Confidential Claim Retracted

AUTHORIZED BY: SL

DATE: 5/16/13

Jackpile Reclamation Project

PUEBLO OF LAGUNA

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PROJECT STATUS REPORT

NO. 19

FEBRUARY, 1991

BY: J. H. Olsen, Jr.
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RECLAMATION PROJECT MANAGER

SEE DISTRIBUTION LIST

9404052

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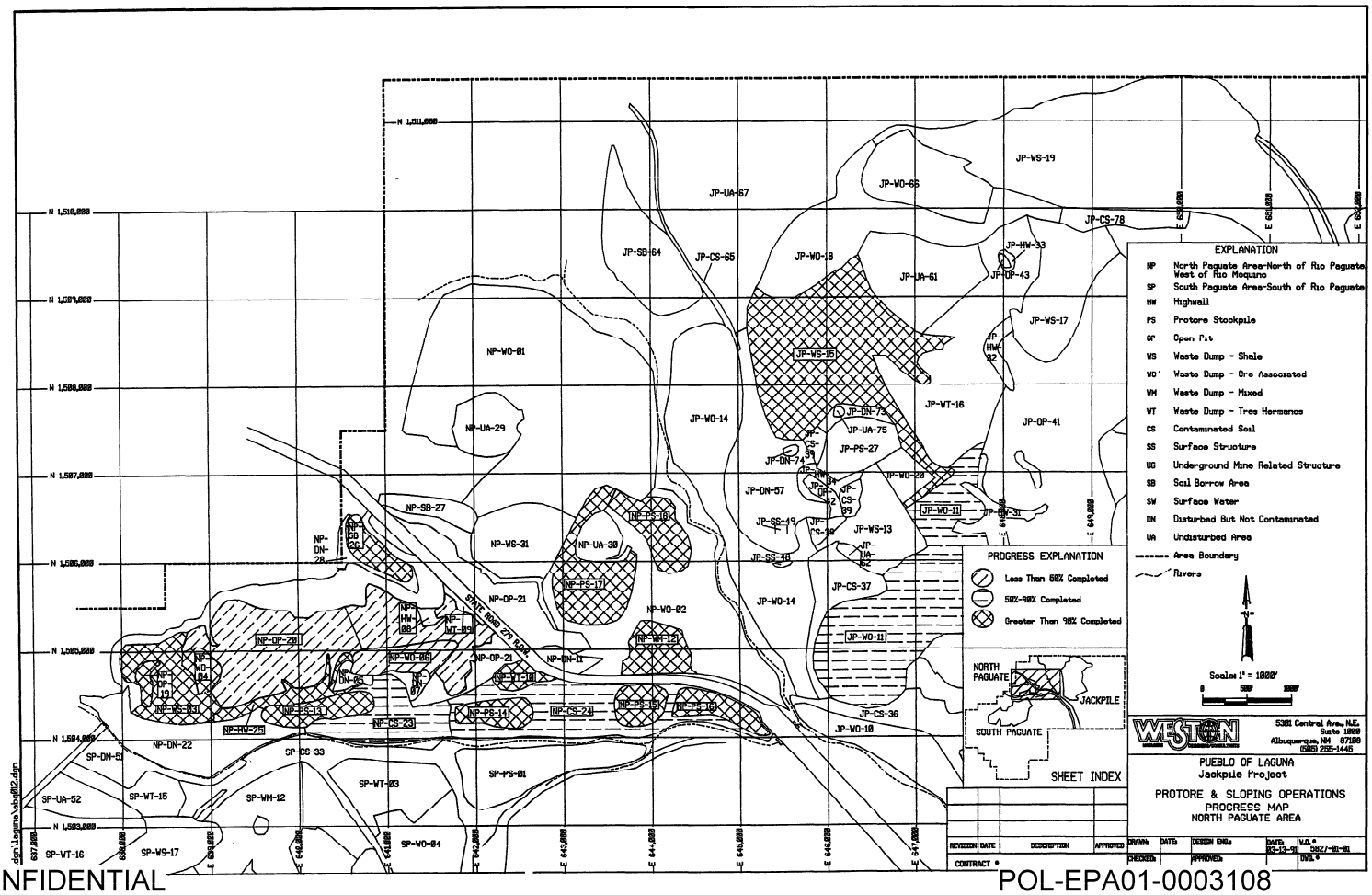
NOTE: NIC Denotes Not Included in This Report

2.1 ABSTRACT

February, 1991 marked the end of the 1st Quarter of the 2nd Annual Operating Plan and was the fifteenth month of full-scale earthmoving activities. Protore Pile NP-PS-17 was completed and the North Paguate Pit OP-34 backfilling with low-grade ore and contaminated soil was substantially complete. The last haul road crossing over the new alignment of SR-279 was removed and the shale in the ramp is being spread to provide the required shale cover in the pit areas immediately north and south of the highway right-of-way. The first of the shale haul/placement operations along the Rio Paguate with the truck fleet were undertaken. Sloping in the Jackpile area continued. Pushing topsoil into the North Paguate from the stockpile above the highwall began and continued thru the month. This material was hauled by truck and placed on the shale cover over areas NP-16, 15, and 14. A "draft" of the final soil/revegetation specifications and recommended procedures was received from Roy F. Weston Engineering and is currently under review by RPM/POL, BIA, and LCC personnel.

