	0	0	0	175,675		0	0	179,025.00	179,025	217,325.50	217,326
VARIABLE JOBSITE OVERHEADS	SHT 7	624 WEEKS		3,651,024	0	0	0	0	0		0	93,600	6,001.00	3,744,624	12,020.02	7,500,492
MOBILIZATION, DEMOBILIZATION, DECOM	SHT 8	1 EA		56,370	0	0	0	50,000	0	0	350,600	0	456,974.00	456,974	582,628.19	582,628
CONSTRUCT NEW RAIL AND EMBANKMENTS	SHT 9	10,500 LF		51,310	0	114,772	17,625	12,330	0	0	832,500	0	55.60	1,028,545	67.46	1,240,019
RAILROAD EQUIPMENT RENTAL	SHT 10	132 MO		0	0	10,910,625	0	0	0	0	0	0	82,656.25	10,910,625	100,339.68	13,244,830
CONSTRUCT LOADING FACILITY	SHT 11	1 EA		0	0	0	0	0	0	0	2,050,000	0	2,050,000.00	2,050,000	2,384,885.10	2,384,885
EXCAVATE, LOAD TAILINGS	SHT 12	7,000,000 CY		5,132,452	0	8,628,905	2,112,029	1,059,231	0	0	0	0	2.17	16,933,417	3.17	24,726,000
OFF-LOAD AND DISPOSAL	SHT 13	7,000,000 CY		4,733,240	0	9,625,778	1,397,294	969,091	0	0	0	0	2.14	16,725,403	3.09	24,102,000
UTILITY RELOCATION AND INSTALLATION	SHT 14	1 EA		0	0	0	0	0	1,000,000	0	140,000	0	1,140,000.00	1,140,000	1,376,009.60	1,376,010
SITE RECLAMATION	SHT 15	340 AC		32,091	0	81,497	13,458	10,190	0	0	340,000	0	1,403.64	477,236	1,729.73	580,100
EXCAVATE OVERBURDEN REPOSITORY	SHT 16	5,500,000 CY		1,542,246	0	4,330,700	665,000	456,250	0	0	0	0	1.27	7,002,196	1.77	9,735,000
SOIL ROCK MATRIX	SHT 17	122,000 CY		170,047	0	383,787	57,256	40,217	0	1,168,749	0	0	14.82	1,820,056	18.63	2,287,764
ROCK ARMOR	SHT 18	26,000 CY		57,622	0	85,171	12,400	10,666	0	860,730	0	0	39.49	1,026,663	40.05	1,249,300
RIPRAP PLACEMENT	SHT 19	25,000 CY		55,406	0	81,895	12,000	10,250	0	715,875	0	0	35.02	875,426	42.05	1,071,250
MISC STRUCTURES	SHT 20	1 LS		0	0	0	0	0	0	0	100,000	0	100,000.00	100,000	116,335.06	116,336
COMPACT CONDITION CLAY LINER	SHT 21	425,000 CY		219,900	0	487,510	63,074	43,659	0	0	0	0	1.52	814,151	2.74	1,164,500
PLACE RADON CAP	SHT 22	210,000 CY		103,959	0	223,047	20,111	19,664	0	0	0	0	1.79	375,581	2.57	539,700
PLACE FINAL CAP	SHT 23	419,000 CY		190,050	0	421,324	52,200	36,940	0	0	0	0	1.69	700,602	2.44	1,022,360
FENCING	SHT 24	15,000 LF		0	0	0	0	0	0	0	100,000	0	12.00	180,000	13.96	209,400
MONITORING CONTROL	SHT 25	1 EA		0	0	0	0	0	0	0	66,500	0	66,500.00	66,500	77,363.35	77,363
ACCESS ROADS	SHT 26	20,000 LF		47,002	0	60,200	9,000	7,200	0	32,340	0	0	7.00	155,902	11.29	225,000
MILL SITE SOILS EXCAVATION	SHT 27	300,000 CY		277,424	0	474,279	106,617	59,376	0	0	0	0	3.06	917,694	4.46	1,330,000
OFFLOAD MILL SOILS	SHT 28	300,000 CY		224,757	0	370,304	53,754	37,281	0	0	0	0	2.29	686,096	3.38	1,014,000
TAILING EMBANKMENT SOILS EXCAVATION	SHT 29	100,000 CY		92,474	0	150,093	35,539	19,792	0	0	0	0	3.06	305,898	4.46	446,000
OFFLOAD EMBANKMENT SOILS	SHT 30	100,000 CY		74,919	0	123,435	17,910	12,427	0	0	0	0	2.29	220,699	3.38	330,000
TRANSPORT MILL DEMO DEBRIS	SHT 31	35,000 CY		206,700	0	450,597	9,450	11,900	0	0	0	0	19.39	678,647	28.32	991,200
DUST CONTROL/WATER TRANSPORT	SHT 32	11 YEAR		464,116	15,000	125,000	45,300	52,000	0	0	1,566,296	0	206,155.64	2,267,712	277,204.20	3,049,246
PERMITTING AND ACCESS AGREEMENT	SHT 33	1 EA		98,863	0	0	0	0	0	0	825,000	4,160	928,023.00	928,023	1,164,843.64	1,164,844
DESIGN COSTS	SHT 34	1 EA		500,000	0	0	0	0	0	0	0	0	500,000.00	500,000	1,011,616.16	1,011,616
AIR MONITORING/HEALTH AND SAFETY	SHT 35	11 YR		1,152,637	321,000	0	0	0	0	0	0	44,600	130,021.55	1,510,237	252,351.70	2,775,069
PURCHASE LAND	SHT 36	640 AC		0	0	0	0	0	0	339,200	0	0	530.00	339,200	616.50	394,611
ANALYTICAL COSTS	SHT 37	11 YR		0	0	0	0	0	0	0	289,154	0	26,286.73	289,154	30,500.09	336,390
Well Maintenance	SHT 38	5 yr		255,914	0	25,584	15,600	10,400	53,000	33,390	25,375	0	83,852.60	419,263	142,619.30	713,097
WRC Surveillance	SHT 39	10 yr		0	0	0	0	0	0	0	415,872	0	41,587.20	415,872	40,388.83	483,800
Long Term Monitoring	SHT 40	30 year		0	0	0	0	0	0	0	120,000	0	0,000.00	120,000	4,653.43	139,603
Environmental Impact Statement	SHT 41	1 ea		0	0	0	0	0	0	0	1,500,000	0	1,500,000.00	1,500,000	1,745,037.00	1,745,038

SUBTOTAL

19,390,605 336,000 37,171,391 4,724,584 2,928,874 1,232,025 3,150,284 8,001,297 142,360 77,805,420

PROJECT: Atlas Option I RR Transportation DATE: 88-Dec-93

CLIENT: ATLAS CORP.

JOB NO.: 88-57-10

LOCATION: North Park

TIME: 04:35 PM

ESTIMATOR: AGS

88-Dec-93

04:35 PM

AGS

WAGE RATE TABLE

C	D	E	F	G	H	I	J	K	L	M	N	O		P		Q	R
												PREMIERE ROYALTY	BASE ROYALTY	PREMIERE ROYALTY	BASE ROYALTY		
*****MOBILE SITE RATES*****																	
DESCRIPTION	MULTIPLIER	CLASS	BASE WAGE	TRAVEL PRICES		CARRYING CHARGES		STRAIGHT ROYALTY		PREMIERE ROYALTY		AFC ROYALTY					
				ALL	OTHER	Y'AGE	INS	HEALTH	SER & TRAVEL	BASE	ROYALTY	BASE	ROYALTY				
72 FIELD FORWARD	1.00		\$18.30			7.00%	\$1.99	\$0.00	\$18.30	\$13.75	\$27.45	\$27.45	\$31.93				
73 MECHANIC	1.00		\$17.00			7.00%	\$1.99	\$0.00	\$17.00	\$12.21	\$25.50	\$25.50	\$29.66				
74 MECHANIC BELTER	1.00		\$13.00			7.00%	\$1.99	\$0.00	\$13.00	\$17.45	\$19.50	\$19.50	\$22.60				
75 KEY OPERATOR	1.00		\$17.70			7.00%	\$1.99	\$0.00	\$17.70	\$23.04	\$26.55	\$26.55	\$30.00				
76 LOCAL OPERATOR	1.00		\$17.70			7.00%	\$1.99	\$0.00	\$17.70	\$23.04	\$26.55	\$26.55	\$30.00				
77 OILER	1.00		\$13.00			7.00%	\$1.99	\$0.00	\$13.00	\$17.45	\$19.50	\$19.50	\$22.60				
78 KEY LABORER	1.00		\$13.00			7.00%	\$1.99	\$0.00	\$13.00	\$17.45	\$19.50	\$19.50	\$22.60				
79 LOCAL LABORER	1.00		\$13.00			7.00%	\$1.99	\$0.00	\$13.00	\$17.45	\$19.50	\$19.50	\$22.60				
80 PIPEFITTER	1.00		\$13.00			7.00%	\$1.99	\$0.00	\$13.00	\$17.45	\$19.50	\$19.50	\$22.60				
81 ELECTRICIAN	1.00		\$17.00			7.00%	\$1.99	\$0.00	\$17.00	\$22.21	\$25.50	\$25.50	\$29.66				
82 CARPENTER FIB.	1.00					7.00%	\$1.99	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00				
83 CARPENTER	1.00					7.00%	\$1.99	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00				
84 CEMENT MIXERS	1.00					7.00%	\$1.99	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00				
85 TRANSISTERS	1.00		\$15.00			7.00%	\$1.99	\$0.00	\$15.00	\$19.83	\$22.50	\$22.50	\$26.17				
*****FULL TIME RENT*****																	
86 PROJECT MANAGER	1.00		\$32.00			7.00%	\$1.99	\$0.00	\$32.00	\$41.40	\$48.00	\$48.00	\$56.00				
87 SUPERVISOR	1.00	S3	\$27.76			7.00%	\$1.99	\$1.25	\$27.76	\$36.59	\$42.00	\$42.00	\$48.00				
88 PROJ. SUPERVISOR	1.00	S3	\$25.96			7.00%	\$1.99	\$1.25	\$25.96	\$34.42	\$39.00	\$39.00	\$44.00				
89 PROJ. ENGINEER	1.00	S3	\$23.00			7.00%	\$1.99	\$1.25	\$23.00	\$30.56	\$34.00	\$34.00	\$38.00				
90 PROJ. OFFICER	1.00	S3	\$21.63			7.00%	\$1.99	\$1.25	\$21.63	\$28.22	\$31.00	\$31.00	\$35.00				
91 CHEMIST	1.00	S3	\$21.63			7.00%	\$1.99	\$1.25	\$21.63	\$28.22	\$31.00	\$31.00	\$35.00				
*****FULL TIME RENT*****																	
92 PROJ. TECHNICIAN	1.00	S3	\$20.19			7.00%	\$1.99	\$0.00	\$20.19	\$26.49	\$29.00	\$29.00	\$32.00				
93 PROJ. TECH. ENG.	1.00	S3	\$20.19			7.00%	\$1.99	\$1.25	\$20.19	\$26.49	\$29.00	\$29.00	\$32.00				
94 PROJ. TECH. TECH.	1.00	S3	\$18.27			7.00%	\$1.99	\$1.25	\$18.27	\$23.10	\$25.00	\$25.00	\$28.00				
95 PROJ. TECH. TECH.	1.00	S3				7.00%	\$1.99	\$1.25	\$18.27	\$23.10	\$25.00	\$25.00	\$28.00				
*****FULL TIME RENT*****																	
100 PROJ. MANAGER	1.00		\$9.50			7.00%	\$1.99	\$0.00	\$9.50	\$13.29	\$14.25	\$14.25	\$16.45				
101 OFFICE MANAGER	1.00		\$8.50			7.00%	\$1.99	\$0.00	\$8.50	\$12.10	\$13.15	\$13.15	\$15.35				
102 CLERK	1.00					7.00%	\$1.99	\$0.00	\$8.50	\$12.10	\$13.15	\$13.15	\$15.35				
103						7.00%	\$1.99	\$0.00	\$8.50	\$12.10	\$13.15	\$13.15	\$15.35				

PROJECT: Atlas Option 1 RR Transportation DATE: 08-Dec-93
 CLIENT: ATLAS CORP. TIME: 04:35 PM
 JOB NO.: 08-67-10 ESTIMATE: AGS
 LOCATION: Mead Utah

8.253

USE TAX RATE *****

08-Dec-93

08-Dec-93

SEP 4 OF SEP 41

HOURLY FUEL RATE IS BASED
 UPON PAVING \$1.00 PER GALLON

EQUIPMENT ADJUSTMENT FACTORS:
 MONTHLY 1.00
 WEEKLY 1.44
 DAILY 1.81

EQUIPMENT RENTAL RATES

BASED ON OPERATING 176 HOURS PER MONTH

DESCRIPTION	TYPE	MONTHLY RENTAL	USE TAX	HOURLY FUEL RATE	HOURLY REPAIRS RATE	PERIOD ADJUSTMENT FACTOR	APPLIED
***** INTERNAL EQUIPMENT *****							
121			1.00	\$0.00	\$0.00	1.00	0.00
122			1.00	\$0.00	\$0.00	1.00	0.00
123			1.00	\$0.00	\$0.00	1.00	0.00
124			1.00	\$0.00	\$0.00	1.00	0.00
***** INTERNAL EQUIPMENT *****							
125 CASE 500 LBR/HR	LOADER/BACKHOE	\$2,000	1.00	\$12.30	\$3.00	1.00	1.00
127 CAT 215 DR	BACKHOE		1.00	\$0.00	\$4.00	1.00	0.00
128 CAT 215 DR	W/THIN BACKHOE		1.00	\$0.00	\$4.25	1.00	0.00
129 CAT 215 DR	BACKHOE	\$9,000	1.00	\$55.36	\$6.00	1.00	1.00
130 CAT 245 DR	BACKHOE		1.00	\$0.00	\$11.00	1.00	0.00
131			1.00	\$0.00	\$4.00	1.00	0.00
132 CAT 336 FEL	FEL		1.00	\$0.00	\$5.00	1.00	0.00
133 CAT 360 FEL	FEL	\$16,255	1.00	\$100.04	\$5.00	1.00	1.00
134 CAT 366 FEL	FEL	\$7,650	1.00	\$47.05	\$7.00	1.00	1.00
135 CAT 363 FEL/H	FEL/TRACE	\$7,390	1.00	\$45.45	\$6.00	1.00	1.00
136			1.00	\$0.00	\$4.00	1.00	0.00
137 CAT 05 DR	DOZER		1.00	\$0.00	\$4.50	1.00	0.00
138 CAT 06 DR	DOZER		1.00	\$0.00	\$4.50	1.00	0.00
139 CAT 06 DR/LC	DOZER/LCP		1.00	\$0.00	\$4.50	1.00	0.00
140 CAT 07 DR	DOZER		1.00	\$0.00	\$5.25	1.00	0.00
141 CAT 08 DR	DOZER	\$11,590	1.00	\$71.29	\$11.00	1.00	1.00
142 CAT 09 DR	DOZER	\$14,515	1.00	\$89.28	\$16.00	1.00	1.00
143			1.00	\$0.00	\$6.50	1.00	0.00
144 CAT 14 GR	GRADER	\$8,410	1.00	\$51.73	\$6.00	1.00	1.00
145 CAT 16 GR	GRADER	\$13,730	1.00	\$84.45	\$8.00	1.00	1.00
146			1.00	\$0.00	\$4.00	1.00	0.00
147 CAT 563 VIB COMP	COMPACTOR	\$4,150	1.00	\$25.52	\$5.00	1.00	0.00
148 BOMAG WALK BEHND	COMPACTOR		1.00	\$0.00	\$2.00	1.00	0.00
149 CAT 0.5 COMP	COMPACTOR	10000	1.00	\$66.43	\$10.00	1.00	1.00
150			1.00	\$0.00	\$8.75	1.00	0.00
151 CAT 615 SCPR	SCARPER/LEV		1.00	\$0.00	\$14.75	1.00	0.00
152 CAT 631 SCPR	SCARPER/SINGLE	11070	1.00	\$64.99	\$17.75	1.00	1.00
153 CAT 637 SCPR/T	SCARPER/TRI	\$14,000	1.00	\$86.11	\$17.75	1.00	1.00
154 CAT 637 SCPR/T	SCARPER/TRI	\$22,210	1.00	\$136.60	\$33.75	1.00	1.00
155			1.00	\$25.22	\$4.00	1.00	1.00
156 WATER TRUCK	MISC. EQUIPMENT	\$4,100	1.00	\$0.00	\$0.00	1.00	0.00
157 TAMER DUMP TRUCK	MISC. EQUIPMENT	\$8,000	1.00	\$54.13	\$0.00	1.00	0.00
158 EDD DUMP TRUCK	MISC. EQUIPMENT		1.00	\$0.00	\$2.00	1.00	0.00
159 350 CTR COMPRESSION	MISC. EQUIPMENT		1.00	\$0.00	\$4.00	1.00	0.00
160 65 TON CRANE	MISC. EQUIPMENT		1.00	\$0.00	\$5.00	1.00	0.00
161 BAKER TANK RENTAL	MISC. EQUIPMENT	6300	1.00	\$0.00	\$0.00	1.00	0.00
162 BAKER MASON	MISC. EQUIPMENT	000	1.00	\$30.75	\$0.75	1.00	1.00
163 PICKUP	MISC. EQUIPMENT		1.00	\$2.46	\$1.50	1.00	1.00

PROJECT: Atlas Option 1 RR Transportation Data, 08-Dec-93, SHT 5 OF SHT 41
 CLIENT: ATLAS CORP.
 JOB NO.: 88-47-18
 LOCATION: Road Wash
 TIME: 04:35 PM
 ESTIMATOR: AGS
 SALES TAX RATE: 6.00%

SUMMARY OF MATERIAL AND SUBCONTRACT PRICES
 BASED ON CURRENT ESTIMATE

DESCRIPTION	QTY	UNIT	QUOTED PRICE	SALES TAX	UNIT PRICE WITH TAX	TOTAL PRICE
PERMANENT MATERIAL PRICES						
349 RIP RAP (FOR PIT)	37,500	TS	\$6.16	1.06	\$6.53	\$244,875.00
350 RIP RAP TRANSPORTATION	37,500	TS	\$3.00	1.06	\$3.18	\$119,250.00
351 ROCK WASH (FOR PIT)	131,000	TS	\$8.97	1.06	\$9.51	\$1,245,810.00
352 ROCK WASH TRANSPORTATION	131,000	TS	\$3.00	1.06	\$3.18	\$416,820.00
353 CRUSHED STONE (FOR SPTS)	4,000	TS	\$6.53	1.06	\$7.15	\$28,600.00
354 PUGHASE LAND	640	AC	\$500.00	1.06	\$516.00	\$330,400.00
355 FILTER MATERIAL (FOR PIT)	71,000	TS	\$6.40	1.06	\$6.87	\$487,970.00
356 Dry Pumps and River	10	ea	\$1,000.00	1.06	\$1,060.00	\$10,600.00
357 FILTER MATERIAL TRANSPORTATION	71,000	TS	\$3.00	1.06	\$3.18	\$225,780.00
MAJOR SUPPLY PRICES:						
360 ELECTRICAL	13,100,000	KWH	\$8.00	1.06	\$8.48	\$111,108.00
361				1.06	\$8.00	\$8.00
362				1.06	\$8.00	\$8.00
SUBCONTRACT PRICES:						
365 INSTALL TRACK AND BALLAST	18,500	LF	\$45.00	1.06	\$45.99	\$850,780.00
366 CONSTRUCTION OF CONCRETE LOAD HOPPER	1	EA	\$50,000.00	1.06	\$50,500.00	\$50,500.00
367 INSTALL COVERED CONVEYOR	2,000	LF	\$550.00	1.06	\$555.00	\$1,110,000.00
368 CONSTRUCT RAIL LOADING FACILITY	1	EA	\$300,000.00	1.06	\$303,000.00	\$303,000.00
369 CONSTRUCT RAIL UNLOADING FACILITY	1	EA	\$400,000.00	1.06	\$404,000.00	\$404,000.00
370 FENCE INSTALLATION	15,000	LF	\$12.00	1.06	\$12.19	\$182,850.00
371 RETROGRADE AND NOISE	340	AC	\$500.00	1.06	\$505.00	\$171,700.00
372 INSTALL MONITOR WELLS	2,000	LF	\$25.00	1.06	\$25.50	\$51,000.00
373 INSTALL PICOCTERS	1,000	LF	\$12.00	1.06	\$12.19	\$12,190.00
374 INSTALL SETTLEMENT MARKERS	15	EA	\$300.00	1.06	\$303.00	\$4,545.00
375 IRRIGATION	340	AC	\$500.00	1.06	\$505.00	\$171,700.00
376 HOPE 6 INCH WATER LINE (SHT 21)	111,916	LF	\$11.00	1.06	\$11.61	\$1,298,000.00
377 PUMP STATIONS	3	EA	\$45,000.00	1.06	\$45,500.00	\$136,500.00
378 SURGE TANK	200,000	GAL	\$1.00	1.06	\$1.06	\$212,000.00
379 Well Installation	875	LF	\$29.00	1.06	\$29.86	\$26,122.50