2.2 PROGRESS MAP

The attached progress maps indicate the percentage of completion for areas where work is being performed. Work is underway in North Paguate, South Paguate, and the Jackpile side of the Project.



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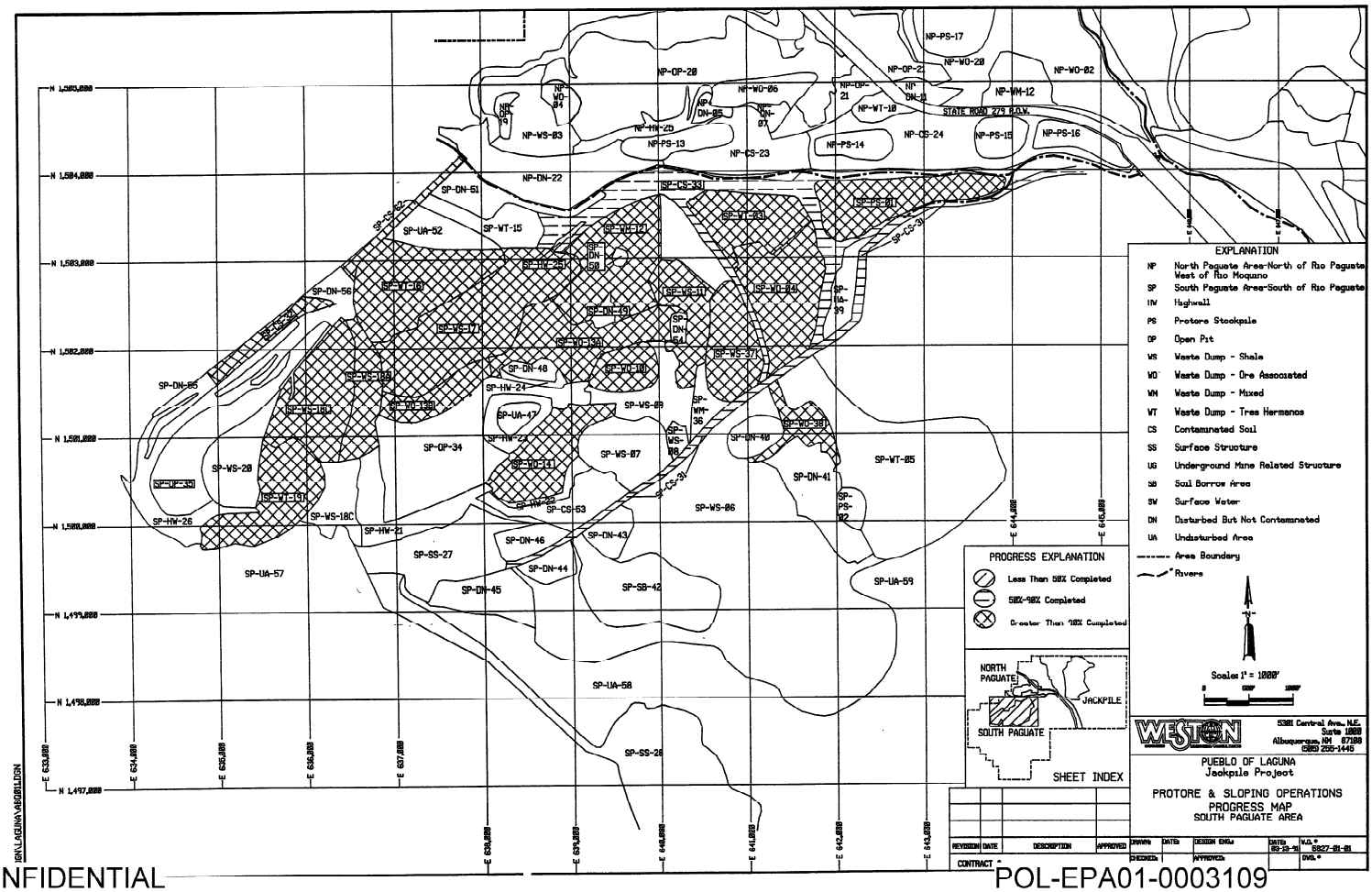
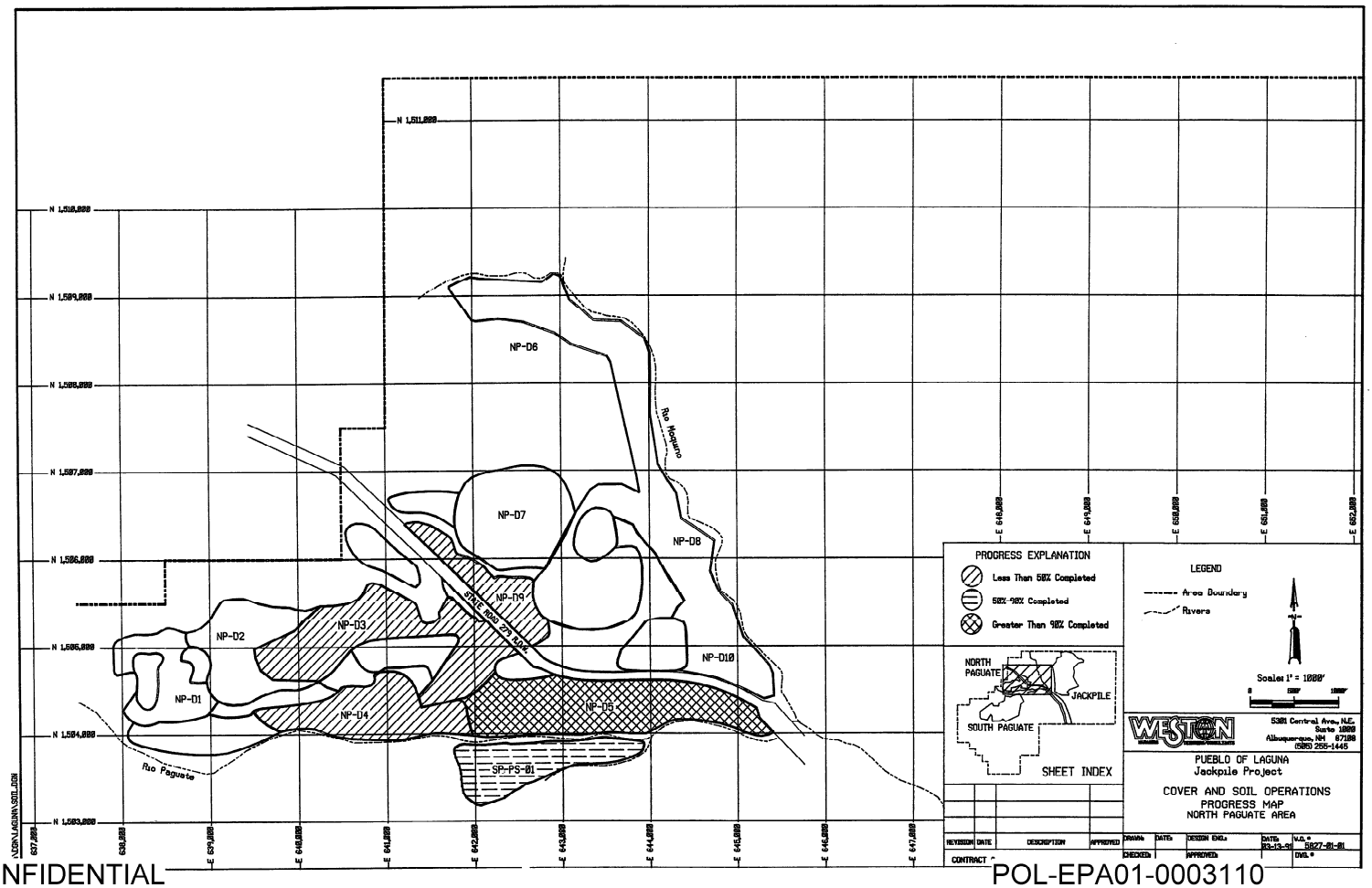