PROJECT: Atlas Option 1 RR Transportation DATE: 00-Dec-93
 CLIENT: ATLAS CORP.
 JOB NO.: 88-67-10 TIME: 04:15 PM
 LOCATION: Moab Utah ESTIMATOR: ACS

SHT 6 OF SHT 41

FIXED COST JOBSITE OVERHEADS

DESCRIPTION	REQUIRED Y OR N	REQUIRED QUANTITY	UNIT RATE	I LABOR	J INT EQUIP	K EXT EQUIP	L FUEL	M REPAIRS	N SUPPLIES	O SUBS	P TRAVEL	Q TOTALS
*****SITE UTILITY MOORUPS*****												
185 ELECTRIC			1200									
186 WATER (NO METER VLT OR REYLE PRVNTN)			500									
187 SEWER												
188 GAS												
189 TELEPHONE			350									
190												
*****INITIAL HEALTH AND SAFETY COSTS*****												
192 PHYSICALS	Y	300	500									
193 H & S TRAINING-OPERATORS			1,422						150000			150000
194 H & S TRAINING-LABORERS			1,190									
195 TRAINING CLASS COSTS-EXTERNAL			700									
196 TRAINING CLASS COSTS-INTERNAL			450									
197 INITIAL H & S PURCHASES			350									
198												
199												
200												
*****INSURANCE AND TAXES*****												
202 CLIENT NAMED AS ADDITIONAL INURED			8750									
203 BUILDERS RISK INSURANCE (0.60 % OF REV.)												
204 POLLUTION LIABILITY INSURANCE												
205 SPECIAL TAXES												
206												
207												
*****SITE OFFICE EQUIPMENT*****												
209 OFFICE FURNITURE (PER UNIT)	Y	15	75									
210 FAX MACHINE	Y	1	400						1125			1125
211 COMPUTER	Y	1	3000						400			400
212 COMPUTER SOFTWARE	Y	1	4500						3000			3000
213 OFFICE BUILDING (COMPLT)	Y	1	20000						4500			4500
214									20000			20000
*****MISCELLANEOUS COSTS*****												
216 PERMITS			100									
217 ROYALTIES ON PROCESSES												
218 TEMPORARY FENCING			1.5									
219 MOVING EXPENSES (LONG TERM PROJECT)												
220 PROJECT SIGN			150									
221												
222												
223												
224												
225												
TOTAL FIXED OVERHEADS												
				0	0	0	0	0	179,025	0	0	179,025

PROJECT: Atlas Option I RR Transportation DATA: 08-Dec-93 SHY 7 OF SHY 41
 CLIENT: ATLAS CORP.
 JOB NO: 88-67-10 TIME: 04:15 PM
 LOCATION: Road Utah

ESTIMATOR: AGS PROJECT DURATION: 624.0 WEEKS
 VARIABLE COST JOBSITE OVERHEADS

DESCRIPTION	REQUIRED Y OR N	REQUIRED QUANTITY	DURATION	UNIT RATE	I TOTAL LABOR	J WEEKLY LABOR	K WEEKLY INT EQUIP	L WEEKLY EXT EQUIP	M WEEKLY FUEL	N WEEKLY REPAIRS	O WEEKLY SUPPLIES	P WEEKLY SURF	Q WEEKLY TRAVEL	Q WEEKLY TOTALS
*****FULL TIME EXEMPT*****														
246 PROJECT MANAGER	Y	1	624	\$1,659	1,035,216	1,659							0	1,659
247 SUPERINTENDENT			624	\$1,413	0	0							0	0
248 PROJ. SUPERVISOR			624	\$1,327	0	0							0	0
249 PROJ. ENGINEER	Y	2	624	\$1,100	1,402,624	2,376							100	2,476
250 H&S OFFICER	Y	1	624	\$1,119	690,256	1,119							50	1,169
251 CHEMIST			624	\$1,119	0	0							0	0
252			624										0	0
253			624										0	0
*****FULL TIME NON-EXEMPT*****														
256 H&S TECHNICIAN			624	\$1,292	0	0							0	0
257 AST. PROJ. ENG.			624	\$1,292	0	0							0	0
258 ENGINEER TECH.			624	\$1,177	0	0							0	0
259			624										0	0
260			624										0	0
*****HOURLY SITE HIRES*****														
263 FIELD FORMAN			624	\$1,269	0	0							0	0
264 MECHANIC			624	\$1,185	0	0		0					0	0
265 MECHANIC HELPER			624	\$925	0	0							0	0
266 OFFICE MANAGER	Y	1	624	\$697	434,928	697							0	697
267 CLERK			624	\$632	0	0							0	0
268			624										0	0
269			624										0	0
*****INTERNAL EQUIPMENT RENTAL*****														
272 PRESSURE WASHER (INTERNAL RATE)			624	\$30			0							0
273 SAFETY EQUIPMENT (AIR SAMPLING/OVA)			624	\$130			0							0
274			624				0							0
275			624				0							0
*****INTERNAL EQUIPMENT RENTAL*****														
278 OFFICE TRAILER			624	\$100			0							0
279 TOOL TRAILER			624	\$75			0							0
280 CHANGE TRAILER			624	\$100			0							0
281 DECONTAMINATION TRAILER			624	\$225			0							0
282 LAB TRAILER			624	\$100			0							0
283 FUEL TRUCK			624	\$221			0							0
284 G-PASH TRUCK			624				0							0
285 MISC. EQUIP			624	\$75			0							0
286 SITE SCALES			624	\$500			0							0
287 PROJECT VEHICLES			624	\$150			0	0	0					0
288 STREET SWEEPER			624	\$390			0							0

289			624		0						
290			624		0						
*****SUPPLIES*****											
293 OFFICE SUPPLIES	Y	1	624	\$30							
294 SURVEY SUPPLIES	Y	1	624	\$50							
295 SAFETY SUPPLIES			624	\$30							
296 COPY MACHINE	Y	1	624	\$40							
297 PHONE SERVICE	Y	1	624	\$50							
298 UTILITY SERVICES			624	\$40							
299 POTABLE WATER			624	\$40							
300 SANITARY FACILITIES			624	\$30							
301 SMALL TOOLS			624	\$150							
302 JOBSITE PHOTOS	Y	1	624	\$5							
303 ON-SITE QC TESTING EQUIP.			624	\$200							
304 ON SITE LAB SUPPLIES			624								
305 DECONTAMINATION SUPPLIES	Y	1	624	15							
306			624								
307			624								
308			624								
309			624								
310			624								
*****SUBCONTRACTS*****											
313 SURVEY CREW (BASED ON \$140/HR FOR 40 HRS)			624	\$5,600							
314 SECURITY (FULL TIME AT \$12/HR/HR)			624	\$2,016							
315			624								
316			624								
317			624								
*****TRAVEL COSTS*****											
320 TRAVEL, EXECUTIVE			624	\$250							
321 KEY OPERATOR ADJUSTMENT			624	\$0							
322 KEY LABORER ADJUSTMENT			624	\$0							
323			624								

VARIABLE JOBSITE OVERHEADS (WEEKLY)				5,851	0	0	0	0	0	150	6,001
VARIABLE JOBSITE OVERHEADS (TOTAL)		624 WEEKS		3,651,024	0	0	0	0	0	93,600	3,744,624

PROJECT: Atlas Option 1 RR Transportation
 CLIENT: ATLAS CORP.
 JOB NO: 88-67-10
 LOCATION: Moab Utah
 ITEM DESCRIPTION: MOBILIZATION, DEMOBILIZATION, DECONTAMINATION

ESTIMATOR: AGS
 DATE: 88-Dec-93
 SHT 8 OF SHT 41
 TIME: 04:35 PM
 JOB QUANTITY: 1 EA

ESTIMATOR NOTES AND ASSUMPTIONS:

ITEM DESCRIPTION QTY MILES SEA TOTAL

LOCAL LOADS 206 20 50 10300
 REGIONAL LOADS 150 175 600 90000
 SPECIAL LOADS 50 1200 1500 75000

MOBILIZATION 406 175300
 DEMOB - RAIL CARS 356 100300

TOTAL MOB/DEMOB 762 275600

DECONTAMINATION, ASSUME TWO LABORERS AT 2 HOURS PER EACH

DURATION = 1,524 HOURS

DESCRIPTION	QUANTITY	UNIT	LABOR	INT EQUIP	KEY EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT COST
LOCAL LABORER	2.00	EA	36.99									0.00	

CREW		36.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	HOURLY CREW COSTS	36.99
SUBTOTAL	1,524 HOURS	56,374	0	0	0	0	0	0	0	0	0	56,374	56,374.00

MATERIALS:

MOBILIZATION/DEMOB	762 EA								275,600	275,600
PERSONNEL MOBILIZATION	15 EA								75,000	75,000
DECONTAMINATION SUPPLIES	1 EA						50,000			50,000
										0
										0
										0
										0
										0
										0
										0
										0

TOTALS		56,374	0	0	0	50,000	0	0	350,600	0	456,974	456,974.00
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PROJECT: Atlas Option 1 RR Transportation
 CLIENT: ATLAS CORP.
 JOB NO: 88-67-18
 LOCATION: Mead Utah
 ITEM DESCRIPTION: CONSTRUCT NEW RAIL AND EMBANKMENT

ESTIMATOR: AGS
 DATE: 88-Dec-93
 SHEET: 02 OF 41
 TIME: 04.35 PM
 JOB QUANTITY: 10,500 LF

ESTIMATOR NOTES AND ASSUMPTIONS:

-ASSUME CONSTRUCTION OF 3.5 MILES OF RAILWAY = 18480 LF
 -RAIL AND BALLAST PLACEMENT TO BE DONE BY RIO GRANDE
 -ASSUME CROSS SECTION OF EMBANKMENT AT 51 SF PER FOOT
 -QUANTITY = 35,000 CY
 -ASSUME 50,000 CY IN GRADE LEVELING
 -TOTAL ASSUMED QUANTITY = 85000 CY
 -USE SCRAPER FLEET OF 3 AT AVERAGE HAUL OF 1200 FT
 -PRODUCTION = 650 CY/HR = 85000 CY / 650 CY/HR = 130.769230 HOURS
 -ADD MOBILIZATION SETUP AND TEARDOWN OF 1 WEEK 50 HOURS

DESCRIPTION	QUANTITY	UNIT	LABOR	130.769230 HOURS		FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT COST
				INT	EXT								
				EQUIP	EQUIP								
CAT 621 SCPR	3.00	EA	73.82		314.97	44.25	20.50				0.00		
CAT 89 D2R	1.00	EA	24.61		89.28	16.00	10.00				0.00		
CAT 88 D2R	1.00	EA	24.61		71.29	11.00	7.50				0.00		
CAT 14 GDR	1.00	EA	24.61		51.73	6.00	6.50				0.00		
CAT 825 COMP	1.00	EA	24.61		66.43	10.00	6.00				0.00		
WATER WAGON	1.00	EA	24.61		30.75	0.75	0.75				0.00		
PICKUP	1.00	EA	20.61		2.46	1.50	1.00				0.00		
FIELD FOREMAN	1	EA	25.387314								0		
LOCAL LABORER	2	EA	36.990918								0		

CREW												HOURLY	
												CREW COSTS	
SUBTOTAL	101 HOURS		51,310	0	114,772	17,625	12,330	0	0	0	0	196,045	10.60

MATERIALS:

INSTALL TRACK AND BALLAST	10,500 LF								832,500		832,500		
												0	
												0	
												0	
												0	
												0	
												0	
												0	
												0	
												0	
												0	

TOTALS 51,310 0 114,772 17,625 12,330 0 0 832,500 0 1,028,545 55.60

PROJECT: Atlas Option 1 RR Transportation
 CLIENT: ATLAS CORP.
 JOB NO: 88-67-18
 LOCATION: Mead Beach
 ITEM DESCRIPTION: CONSTRUCT LOADING FACILITY
 ESTIMATE: AGS
 DATE: 88-Dec-83
 TIME: 04:35 PM
 JOB QUANTITY: 1 EA

ESTIMATE NOTES AND ASSUMPTIONS:
 -ASSUME CONSTRUCTION OF 2400 LF CONVEYOR SYSTEM TO SIDING TRACKS.
 -ASSUME CONSTRUCTING A FEED HOPPER STRUCTURE FOR LOADING BY DOZCA
 -ASSUME USING A SILO LOADING FACILITY AT THE SIDING WITH 1500 TON CAPACITY

DESCRIPTION	QUANTITY	UNIT	LABOR	INT	EQUIP	EST	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT COST

DURATION = 8000S

CWEN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MATERIALS:														
CONSTRUCTION OF CONCRETE LOA	1	EA								50,000			50,000	
INSTALL COVERED CONVEYOR	2,400	LF								1,300,000			1,300,000	
CONSTRUCT RAIL LOADING FACIL	1	EA								300,000			300,000	
CONSTRUCT RAIL UNLOADING FAC	1	EA								400,000			400,000	
TOTALS	0		0	0	0	0	0	0	0	0	0	0	2,850,000	2,850,000.00

PROJECT: Atlas Option 1 RR Transportation ESTIMATOR: ACS SHT 12 OF SHT 41
 CLIENT: ATLAS CORP.
 JOB NO: 88-67-10 DATE: 88-Dec-93 TIME: 04:35 PM
 LOCATION: Moab Utah
 ITEM DESCRIPTION: EXCAVATE, LOAD TAILINGS JOB QUANTITY: *****CY

ESTIMATOR NOTES AND ASSUMPTIONS:

-ASSUME PRODUCTION BASED ON LOADING FACILITY AND TRANSPORTATION CAPACITY

-ASSUME 25 CONDOLA'S AT 90 TMS PER EACH & TWO TRIPS PER DAY

-ASSUME AVERAGE CONVERSION OF TAILING AT 1.4 TONS PER CY

-PRODUCTION = 4500 TMS PER DAY = 3461 CY PER DAY

-DURATION = 7800000 CY/

3461 CY/DAY = 2253.68390 DAYS OR = 6.17447645 YEARS AT 7 DAYS PER WEEK ALL YEAR ROUND

7,800,000

20 GAL PER HOUR PER EACH

-FUEL COSTS FOR DIESEL AT

0.0

3640 HR/YR

8.44001502 YEARS AT 5 DAYS PER WEEK ALL YEAR ROUND

2640 HR/YR

-ASSUME USING 1-637, 2-00, 1-WATER TRUCK AND 1 GRADER FOR EXCAVATION

-ASSUME USING 3 CONVEYOR AND LOADING OPERATORS AND 3-LABORERS

DURATION = 22,537 HOURS

DESCRIPTION	QUANTITY	UNIT	LABOR	INT EQUIP	EXT EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT COST
CAT 637 SCPRIP	1.00	EA	24.61		136.60	23.75	17.50				0.00		
CAT 14 GDR	1.00	EA			51.73	6.00	6.50						
CAT D8 DIR	2.00	EA	49.23		142.50	22.00	15.00				0.00		
PICKUP	2.00	EA			4.92	3.00	2.00						
CAT 966 FEL	1.00	EA	24.61		47.05	7.00	6.00				0.00		
LOCAL OPERATOR	3.00	EA	73.82								0.00		
LOCAL LABORER	3.00	EA	55.49								0.00		

CREW			227.74	0.00	302.88	61.75	47.00	0.00	0.00	0.00	0.00	HOWEL7 CREW COSTS	719.37
SUBTOTAL	22,537 HOURS		5,132,452	0	8,620,905	1,391,650	1,059,231	0	0	0	0	16,212,238	2.08

MATERIALS:

-FUEL	901,474 GAL					721,179						721,179	
												0	
												0	
												0	
												0	
												0	
												0	
												0	
												0	
												0	
												0	

TOTALS			5,132,452	0	8,620,905	2,112,829	1,059,231	0	0	0	0	16,933,417	2.17
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[illegible]

ESTABLISH WORKS AND ASSIGNMENTS.
ASSIGNING OFF-LOADING OPER TOP CONSULAS WITH MODIFIED BACTERIE
ASSIGNING MATERIALS LOADED OUT OF STOCKPILE BY SCRAPERS WITH OTHER ASSISTANCE
ASSIGNING USING 2-4-1, 1-DB, CHANNEL, WATER TRANCE AND COMPACTOR, BACTERIE OPERATOR AND FOREMAN

[illegible]

TOTALS	0,733,248	0,965,778	1,397,294	969,091	0	0	0	0	16,775,603	2.18
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PROJECT: Atlas Option I RA Transportation
 CLIENT: ATLAS CORP.
 JOB NO: 88-67-18
 LOCATION: Moab Utah
 ITEM DESCRIPTION: UTILITY RELOCATION AND INSTALLATION

ESTIMATOR: ACS
 DATE: 88-Dec-93
 SHEET 14 OF SHEET 41
 TIME: 04:35 PM
 JOB QUANTITY: 1 PA

ESTIMATOR NOTES AND ASSUMPTIONS:

-RELOCATE POWER POLES 35000
 -SERVICE TO LOADING HOPPER 25000
 -SERVICE TO LOADING FACILITY 45000
 -SERVICE TO OFF LOADING FACILITY 35000

140000

DESCRIPTION	QUANTITY	UNIT	LABOR	DURATION -								TOTAL	HOURS	UNIT COST
				INT EQUIP	EXT EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL			
CREW			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	BOBLY CREW COSTS		0.00
SUBTOTAL	0 HOURS		0	0	0	0	0	0	0	0	0	0		0.00
MATERIALS:														
ELECTRICAL	*****KWH											1,000,000		
-UTILITY SERVICES	1 EA									100,000		100,000		
												0		
												0		
												0		
												0		
												0		
												0		
												0		
												0		
												0		
												0		
TOTALS			0	0	0	0	0	1,000,000	0	100,000	0	1,100,000		1,100,000.00

PROJECT: Atlas Option 1 RR Transportation
 CLIENT: ATLAS CORP.
 JOB NO: 88-67-10
 LOCATION: Wash Utah
 ITEM DESCRIPTION: SITE RECLAMATION

ESTIMATOR: AGS
 DATE: 00-Dec-93
 SHT 15 OF SHT 41
 TIME: 04:35 PM
 JOB QUANTITY: 340 AC

ESTIMATOR NOTES AND ASSUMPTIONS:

-ASSUME RECLAMATION OF 130 ACRES
 -ASSUME PLACEMENT OF SILTY SOILS FOR GROUND COVER AT 4 INCHES THICK
 -QUANTITY IS ASSUMED TO BE 69212 CY
 -USE 2 SCRAPERS AT COMBINED PRODUCTION OF 340 CY/HR AT 2000 FT HAUL
 -DURATION = 192.25555 HOURS