CONFIDENTIAL



CONFIDENTIAL

2.3. Construction Photos

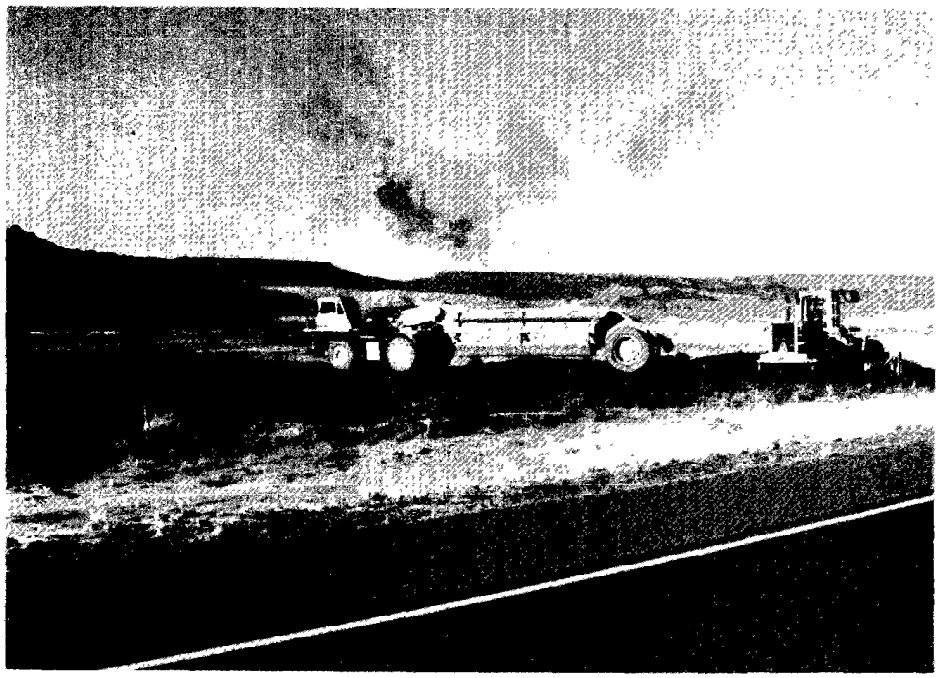


Figure 1. Shale haul with belly dump and spreading with rubber-tired dozer in NP-PS-16 area.

Figure 2. Looking west across North Paguate from JP-WO-11. (Note shale cover south of highway.)