DURATION =												192 HOURS	
DESCRIPTION	QUANTITY	UNIT	LABOR	INT EQUIP	EXT EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT COST
CAT 437 SCPR/T	2.00	EA	89.21		273.20	47.50	35.00				0.00		
CAT 08 DGR	1.00	EA	24.61		71.29	11.00	7.50				0.00		
CAT 14 GDR	1.00	EA	24.61		51.73	6.00	6.50				0.00		
WATER TRUCK	1.00	EA	24.61		25.22	4.00	3.00				0.00		
LOCAL LABORER	1.00	EA	10.50								0.00		
FIELD FORMAN	1.00	EA	25.39								0.00		
PICKUP	1.00	EA			2.46	1.50	1.00						
CREW			166.92	0.00	423.90	70.00	53.00	0.00	0.00	0.00	0.00	MOONLY CREW COSTS	713.82
SUBTOTAL	192 HOURS		32,091	0	81,497	13,458	10,190	0	0	0	0	137,236	403.64
MATERIALS:													
2" LOGGED AND MULCH	340	AC							204,000			204,000	
IRRIGATION	340	AC							136,000			136,000	
												0	
												0	
												0	
												0	
												0	
												0	
												0	
												0	
												0	
												0	
												0	
TOTALS			32,091	0	81,497	13,458	10,190	0	0	340,000	0	477,236	1,403.64

PROJECT: Atlas Option 1 RR Transportation
 CLIENT: ATLAS CORP.
 JOB NO: 88-67-18
 LOCATION: Moab Utah
 ITEM DESCRIPTION: EXCAVATE OVERBURDEN REPOSITORY

ESTIMATOR: APC
 DATE: 00 Dec-93
 SBT 16 OF SBT 41
 TIME: 04:35 PM
 JOB QUANTITY: *****CY

ESTIMATOR NOTES AND ASSUMPTIONS:

-ASSUME USING 631 FLEET AT 2000 FOOT HAUL

-ASSUME PRODUCTION AT 1100 CY/HR

-DURATION = 5500000 / 1100 CY/HR = 5000 HOURS

5,500,00

DURATION = 5,000 HOURS

DESCRIPTION	QUANTITY	UNIT	LABOR	INT EQUIP	EXT EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT COST
CAT 631 SCPR	5.00	EA	123.04		524.95	73.75	47.50				0.00		
CAT 09 DSR	2.00	EA	49.21		178.56	32.00	20.00				0.00		
CAT 08 DSR	1.00	EA	24.61		71.29	11.00	7.50				0.00		
CAT 14 GDR	1.00	EA	24.61		51.73	6.00	6.50				0.00		
WATER WAGON	1.00	EA	24.61		38.75	8.75	8.75				0.00		
PICKUP	1.00	EA			2.46	1.50	1.00				0.00		
FIELD FORMAN	1.00	EA	25.39								0.00		
LOCAL LABORER	2	EA	36.996918								0		

CREW											HOURLY CREW COSTS	
		308.45	0.00	867.74	133.00	91.25	0.00	0.00	0.00	0.00		1,400.44
SUBTOTAL	5,000 HOURS	1,542,246	0	4,338,700	665,000	456,250	0	0	0	0	7,002,196	1.27

MATERIALS:

0
0
0
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0
0

TOTALS		1,542,246	0	4,338,700	665,000	456,250	0	0	0	0	7,002,196	1.27
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PROJECT: Atlas Option I RR Transportation
 CLIENT: ATLAS CORP.
 JOB NO: 88-67 10
 LOCATION: Moab Utah
 ITEM DESCRIPTION: SOIL ROCK MATRIX

ESTIMATOR: AGS
 DATE: 88-Dec-93
 SHT 11 OF SHT 41
 TIME: 04:35 PM
 JOB QUANTITY: 122,800 CY

ESTIMATOR NOTES AND ASSUMPTIONS:

-QUANTITY IS ASSUMED TO BE 61400 CY OF ROCK AND 61400 CY OF SOIL
 -ASSUME DELIVERY OF ROCK @ 1000 CY/DAY
 -DURATION = 61.4 DAYS OR 614 HOURS
 -INCLUDE CREW TO PLACE SOILS

DURATION = 614 HOURS

DESCRIPTION	QUANTITY	UNIT	LABOR	INT EQUIP	EXT EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT COST
CAT 631 SCPR	3.00	EA	73.82		314.97	44.25	28.50				0.00		
CAT 14 GDR	1.00	EA	24.61		51.73	6.00	6.50				0.00		
CAT 563 WID CORP	1.00	EA	24.61		25.52	5.00	4.00				0.00		
CAT 89 DCR	1.00	EA	24.61		89.28	16.00	10.00				0.00		
LOCAL LABORER	3.00	EA	55.49								0.00		
CAT 946 PEL	1.00	EA	24.61		47.05	7.00	6.00				0.00		
CAT 08 DCR	1	EA	24.607104		71.29	11	7.5				0		
WATER TRUCK	1	EA	24.607104		25.22	4	3				0		

CREW			276.95	0.00	625.06	93.25	65.50	0.00	0.00	0.00	0.00	MOBILITY CREW COSTS	1,060.76
SUBTOTAL	614 HOURS		170,047	0	383,787	57,256	40,217	0	0	0	0	651,307	5.30

MATERIALS:

ROCK ARMOR (FOB PIT)	92,100	YD							875,871			875,871	
ROCK ARMOR TRANSPORTATION	92,100	YD							292,878			292,878	
												0	
												0	
												0	
												0	
												0	
												0	
												0	
												0	

TOTALS 170,047 0 383,787 57,256 40,217 0 1,168,749 0 0 1,820,856 14.82

PROJECT: Atlas Option 1 RR Transportation
 CLIENT: ATLAS CORP.
 JOB NO: 88-67-10
 LOCATION: Mead Stab
 ITEM DESCRIPTION: ROCK ARMOR

ESTIMATOR: AGS
 DATE: 88-Dec-93
 SET 18 OF SET 41
 TIME: 04.35 PM
 JOB QUANTITY: 26,000 CY

ESTIMATOR NOTES AND ASSUMPTIONS:

-ASSUME CONVERSION AT 1.5 TMS PER CY
 -PLACE ROCK BY DOZER, LOADER AND TRACK LOADER
 -ASSUME DELIVER OF STONE AT 1000 CY/DAY = 1500 TR/DAY
 -TOTAL LOADS AT 23 TON PER LOAD = 45 TRUCKS PER DAY

-ASSUME SAME QUANTITY OF FILTER MATERIAL

DURATION = 520 HOURS

DESCRIPTION	QUANTITY	UNIT	LABOR	INT EQUIP	EXT EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT COST
CAT 966 TEL	1.00	EA	24.61		47.05	7.00	6.00				0.00		
CAT 98 DZR	1.00	EA	24.61		71.29	11.00	7.50				0.00		
CAT 963 PUL/T	1.00	EA	24.61		45.45	6.00	7.00				0.00		
LOCAL LABORER	2.00	EA	36.99								0.00		

CREW		110.01	0.00	163.79	24.00	20.50	0.00	0.00	0.00	0.00	HOURLY CREW COSTS	319.10
SUBTOTAL	520 HOURS	57,622	0	85,171	12,480	10,660	0	0	0	0	165,933	6.38

MATERIALS:

ROCK ARMOR (POB PIT)	39,000 TN								370,890		370,890	
ROCK ARMOR TRANSPORTATION	39,000 TN								124,020		124,020	
FILTER MATERIAL (POB PIT)	36,400 TN								250,060		250,060	
FILTER MATERIAL TRANSPORTATION	36,400 TN								115,752		115,752	
									0		0	
									0		0	
									0		0	
									0		0	
									0		0	
									0		0	
									0		0	

TOTALS		57,622	0	85,171	12,480	10,660	0	0	0	0	1,026,663	39.89
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PROJECT: Atlan Option 1 RR Transportation
 CLIENT: ATLAS CORP.
 JOB NO: 88-67-10
 LOCATION: Wash Blah
 ITEM DESCRIPTION: RIPRAP PLACEMENT

ESTIMATOR: AGS
 DATE: 88-Dec-93
 SET 19 OF SET 41
 TIME: 04:35 PM
 JOB QUANTITY: 25,000 CY

ESTIMATOR NOTES AND ASSUMPTIONS:

- ASSUME CONVERSION AT 1.5 TNS PER CY
- PLACE ROCK BY DOZER, LOADER AND TRACK LOADER
- ASSUME DELIVER OF STONE AT 1000 CY/DAY = 1500 TB/DAY
- TOTAL LOADS AT 23 TON PER LOAD = 65 TRUCKS PER DAY
- ASSUME PLACING RIPRAP IS DRAINAGE DITCHES AND CHANNELS
- ASSUME SAND THICKNESS OF FILTER LAYER

DURATION = 500 HOURS

DESCRIPTION	QUANTITY	UNIT	LABOR	INT EQUIP	EXT EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SURF	TRAVEL	TOTAL	UNIT COST
CAT 966 FEL	1.00	EA	24.61		47.05	7.00	6.00				0.00		
CAT 08 DZR	1.00	EA	24.61		71.29	11.00	7.50				0.00		
CAT 963 FEL/T	1.00	EA	24.61		45.45	6.00	7.00				0.00		
LOCAL LABORER	2.00	EA	36.99								0.00		

CREW		110.81	0.00	163.79	24.00	20.50	0.00	0.00	0.00	0.00	0.00	BOURLY CREW COSTS	319.10
SUBTOTAL	500 HOURS	55,406	0	81,895	12,000	10,250	0	0	0	0	0	159,551	6.38

MATERIALS:

RIP RAP (FOB PIT)	37,500 TN								244,875			244,875	
RIP RAP TRANSPORTATION	37,500 TN								119,250			119,250	
FILTER MATERIAL (FOB PIT)	35,000 TN								240,450			240,450	
FILTER MATERIAL TRANSPORTATI	35,000 TN								111,300			111,300	
												0	
												0	
												0	
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												0	
												0	
												0	
												0	