2.3. Construction Photos

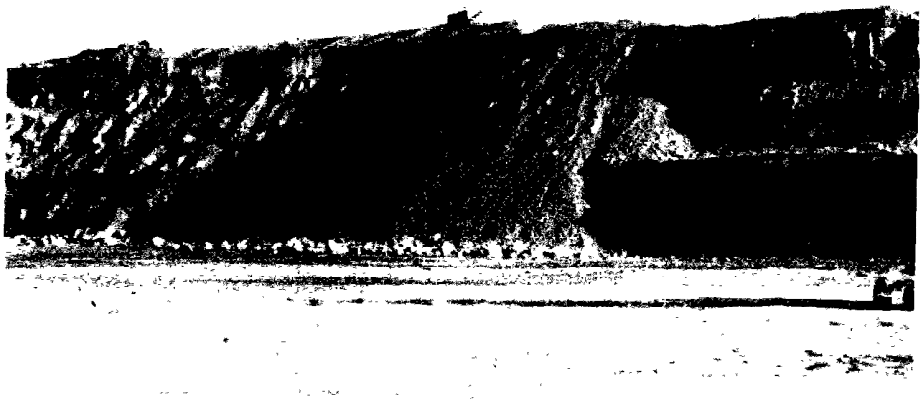


Figure 3. Dozing topsoil material off highwall for use over shale cover, North Paguate.

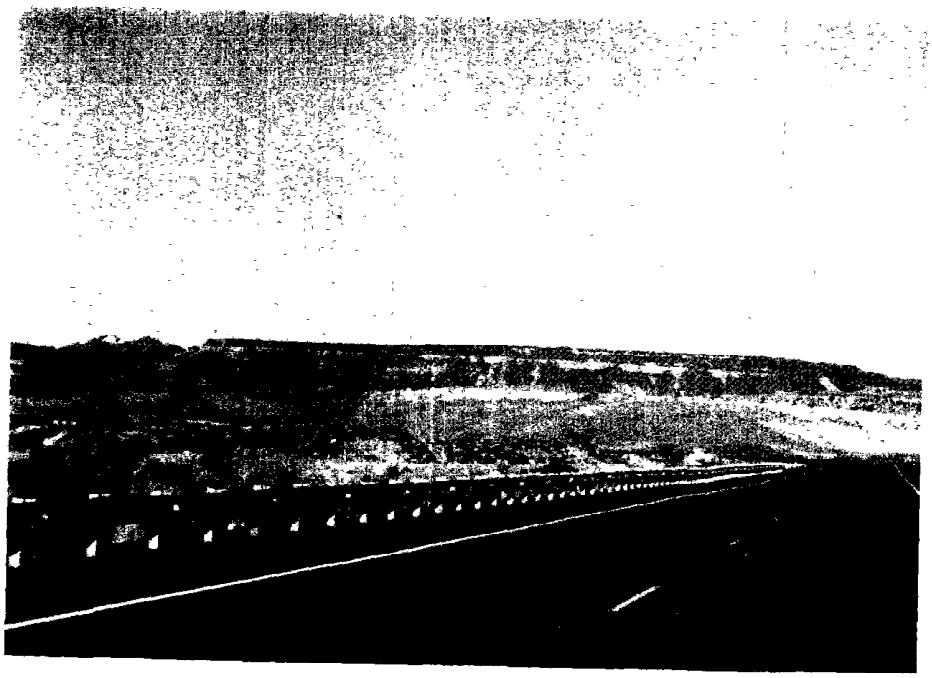


Figure 4. Looking northwest from SR-279 Rio Paguate crossing. (Note absence of protore piles.)

2.3. Construction Photos

Figure 5. Dozers sloping east face of JP-WO-11 in Jackpile area.

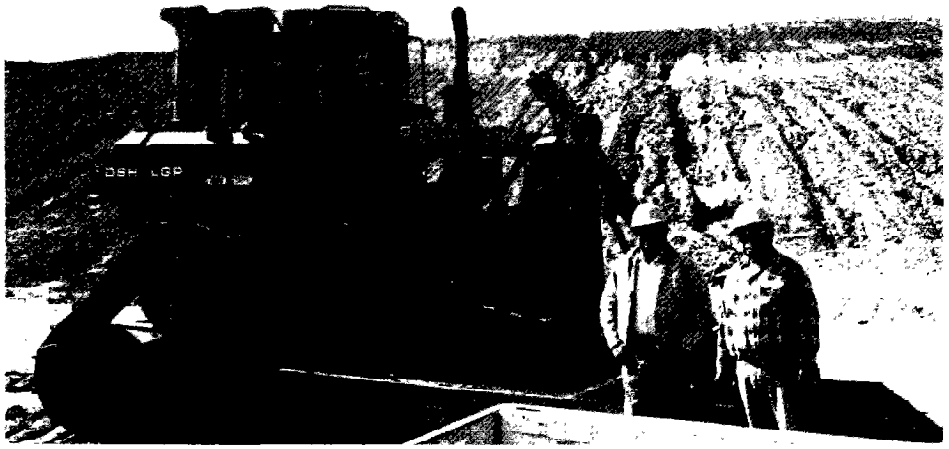


Figure 6. Emerson Riley and Pedro Pino readying the D-6 for some work.