TOTALS		55,406	0	81,895	12,000	10,250	0	715,875	0	0	0	875,426	35.02
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ESTIMATOR:      AGE          SRT 26      OF      SRT 41
DATE:           08-Dec-93    TIME:         04:35 PM
                                JOB QUANTITY:       1 LS
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-CERTAIN DRAINAGE STRUCTURES WILL BE REQUIRED, FROM BOX CULVERT TO HEADWALLS.
-ASSUME AN ALLOWANCE TO 100,000 FOR ENTIRE PROJECT

DESCRIPTION	QUANTITY	UNIT	LABOR	DURATION *								TOTAL	HOURS	UNIT COST
				EQT EQUIP	EQT EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL			

CREW			\$.00	\$.00	\$.00	\$.00	\$.00	\$.00	\$.00	\$.00	\$.00	HOURLY CREW COSTS	\$.00	
SUBTOTAL	0 HOURS		0	0	0	0	0	0	0	0	0	0	0.00	
MATERIALS:														
-MISC STRUCTURES	1 LS									100,000		100,000	0	
												0		
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PROJECT: Atlas Option 1 RR Transportation
 CLIENT: ATLAS CORP.
 JOB NO: 88-67-18
 LOCATION: Redd Utah
 ITEM DESCRIPTION: COMPACT CONDITION CLAY LINER

ESTIMATOR: AGS
 DATE: 00-Dec-93
 SBT 21 OF SBT 41
 TIME: 04:35 PM
 JOB QUANTITY: 425,000 CT

ESTIMATOR NOTES AND ASSUMPTIONS:

-ASSUME OVERRECHARTING 3 FOOT OF LINER AND RECOMPACTING AND CONDITIONING.
 -USE SCRAPERS TO MOVE THE MATERIALS
 -INCLUDE AN ADDITIONAL D-9 FOR RIPPING OF ROCK
 -INCLUDE TWO COMPACTOR TO KEEP UP WITH COMPACTION EFFORTS
 -PRODUCTION AT 1100 CT/HR
 -DURATION = 425000 CT / 1100 CT/HR = 386.3636
 -ASSUME WATER AVAILABILITY ON SITE FROM STORAGE SURGE TANK FOR DUST CONTROL AND COMPACTION NEEDS
 -ASSUME HAUL DISTANCE OF 1200 FT

DURATION = 386 HOURS

DESCRIPTION	QUANTITY	UNIT	LABOR	INT EQUIP	EXT EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT COST
CAT D9 DCR	2.00	EA	49.21		170.56	32.00	20.00				0.00		
CAT D8 DCR	1.00	EA	24.61		71.29	11.00	7.50				0.00		
CAT 14 GDR	1.00	EA	24.61		51.73	6.00	6.50				0.00		
CAT 875 COMP	2.00	EA	49.21		132.06	20.00	12.00				0.00		
CAT 631 SCPR	5.00	EA	123.04		524.95	73.75	47.50				0.00		
WATER WAGON	2.00	EA	49.21		77.50	17.50	17.50				0.00		
LOCAL LABORER	3.00	EA	55.49								0.00		
FIELD FOREMAN	2	EA	50.774628								0		
PICKUP	2	EA			4.92	3	2						

CREW			426.15	0.00	1041.81	163.25	113.00	0.00	0.00	0.00	0.00	HOURLY CREW COSTS	1,744.21
SUBTOTAL	386 HOURS		164,650	0	402,510	63,074	43,659	0	0	0	0	673,901	1.59

MATERIALS:

-PRESET COMPACTION	425,000		55,250.00		85,000.00							0	
												140,250	
												0	
												0	
												0	
												0	
												0	
												0	
												0	
												0	

TOTALS			219,900	0	487,510	63,074	43,659	0	0	0	0	814,151	1.92
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PROJECT: Atlas Optics I RR Transportation
 CLIENT: ATLAS CORP.
 JOB NO: 88-67-18
 LOCATION: Moab Utah
 ITEM DESCRIPTION: PLACE RADON CAP

ESTIMATOR: AGS
 DATE: 88-Dec-93
 SHEET 22 OF SHEET 41
 TIME: 04:35 PM
 JOB (QUANTITY): 210,000 CT

ESTIMATOR NOTES AND ASSUMPTIONS:

-ASSUME PLACEMENT OF TO RADON CAP AT 1 FOOT OF MATERIAL
 USE SCRAPERS TO MOVE THE MATERIALS
 -INCLUDE AN ADDITIONAL D-9 FOR RIPPING OF ROCK

-PRODUCTION AT 1100 CT/HR

-DURATION = 210000 CT / 1100 CT/HR = 190.909090

-ASSUME WATER AVAILABLE ON SITE FOR DUST CONTROL AND COMPACTION NEEDS

-ASSUME HAUL DISTANCE OF 1200 FT

DURATION = 191 HOURS

DESCRIPTION	QUANTITY	UNIT	LABOR	INT EQUIP	EXT EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT COST
CAT D9 DEX	1.00	EA	24.61		89.28	16.00	10.00				0.00		
CAT D8 DEX	1.00	EA	24.61		71.29	11.00	7.50				0.00		
CAT 14 GDR	1.00	EA	24.61		51.73	6.00	6.50				0.00		
CAT 825 COMP	2.00	EA	49.21		132.86	20.00	12.00				0.00		
CAT 631 SCPR	5.00	EA	123.04		524.95	73.75	47.50				0.00		
WATER WAGON	2.00	EA	49.21		77.50	17.50	17.50				0.00		
LOCAL LABORER	3.00	EA	55.49								0.00		
FIELD FOREMAN	2.00	EA	50.776628								0.00		
PICKUP	2.00	EA			4.92	3	2				0		

CREW			401.55	0.00	952.53	147.25	103.00	0.00	0.00	0.00	0.00	HOURLY CREW COSTS	1,604.33
SUBTOTAL	191 HOURS		76,659	0	181,847	20,111	19,664	0	0	0	0	306,281	1.46

MATERIALS:

PRISMET COMPACTION	210,000		27,300.00		42,000.00							0	
												69,300	
												0	
												0	
												0	
												0	
												0	
												0	
												0	
												0	

TOTALS			103,959	0	223,847	20,111	19,664	0	0	0	0	375,581	1.79
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PROJECT: Atlas Option 1 RR Transportation
 CLIENT: ATLAS CORP.
 JOB NO: 88-67-18
 LOCATION: Wash Utah
 ITEM DESCRIPTION: PLACE FINAL CAP

ESTIMATOR: AGS SHT 23 OF SHT 41
 DATE: 88-Dec-93 TIME: 06:35 PM
 JOB QUANTITY: 419,000 CT

ESTIMATOR NOTES AND ASSUMPTIONS:

-ASSUME PLACEMENT OF FINAL COVER AT 2 FOOT THICK
 -USE SCRAPERS TO MOVE THE MATERIALS
 -INCLUDE AS ADDITIONAL 0-9 FOR RIPPING OF ROCK

-PRODUCTION AT 1100 CT/HR

-DURATION * 419000 CT/ 1100 CT/HR = 380.909090

-ASSUME WATER AVAILABLE ON SITE FOR DUST CONTROL AND COMPACTION NEEDS

-ASSUME HAUL DISTANCE OF 1200 FT

DURATION * 381 HOURS

DESCRIPTION	QUANTITY	UNIT	LABOR	INT EQUIP	KEY EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT COST
CAT 99 DIR	1.00	EA	24.61		89.20	16.00	10.00				0.00		
CAT 98 DIR	1.00	EA	24.61		71.29	11.00	7.50				0.00		
CAT 14 GDR	1.00	EA	24.61		51.73	6.00	6.50				0.00		
CAT 825 COMP	1.00	EA	24.61		66.43	10.00	6.00				0.00		
CAT 631 SCPR	5.00	EA	123.04		528.95	73.75	47.50				0.00		
WATER WAGON	2.00	EA	49.21		77.50	17.50	17.50				0.00		
LOCAL LABORER	3.00	EA	55.49								0.00		
FIELD FOREMAN	2	EA	50.774628								0		
PICKUP	2	EA			4.92	3	2						

CREW			376.94	0.00	886.10	137.25	97.00	0.00	0.00	0.00	0.00	HOURLY CREW COSTS	1,497.29
SUBTOTAL	381 HOURS		143,500	0	337,524	52,200	36,940	0	0	0	0	570,332	1.36

MATERIALS:

-PRESET COMPACTION	419,000		54,470.00		83,000.00							0	
												130,270	
												0	
												0	
												0	
												0	
												0	
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												0	

TOTALS			198,050	0	421,324	52,200	36,940	0	0	0	0	700,602	1.69
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ESTIMATOR:	ACS	SST 24	07	SST 41
DATE:	09 DEC 93	TIME:	04:32 PM	
		JOB QUANTITY:	15,000 LF	

DURATION = MONTHS

[illegible][illegible]

電話號碼:	A65	SAT 25	收
日期:	08 Dec 91	時間:	08 45 AM
		地址:	1 樓

DESCRIPTION	QUANTITY	UNIT	LABOR	INT EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	WELL COST
CREW			6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL	0	HOORS	0	0	0	0	0	0	0	0	0	0.00
MATERIALS:												
INSTALL MORTAR WELLS	2,000 LF										50.000	50.000
INSTALL PIEZOMETERS	1,000 LF										12.000	12.000
INSTALL SETTLEMENT MASTERS	15 EA										4.500	4.500
TOTALS			0	0	0	0	0	0	0	0	66.500	66.500

ESTIMATOR NOTES AND ASSUMPTIONS:	FUEL COST OF	\$ 0 PER GAL
-ASSUME PRODUCTION BASED ON LOADING FACILITY AND TRANSPORTATION CAPACITY		
-ASSUME 25 CUMBOLA'S AT 90 TNS PER EACH @ TWO TRIPS PER DAY		
-ASSUME AVERAGE CONVERSION OF TAILING AT 1.4 TONS PER CY		
-PRODUCTION = 4500 TNS PER DAY = 3461 CY PER DAY		
-DURATION =	300000 CY/	
	3461 CY/DAY =	86.6001502 DAYS OR =
		\$ 0.23747906 YEARS AT 7 DAYS PER WEEK ALL YEAR ROUND
		\$ 0.33330519 YEARS AT 5 DAYS PER WEEK ALL YEAR ROUND
-ASSUME USING 2-637, 2-DO, 1-WATER TRUCK AND 1 GRADER FOR RECAVATION		3600 HR/TR
-ASSUME USING 3 CONVEYOR AND LOADING OPERATORS AND 3 LABORERS		2600 HR/TR