2.4 MILESTONES

- Backfilling of the North Paguate Pit (NP-OP-20) with protore was substantially completed; shale/soil cover will follow; NP-PS-17 protore pile was completed and the gamma survey shows that the excavation meets the specifications;

- The first of the shale haul/place operations began along the Rio Paguate (north & south);

- The last haulage ramp over the new portion of SR-279 was removed and re-opening has been scheduled in mid-March;

- Project Operations resumed the 4 day-10 hour/day working schedule on 2/25/91;

- George Farris, Allen Sedik, and Yamie Leeds of BIA visited the Project site on 2/27/91 with representatives of BLM from the Spokane, WA office.

- Scrapers returned to finish the backfilling operations in SP-OP-34.

- The DRAFT of the Final Revegetation Specifications by Ed Kelley, Ph.d. was received and is under review by the RPM/POL, BIA Project Engineer, and LCC Operations personnel.

3.0 ACTION ITEMS

3.1 POL/RPM

1) Complete review of Special Case designs and Vegetation specifications; present to POL-Council in April, 1991;

2) Continue administrative training of Reclamation Technicians;

3) Prepare 1st Quarter, Project Year 1991 Financial Summary for BIA;

4) Present FINAL recommendations on remaining design and construction specification issues to POL-Council in April;

3.2 BUREAU OF INDIAN AFFAIRS

1) Complete files on "official" Project Approvals;

2) Finish review/comments on Special Case designs and revegetation specifications;

3.4 LANDMARK/WESTON

1) Continue field training of Reclamation Technicians;

2) Transfer subcontracting services to POL;

3.5 LAGUNA CONSTRUCTION COMPANY

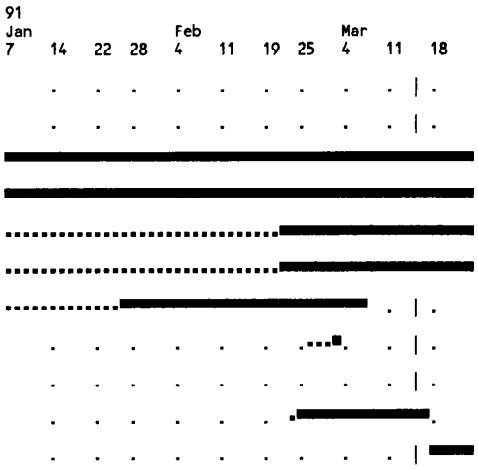
1) Revise schedule (as needed)

2) Request work package closeouts (as needed)

4.1 FOUR WEEK LOOKAHEAD

Schedule Name : JACKPILE
Responsible : LCC
As-of Date : 14-Mar-91 Schedule File : G:\HOME\FKIP\TIMELINE\DATA\JACKPILE

WBS	Task Name	Duratn (Days)	Start Date	End Date	Total $ (EAC)	Pct Achvd
2E2S03	SP-WO-13B, WS-18A	199	16-Feb-90	30-Nov-90	1,013,795.00	93
	FILL SP-OP-34	125	1-Jun-90	29-Nov-90	0.00	90
2M1X01	HIGHWAY CLOSURE	270	1-May-90	28-May-91	45,000.00	60
2E1S02	SP-PS-02	149	10-Dec-90	12-Jul-91	90,504.00	0
2E2J14	JP-WO-11	120	1-Oct-90	26-Mar-91	721,679.00	80
2S2J01	DEWATER JP	240	9-Oct-90	20-Sep-91	181,404.00	38
2S5J09	FENCING	48	26-Dec-90	6-Mar-91	151,565.00	40
2E3N02	NP-SB-26 TO NP-D2	4	26-Feb-91	1-Mar-91	164,528.00	70
2E2J27	JP-WO-18/66B SLOPE	14	28-Mar-91	16-Apr-91	110,579.00	0
2E3N10	SP-DN-61 TO NP-D5	16.	22-Feb-91	15-Mar-91	223,417.00	1
2E3S09	SOIL BORROW	19	18-Mar-91	11-Apr-91	402,759.00	0



Detail Task — Summary Task — Milestone
(Started) — (Started) — Conflict
(Slack) — (Slack) — Resource delay
Scale: 1 day per character

TIME LINE Gantt Chart Report, Strip 1, Page 1

4.2 PROJECT SCHEDULE

The scrapers will continue the backfill in SP-OP-34 which should run thru March, 1991 and also be doing some shale haul and miscellaneous cleanup. Dozer fleet will assist in the shale placement as well as the soil work in the North Paguate Pit. The dozers will also continue the shale spreading around the new highway alignment in the North Paguate. Supplementary dozer work will continue on shaping JP-WO-11, supporting the soil cover placement, and begin work on JP-WS-66 in the Jackpile area. Trucks will continue hauling shale & soil and placing it over the old protore stockpile locations in the North & South Paguate areas. Dewatering of the Jackpile continues to provide water for dust control, which is expected to be substantial thru the (typically) windy and dry spring months. Fencing and associated surface work will continue with the completion of the Warehouse renovation for Laguna Industries, Inc.

5.1 TRACKING SUMMARY

This month marks the first bonus awards. Based on 100% closeouts of various Work Packages, RPM has authorized LCC to bill 50% of the unused target estimate. Note that when this is billed it becomes a cost to the Work Package and the Estimated Variance at Completion becomes zero (0). The APPARENT variance, i.e., Work Package value versus Work Package Cost is dissolved.

Example: 2E1N06

1.	Total Cost Estimate:	$257,759
2.	Actual Cost: (Prior Billing)	$163,939
3.	Remaining Cost Estimate:	$93,820
4.	Bonus: (1/2 of #3 above)	$46,910
5.	Previous Actual Cost: (Billing)	$163,939
6.	Bonus:	$46,910
7.	Total Actual Cost: (Final Billing)	$210,849
8.	Total Cost Estimate:	$257,759
9.	Total Actual Cost:	$210,849
10.	Apparent Variance	$46,910

But,

11. Estimated Variance at Completion is now zero (0) and the Apparent Variance is dissolved.

JACKPILE
PROJECT TO DATE: SUMMARY 1

PY90
PY91
INTERIM
MOBILIZATION

FEBRUARY 1991

WBS ID NO.	WORK PACKAGE DESCRIPTION	ACTUAL COST PY90	ACTUAL COST PY91	TOTAL PTD ACTUAL COST PY90 & PY91	TOTAL COST ESTIMATE
MGMT CA SUMMARY					
1P1	POL MANAGEMENT CA TOTAL	$85,607.08	$21,277.25	$106,884.33	$904,998.00
1P2	POL OTHER PROGRAMS CA TOTAL	$0.00	$0.00	$0.00	$1,006,614.00
1P	POL MANAGEMENT TASK TOTAL	$85,607.08	$21,277.25	$106,884.33	$1,911,612.00
1C1	CONSTRUCTION MANAGEMENT CA TOTAL	$444,897.02	$128,595.55	$573,492.57	$1,205,821.10
1C2	INTERIM CMC CA TOTAL	$205,116.43	$0.00	$205,116.43	$200,018.90
1C3	CO-OP AGREEMENT CONTINGECY CA TOTAL	$0.00	$0.00	$0.00	$2,500,000.00
1C	CONSTRUCTION MANAGEMENT TASK TOTAL	$650,013.45	$128,595.55	$778,609.00	$3,905,840.00
1	MANAGEMENT TOTAL	$735,620.53	$149,872.80	$885,493.33	$5,817,452.00
CONST CA SUMRY					
2L1	LCC COSTS CA TOTAL	$820,363.40	$0.00	$820,363.40	$810,300.00
2L2	LCC START-UP COSTS CA TOTAL	$382,790.20	$108,711.00	$491,501.20	$886,100.00
2L	LCC ADMINISTRATION TASK TOTAL	$1,203,153.60	$108,711.00	$1,311,864.60	$1,696,400.00
2M1	MOBILIZATION CA TOTAL	$424,530.29	$9,129.22	$433,659.51	$461,363.00
2M2	LAND SURVEY CA TOTAL	$131,705.71	$23,944.52	$155,650.23	$551,873.00
2M3	LCC TRAINING CA TOTAL	$135,461.50	$8,510.25	$143,971.75	$486,228.00
2M	MOBILIZATION TASK TOTAL	$691,697.50	$41,583.99	$733,281.49	$1,499,464.00
2E1	BACKFILLING CA TOTAL	$3,104,841.60	$612,138.94	$3,716,980.54	$13,718,836.00
2E2	DUMP SLOPING CA TOTAL	$1,436,751.40	$467,883.65	$1,904,635.05	$7,564,988.00
2E3	COVER PLACEMENT CA TOTAL	$194.07	$182,886.70	$183,080.77	$11,745,735.00
2E4	CONTAMINATED SOIL CA TOTAL	$117,322.06	$181,235.96	$298,558.02	$323,637.00
2E5	HIGHWALL CA TOTAL	$58,321.27	$1,005.96	$59,327.23	$396,732.00
2E6	EROSION CONTROL CA TOTAL	$0.00	$0.00	$0.00	$0.00
2E	EARTHWORK TASK TOTAL	$4,717,430.40	$1,445,151.21	$6,162,581.61	$33,749,928.00
2S1	UG ENTRIES ABANDON CA TOTAL	$12,300.80	$0.00	$12,300.80	$128,147.00
2S2	PIT WATER CA TOTAL	$388,455.50	$4,866.89	$393,322.39	$416,990.00
2S3	SS DEMOLITION CA TOTAL	$137,009.53	$0.00	$137,009.53	$175,829.00
2S4	SS DECON CA TOTAL	$0.00	$0.00	$0.00	$0.00
2S5	PERMANENT STRUCTURES CA TOTAL	$72,316.96	$22,467.35	$94,784.31	$278,783.00
2S	STRUCTURES TASK TOTAL	$610,082.79	$27,334.24	$637,417.03	$999,749.00
2R1	SEEDING CA SUBTOTAL	$31,304.00	$0.00	$31,304.00	$1,738,609.00
2R2	IRRIGATION CA SUBTOTAL	$0.00	$0.00	$0.00	$0.00
2R	REVEGETATION TASK TOTAL	$31,304.00	$0.00	$31,304.00	$1,738,609.00
2	CONSTRUCTION TOTAL	$7,253,668.29	$1,622,780.44	$8,876,448.73	$45,303,305.00
	JACKPILE PROJECT SUMMARY				
1	MANAGEMENT TOTAL	$735,620.53	$149,872.80	$885,493.33	$5,817,452.00
2	CONSTRUCTION TOTAL	$7,253,668.29	$1,622,780.44	$8,876,448.73	$45,303,305.00
	GRAND TOTAL	$7,989,288.82	$1,772,653.24	$9,761,942.06	$51,120,757.00