DESCRIPTION	QUANTITY	UNIT	LABOR	INT EQUIP	EXT EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT COST
CAT 417 SCRAP	2.00	EA	49.21		273.20	47.50	35.00				0.00		
CAT 14 DCR	1.00	EA	24.61		51.73	6.00	6.50				0.00		
CAT 08 DCR	2.00	EA	49.21		142.50	22.00	15.00				0.00		
PICKUP	1.00	EA			7.38	4.50	3.00						
CAT 966 PBL	1.00	EA	24.61		47.05	7.00	6.00				0.00		
LOCAL OPERATOR	1.00	EA	73.92								0.00		
LOCAL LABORER	4.00	EA	73.98								0.00		
WATER TRUCK	1	EA	24.607100		25.22	4	3				0		

MATERIALS

-FUEL	34,672 GAL	27,738	
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TOTALS	277,422	0	474,279	104,617	59,376	0	0	0	0	917,694	3.0%
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PROJECT: Atlas Option 1 RR Transportation
 CLIENT: ATLAS CORP.
 JOB NO: 88-67-18
 LOCATION: Moab Utah
 ITEM DESCRIPTION: OFFLOAD MILL SOILS

ESTIMATOR: AGS
 DATE: 88-Dec-93
 SRT 28 OF SRT 41
 TIME: 05:54 PM
 JOB QUANTITY: 300,000 CT

ESTIMATOR NOTES AND ASSUMPTIONS:

-ASSUME OFF-LOADING OPEN TOP GONDOLAS WITH MOUNTED BACKHOE
 -ASSUME MATERIALS LOADED OUT OF STOCKPILE BY SCRAPER WITH DOZER ASSISTANCE
 -ASSUME USING 2-631, 1-D8, GRADER, WATER TRUCK AND COMPACTOR, BACKHOE OPERATOR AND FOREMAN

DURATION = 867 HOURS

DESCRIPTION	QUANTITY	UNIT	LABOR	INT EQUIP	EXT EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT COST
CAT 90 DIR	1.00	EA	24.61		71.29	11.00	7.50				0.00		
CAT 631 SCPR	2.00	EA	49.21		209.98	29.50	19.00				0.00		
CAT 825 COMP	1.00	EA	24.61		66.43	10.00	6.00				0.00		
WATER TRUCK	1.00	EA	24.61		2.22	4.00	3.00				0.00		
CAT 14 GDR	1.00	EA	24.61		51.73	6.00	6.50				0.00		
FIELD FOREMAN	1.00	EA	25.39								0.00		
PICKUP	1.00	EA	24.61		2.46	1.50	1.00				0.00		
LOCAL OPERATOR	1	EA	24.607104								0		
LOCAL LABORER	2	EA	36.990918								0		

CR&W			259.24	0.00	427.11	62.00	43.00	0.00	0.00	0.00	0.00	HOURLY CREW COSTS	791.35
SUBTOTAL	867 HOURS		224,757	0	370,304	53,754	37,281	0	0	0	0	686,096	2.29

MATERIALS:

0
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0

TOTALS			224,757	0	370,304	53,754	37,281	0	0	0	0	686,096	2.29
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PROJECT: Atlas Option 1 RR Transportation
 CLIENT: ATLAS CORP.
 JOB NO: 88-67-18
 LOCATION: Huab Utah
 ITEM DESCRIPTION: TAILING ENHANCEMENT SOILS EXCAVATION

ESTIMATOR: AGS
 DATE: 08-Dec-93
 TIME: 04:35 PM
 JOB QUANTITY: 100,000 CY

ESTIMATE NOTES AND ASSUMPTIONS:

-ASSUME PRODUCTION BASED ON LOADING FACILITY AND TRANSPORTATION CAPACITY
 -ASSUME 25 CONDOLA'S AT 90 TNS PER EACH & TWO TRIPS PER DAY
 -ASSUME AVERAGE CONVERSION OF TAILING AT 1.4 TONS PER CY
 -PRODUCTION = 4500 TNS PER DAY = 3461 CY PER DAY
 -DURATION = 100000 CY/ 3461 CY/DAY = 28.8933834 DAYS OR = 0.07915995 YEARS AT 7 DAYS PER WEEK ALL YEAR ROUND

FUEL COST OF 0.8 PER GAL

3600 HR/YR

0.11112639 YEARS AT 5 DAYS PER WEEK ALL YEAR ROUND

2400 HR/YR

-ASSUME USING 2-637, 2-06, 1-WATER TRUCK AND 1 GRADER FOR EXCAVATION

-ASSUME USING 1 CONVEYOR AND LOADING OPERATORS AND 3 LABORERS

DURATION = 289 HOURS

DESCRIPTION	QUANTITY	UNIT	LABOR	INT EQUIP	EXT EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SEBS	TRAVEL	TOTAL	UNIT COST
CAT 637 SCPRIT	2.00	EA	49.21		273.20	47.50	35.00				0.00		
CAT 14 GOR	1.00	EA	24.61		51.73	6.00	6.50				0.00		
CAT 06 DSR	2.00	EA	49.21		142.50	22.00	15.00				0.00		
PICKUP	3.00	EA			7.38	4.50	3.00						
CAT 966 FEL	1.00	EA	24.61		47.05	7.00	6.00				0.00		
LOCAL OPERATOR	3.00	EA	73.02								0.00		
LOCAL LABORER	4.00	EA	73.98								0.00		
WATER TRUCK	1	EA	24.607104		25.22	4	3				0		

CREW			320.05	0.00	547.16	91.00	60.50	0.00	0.00	0.00	0.00	DOUBLY CREW COSTS	1,026.71
SUBTOTAL	289 HOURS		92,474	0	150,093	26,293	19,792	0	0	0	0	296,652	2.97

MATERIALS:

-FUEL	11,557 GAL					9,246						0	
												9,246	
												0	
												0	
												0	
												0	
												0	
												0	
												0	
												0	

TOTALS			92,474	0	150,093	35,539	19,792	0	0	0	0	305,899	3.06
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- ESTIMATION ERRORS AND ASSUMPTIONS;
- ASSUMING OFF-LOADING OF THE TOP GENERALS WITH REDUCED BATTING
- ASSUMING MATERIALS LAID OUT OF STOCKPILE AT STATION 27TH NORTH ASSISTANCE
- ASSUMING 15 MG. 2-43, 1-50, CARRIER, WATER TIGHT AND COMPACT, BATTERING OPERATIONS AND FORTRESS

COST	259.24	0.00	427.11	67.00	43.00	0.00	0.00	0.00	0.00	SUBTOTAL		791.35
										COSTS		
SUBTOTAL	259.24	0.00	427.11	67.00	43.00	0.00	0.00	0.00	0.00	0.00		791.35
MATERIALS:	74,919	0	123,435	17,918	12,427	0	0	0	0	0	229,699	2.29
TOTALS	74,919	0	123,435	17,918	12,427	0	0	0	0	0	229,699	2.29

[illegible]

500 CY 100 DAY = 70 DAYS
1000 1000 DAY = 1000 DAYS

DESCRIPTION	QUANTITY	UNIT	LABOR	INT	EQIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT COST
CAP 235 RBE	1.00 EA		24.61		55.36	6.50		6.00				8.00	
CAT 966 PBL	1.00 EA		78.61		87.85	7.00		6.00				8.00	
END SUPP PBL22	10.00 EA		265.87		541.30	8.00		5.00				8.00	

[illegible][illegible]

PROJECT: Atlas Option 1 RR Transportation
 CLIENT: ATLAS CORP.
 JOB NO: 00-67-10
 LOCATION: Road Stud
 ITEM DESCRIPTION: DUST CONTROL/WATER TRANSPORT

ESTIMATOR: ACS
 DATE: 00-Dec-93
 SHT 32 OF SHT 41
 TIME: 04:35 PM
 JOB QUANTITY: 11 YEAR

ESTIMATOR NOTES AND ASSUMPTIONS:

-ASSUME DUST CONTROL IS NEEDED OVER CERTAIN AREA OF RAIL AND ACCESS ROAD OVER COURSE OF PROJECT.
 -USE ONE WATER TRUCK, PUMP AND DRIVER

-ASSUME INSTALLTION OF 4 INCH HOPE WATER LINE

DURATION = 22,000 HOURS

DESCRIPTION	QUANTITY	UNIT	LABOR	INT EQUIP	KEY EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT COST
TRANSFERS	1.00	EA	21.10								0.00		

CREW			21.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	HOURLY CREW COSTS	21.10
SUBTOTAL	22,000 HOURS		444,116	0	0	0	0	0	0	0	0	444,116	42,192.36

MATERIALS:

HOPE 4INCH WATER LINE (SDR 2	111,936	LF							1,231,296			1,231,296	
-PUMP	1	EA		15,000								15,000	
PUMP STATIONS	3	EA							135,000			135,000	
SURGE TANK	200,000	GAL							200,000			200,000	
-BUY WATER TRUCK	1	EA			125,000	45,300	52,000					222,300	
												0	
												0	
												0	
												0	
												0	
												0	

TOTALS			444,116	15,000	125,000	45,300	52,000	0	0	1,566,296	0	2,267,712	206,155.64
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ESTIMATOR:      ACS              SPT 33      OF      SPT 41
DATE:           08-Dec-93        TIME:          06:35 PM
                                   JOB QUANTITY:    1 RA
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ASSUME 3 ENGINEERS FOR 1 YEAR		2000 HOURS
ENVIRONMENTAL IMPACT STATEMENT	\$750,000	
ASSUME PERMIT FEES	\$75,000	

	\$825,000	

DESCRIPTION	QUANTITY	UNIT	LABOR	INT EQ/HP	RET EQ/HP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT COST
PROJ. ENGINEER	2.00	HR	47.53								2.00		

										MONTHLY		
CREW		47.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	CREW COSTS	49.53
SUBTOTAL	2,000 HOURS	95,863	0	0	0	0	0	0	0	4,160	100,023	100,023.00

PERMITTING

[illegible]

ESTIMATOR:	AGS	SRT 34	OF	SRT 41
DATE:	08-Dec-93	TIME:	06:35 PM	
JOB QUANTITY:				1 EA

-ASSUME DESIGN COST OF 500000

50003

[illegible]

CREW		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	HOURLY CREW COSTS	
SUBTOTAL	0 HOURS	0	0	0	0	0	0	0	0	0	0	0.00
MATERIALS:												
DESIGN AND SUPPORT	1 RL	500,000									0	
											500,000	
											0	
											0	
											0	
											0	
											0	
											0	
											0	
											0	
TOTALS		500,000	0	0	0	0	0	0	0	0	500,000	700,000.00

PROJECT: Atlas Option 1 RR Transportation
 CLIENT: ATLAS CORP
 JOB NO: 88-67-18
 LOCATION: Road 67-18
 ITEM DESCRIPTION: AIR MONITORING/HAZARD AND SAFETY

ESTIMATOR: AGS
 DATE: 08-Dec-93
 TIME: 04:15 PM
 JOB QUANTITY: 11 TR

ESTIMATE NOTES AND ASSUMPTIONS:

- ASSUME MONITORING FOR AMBIENT DUST PM-10
- ASSUME 4 STATIONS IN THE SELECTION AND 3 AT THE DEPOSITORY
- ASSUME ONE TECH TO RUN SYSTEM ALONG WITH RADON CALIBRATORS AND HIGH BAW AND PERSONAL MONITORS.
- ASSUME 10AT TEAM ONCE PER YEAR MONITORS QA/QC

DESCRIPTION	QUANTITY	UNIT	LABOR	TRF	EQT	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	UNIT COST
BAS TRAINING	2.00	EA	51.69									2.00	
													22,300 HOURS

CREW	51.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	53.69
SUBTOTAL	22,300 HOURS	1,152,637	0	0	0	0	0	0	0	0	44,600	1,197,237	100,835.73

MATERIALS:

ALR MONITORING EQUIPMENT	1 EA	100,000											100,000
-R10 ASSAYS	11 TR	40,000											40,000
-R10 RADIOS	11 TR	5,000											5,000
-BAS SUPPLIES	11 TR	132,000											132,000
-LIGHT	11 TR	44,000											44,000
		0											0
		0											0
		0											0
		0											0
		0											0
		0											0

TOTALS	1,152,637	321,000	0	0	0	0	0	0	0	0	44,600	1,510,237	110,821.55
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起打點時間:	16:32	5月25日	5月25日
設備:	8804C-21	打點器:	華成打點器
		測速距離計算:	5.68公里

[illegible]

[illegible]

PROJECT: Atlas Option 1 RR Transportation
 CLIENT: ATLAS CORP.
 JOB NO: 88-67-10
 LOCATION: Moab Utah
 ITEM DESCRIPTION: Well Maintenance

ESTIMATOR: AGS
 DATE: 08-Dec-93
 SHT 30 OF SHT 41
 TIME: 04:35 PM
 JOB QUANTITY: 5 yr

ESTIMATOR NOTES AND ASSUMPTIONS:

-Assume Wells only operate for 5 years
 -Assume using 1 operator and 1 truck full time
 -7 4-inch Extraction Wells
 -7 3.75 inch extraction pumps
 -Wells and pumps need changed every two years
 -Assume wells @ 50 feet deep

Lebor = 10400
 Wells @ 175 lf/year
 Pumps @ 3.5 ea/year

Period of time = 5 years

DURATION = 10,400 HOURS

DESCRIPTION	QUANTITY	UNIT	LABOR	INT EQUIP	EXT EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SBS	TRAVEL	TOTAL	UNIT COST
LOCAL OPERATOR	1.00	EA	24.61										
PICKUP	1.00	EA			2.46	1.50	1.00				0.00		

CREW		24.61	0.00	2.46	1.50	1.00	0.00	0.00	0.00	0.00	0.00	HOURLY CREW COSTS	29.57
SUBTOTAL	10,400 HOURS	255,914	0	25,584	15,600	10,400	0	0	0	0	307,498	61,499.60	
MATERIALS:													
Buy Pumps and Riser	10 ea								33,390		33,390		
Well Installation	875 lf									25,375	25,375		
-STS for Wells	5 yrs							5,000			5,000		
ELECTRICAL	600,000 KWH							48,000			48,000		
											0		
											0		
											0		
											0		
											0		
											0		
											0		
											0		
TOTALS		255,914	0	25,584	15,600	10,400	53,000	33,390	25,375	0	419,263	83,852.60	

ESTIMATOR:	AGS	SHT 40	OF	SHT 41
DATE:	88-Dec-93	TIME:	00:35 PM	
JOB QUARTITT:				30 year

Assume quarterly samples of 3 wells for 10 years

- Cost per sampling event approximately \$1,000
- Cost assumption at \$4,000 per year.

DESCRIPTION	QUANTITY	UNIT	LABOR	INT EQUIP	EXT EQUIP	FUEL	REPAIRS	SUPPLIES	MATERIALS	DURATION		TOTAL	UNIT COST
										MONTHS	HOURS		
CREW			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	BORELY CREW COSTS	0.00
SUBTOTAL	0 HOURS		0	0	0	0	0	0	0	0	0	0	0.00
MATERIALS:													
-Long term monitoring	30 year										120,000	120,000	
												0	
												0	
												0	
												0	
												0	
												0	
												0	
												0	
												0	
TOTALS			0	0	0	0	0	0	0	0	120,000	120,000	4,000.00

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ESTIMATOR:      ACS              SRT 41      OF      SRT 41
DATE:           @B Dec-93        TIME:          @8:35 PM
                                      JOB QUANTITY:    1 ea
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JOB QUANTITY: 1 ea

- Assume cost of RIS at 1.5 million

DESCRIPTION	QUANTITY	UNIT	LABOR	INT EQ/TP	EXT EQ/TP	FUEL	REPAIRS	SUPPLIES	MATERIALS	SUBS	TRAVEL	TOTAL	DURATION =	HOURS	UNIT COST

[illegible]

MATERIALS:

-Environmental Impact States	1 ea								1,500,000	1,500,000	0
											0
											0
											0
											0
											0
											0
											0
											0
											0
											0
TOTALS		0	0	0	0	0	0	0	1,500,000	1,500,000	1,500,000.00

PROJECT: Atlas Option 1 RR Transportation
 CLIENT: ATLAS CORP.
 JOB NO.: 89-67-10
 LOCATION: Moab Utah

LABOR BASED ON 50 HOURS/WEKX
 EQUIPMENT BASED ON 175 HOURS/MONTH

CHECK ON JOB TOTAL: *****FROM RECAP
 *****FROM TOTAL SHEET

DATE: 00-Dec-93

TIME: 04:35 PM

ESTIMATOR: AGS

RECAP SHEET:

LABOR	LABOR HOURS	LABOR WEEKS	TOTAL LABOR	TOTAL SUB & TRAVEL	EQUIPMENT	EQUIP HOURS	EQUIP WEEKS	FUEL & REPAIR	TOTAL RENTAL COST	SUPPLIES	QTY	UNIT	TOTAL
LOCAL LABORER	146,370	2,907.4	2,596,352	0	DECONTAMINATION SUPPLIES				50,000	ELECTRICAL	*****EWH		1,040,000
LOCAL OPERATOR	406,463	8,129.3	10,001,079	0	CAT 631 SCPR	79,561	1,957.4	1,929,360	2,353,132	STS for Wells	5 yrs		5,000
FIELD PUMMAR	71,382	627.6	796,715	0	CAT 09 DER	12,135	290.7	315,622	1,003,790				
PROMPT COMPACTION			137,020	0	CAT 08 DER	79,443	1,954.5	1,469,702	5,663,517				
TRANSFERS	22,000	440.0	664,116	0	CAT 14 CDR	54,731	1,346.5	604,135	2,831,223				
PROJ. ENGINEER	4,160	83.2	98,863	4,160	CAT 075 COMP	25,409	625.1	406,540	1,607,935				
DESIGN AND SUPPORT			500,000	0	WATER WAGON	7,097	174.6	124,200	275,014				
R&S TECHNICIAN	44,600	892.0	1,152,637	44,600	PICKUP	90,323	2,222.2	225,000	222,195				
					RR EQUIPMENT RENTAL				10,910,625				
					CAT 637 SCPR/T	25,233	620.8	1,000,050	3,446,003				
					CAT 966 PBL	26,027	600.3	330,345	1,224,550				
					FUEL				750,162				
					WATER TRUCK	26,055	601.0	182,305	657,107				
					CAT 563 VIB COMP	614	15.1	5,526	15,669				
					CAT 963 PBL/T	1,020	25.1	13,240	46,359				
					CAT 235 DER	700	17.2	8,750	30,752				
					END DUMP TRUCK	7,000	172.2	3,500	370,910				
					PUMP				15,000				
					BUY WATER TRUCK				222,300				
					AIR MONITORING EQUIPMENT				100,000				
					RIO ASSAYS				40,000				
					PLD BADGES				5,000				
					R&S SUPPLIES				132,000				
					IQAT				44,000				
RECAP SUBTOTAL	648,983	12,979.7	15,747,581	48,760		435,353	10,710.7	6,747,994	30,202,052				1,053,000
ADMIN SUBTOTALS			3,451,024	93,600				0	0				179,025
JOB TOTAL			19,198,605	142,360				6,747,994	30,202,052				1,232,025

CHECK ON JOB TOTAL: *****FROM RECAP
*****FROM TOTAL SHEET

TIME: 04:35 PM

歡迎光臨 玉蘭花酒店

[illegible]