JACKPILE

PROJECT TO DATE: SUMMARY 2

(ACTUALS INCLUDED IN PY91)

PY90
PY91
INTERIM
MOBILIZATION

WBS ID NO.	WORK PACKAGE DESCRIPTION	YTD ACTUAL COST	YTD ACTUAL EQUIP CREDIT	YTD ACTUAL CASH FLOW
MGMT CA SUMMARY				
1P1	POL MANAGEMENT CA TOTAL	$21,277.25	$0.00	$21,277.25
1P2	POL OTHER PROGRAMS CA TOTAL	$0.00	$0.00	$0.00
1P	POL MANAGEMENT TASK TOTAL	$21,277.25	$0.00	$21,277.25
1C1	CONSTRUCTION MANAGEMENT CA TOTAL	$128,595.55	$0.00	$128,595.55
1C2	INTERIM CMC CA TOTAL	$0.00	$0.00	$0.00
1C3	CO-OP AGREEMENT CONTINGECY CA TOTAL	$0.00	$0.00	$0.00
1C	CONSTRUCTION MANAGEMENT TASK TOTAL	$128,595.55	$0.00	$128,595.55
1	MANAGEMENT TOTAL	$149,872.80	$0.00	$149,872.80
CONST CA SUMRY				
2L1	LCC COSTS CA TOTAL	$0.00	$0.00	$0.00
2L2	LCC START-UP COSTS CA TOTAL	$108,711.00	$0.00	$108,711.00
2L	LCC ADMINISTRATION TASK TOTAL	$108,711.00	$0.00	$108,711.00
2M1	MOBILIZATION CA TOTAL	$9,129.22	$0.00	$9,129.22
2M2	LAND SURVEY CA TOTAL	$23,944.52	$579.27	$23,365.25
2M3	LCC TRAINING CA TOTAL	$8,511.25	$0.00	$8,511.25
2M	MOBILIZATION TASK TOTAL	$41,584.99	$579.27	$41,005.72
2E1	BACKFILLING CA TOTAL	$612,137.94	$121,821.65	$490,316.29
2E2	DUMP SLOPING CA TOTAL	$467,883.65	$75,766.43	$392,117.22
2E3	COVER PLACEMENT CA TOTAL	$182,886.70	$40,914.14	$141,972.56
2E4	CONTAMINATED SOIL CA TOTAL	$181,235.96	$41,501.37	$139,734.59
2E5	HIGHWALL CA TOTAL	$1,005.96	$190.14	$815.82
2E6	EROSION CONTROL CA TOTAL	$0.00	$0.00	$0.00
2E	EARTHWORK TASK TOTAL	$1,445,150.21	$280,193.73	$1,164,956.48
2S1	UG ENTRIES ABANDON CA TOTAL	$0.00	$0.00	$0.00
2S2	PIT WATER CA TOTAL	$4,866.89	$0.00	$4,866.89
2S3	SS DEMOLITION CA TOTAL	$0.00	$0.00	$0.00
2S4	SS DECON CA TOTAL	$0.00	$0.00	$0.00
2S5	PERMANENT STRUCTURES CA TOTAL	$22,467.35	$281.87	$22,185.48
2S	STRUCTURES TASK TOTAL	$27,334.24	$281.87	$27,052.37
2R1	SEEDING CA SUBTOTAL	$0.00	$0.00	$0.00
2R2	IRRIGATION CA SUBTOTAL	$0.00	$0.00	$0.00
2R	REVEGETATION TASK TOTAL	$0.00	$0.00	$0.00
2	CONSTRUCTION TOTAL	$1,622,780.44	$281,054.87	$1,341,725.57
	JACKPILE PROJECT SUMMARY			
1	MANAGEMENT TOTAL	$149,872.80	N/A	$149,872.80
2	CONSTRUCTION TOTAL	$1,622,780.44	$281,054.87	$1,341,725.57
	GRAND TOTAL	$1,772,653.24	$281,054.87	$1,491,598.37

JACKPILE
PROJECT TO DATE TRACKING

PY90

PY91
INTERIM
MOBILIZATION

FEBRUARY 1991

WBS ID NO.	WORK PACKAGE DESCRIPTION	TOTAL COST ESTIMATE	PTD ACTUAL COST	PTD ACTUAL EQUIP CREDIT	PTD ACTUAL CASH FLOW	REMAINING COST ESTIMATE	% OF ESTIMATE SPENT	REPORTED % COMPLETE	ESTIMATED VARIANCE AT COMPLETION
MGMT CA SUMMARY									
1P1	POL MANAGEMENT CA TOTAL	$304,998.00	$106,884.33	$0.00	$106,884.33	$198,114.55	35%	38%	$25,961.37
1P2	POL OTHER PROGRAMS CA TOTAL	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
1P	POL MANAGEMENT TASK TOTAL	$304,998.00	$106,884.33	$0.00	$106,884.33	$198,114.55	35%	38%	$25,961.37
1C1	CONSTRUCTION MANAGEMENT CA TOTAL	$855,821.10	$573,492.57	$0.00	$573,492.57	$282,328.53	67%	75%	$89,435.20
1C2	INTERIM CMC CA TOTAL	$200,018.90	$205,116.43	$0.00	$205,116.43	($5,097.53)	103%	100%	($5,097.53)
1C3	CO-OP AGREEMENT CONTINGECY CA TOTAL	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
1C	CONSTRUCTION MANAGEMENT TASK TOTAL	$1,055,840.00	$778,609.00	$0.00	$778,609.00	$277,231.00	74%	80%	$84,337.67
1	MANAGEMENT TOTAL	$1,360,838.00	$885,493.33	$0.00	$885,493.33	$475,345.55	65%	71%	$110,299.05
CONST CA SUMRY									
2L1	LCC COSTS CA TOTAL	$810,300.00	$820,363.40	$0.00	$820,363.40	($10,063.40)	101%	100%	($700.40)
2L2	LCC START-UP COSTS CA TOTAL	$586,100.00	$491,501.20	$0.00	$491,501.20	$94,598.80	84%	87%	$22,124.80
2L	LCC ADMINISTRATION TASK TOTAL	$1,396,400.00	$1,311,864.60	$0.00	$1,311,864.60	$84,535.40	94%	100%	$21,424.40
2M1	MOBILIZATION CA TOTAL	$444,617.00	$433,659.51	$19.38	$433,640.13	$10,957.49	98%	98%	($10.18)
2M2	LAND SURVEY CA TOTAL	$384,150.00	$155,650.23	$3,631.08	$152,019.15	$228,499.77	41%	38%	($11,242.67)
2M3	LCC TRAINING CA TOTAL	$271,628.00	$143,971.75	$3,635.60	$140,336.15	$127,656.25	53%	61%	$39,802.10
2M	MOBILIZATION TASK TOTAL	$1,100,395.00	$733,281.49	$7,286.06	$725,995.43	$367,113.51	67%	68%	$28,549.25
2E1	BACKFILLING CA TOTAL	$6,396,125.00	$3,716,980.54	$874,522.74	$2,842,457.80	$2,679,144.46	58%	49%	$628,842.09
2E2	DUMP SLOPING CA TOTAL	$3,095,112.00	$1,904,635.05	$411,217.66	$1,493,417.39	$1,190,476.95	62%	63%	$711,313.38
2E3	COVER PLACEMENT CA TOTAL	$1,165,959.00	$183,080.77	$40,914.14	$142,166.63	$982,878.23	16%	18%	$392,463.80
2E4	CONTAMINATED SOIL CA TOTAL	$371,569.00	$298,558.02	$68,178.61	$230,379.41	$73,010.98	80%	62%	($734.21)
2E5	HIGHWALL CA TOTAL	$212,977.00	$59,327.23	$190.14	$59,137.09	$153,649.77	28%	28%	$2,253.46
2E6	EROSION CONTROL CA TOTAL	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E	EARTHWORK TASK TOTAL	$11,241,742.00	$6,162,581.61	$1,395,023.29	$4,767,558.32	$5,079,160.39	55%	50%	$1,734,138.51
2S1	UG ENTRIES ABANDON CA TOTAL	$67,542.00	$12,300.80	$10.00	$12,290.80	$55,241.20	18%	37%	$34,304.74
2S2	PIT WATER CA TOTAL	$416,990.00	$393,322.39	$96,424.37	$296,898.02	$23,667.61	94%	70%	($7,597.60)
2S3	SS DEMOLITION CA TOTAL	$175,829.00	$137,009.53	$3,659.79	$133,349.74	$38,819.47	78%	82%	$12,721.55
2S4	SS DECON CA TOTAL	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2S5	PERMANENT STRUCTURES CA TOTAL	$177,418.00	$94,784.31	$1,068.64	$93,715.67	$82,633.69	53%	40%	($56,871.17)
2S	STRUCTURES TASK TOTAL	$837,779.00	$637,417.03	$101,162.80	$536,254.23	$200,361.97	76%	63%	($17,442.49)
2R1	SEEDING CA SUBTOTAL	$54,917.00	$31,304.00	$0.00	$31,304.00	$23,613.00	57%	100%	$23,613.00
2R2	IRRIGATION CA SUBTOTAL	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2R	REVEGETATION TASK TOTAL	$54,917.00	$31,304.00	$0.00	$31,304.00	$23,613.00	57%	100%	$23,613.00
2	CONSTRUCTION TOTAL	$14,631,233.00	$8,876,448.73	$1,503,472.15	$7,372,976.58	$5,754,784.27	61%	57%	$1,790,282.68
	JACKPILE PROJECT SUMMARY								
1	MANAGEMENT TOTAL	$1,360,838.00	$885,493.33	N/A	$885,493.33	$475,345.55	65%	71%	$110,299.05
2	CONSTRUCTION TOTAL	$14,631,233.00	$8,876,448.73	$1,503,472.15	$7,372,976.58	$5,754,784.27	61%	57%	$1,790,282.68
	GRAND TOTAL	$15,992,071.00	$9,761,942.06	$1,503,472.15	$8,258,469.91	$6,230,129.82	61%	59%	$1,900,581.73

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WBS ID NO.	WORK PACKAGE DESCRIPTION	TOTAL COST ESTIMATE	PTD ACTUAL COST	ACTUAL EQUIP CREDIT	ACTUAL CASH FLOW	REMAINING COST ESTIMATE	% OF ESTIMATE SPENT	REPORTED % COMPLETE	ESTIMATED VARIANCE AT COMPLETION
POL MGMT									
1P1L01	PROJECT MANAGEMENT – PY90	$110,859.00	$85,607.08	$0.00	$85,607.08	$25,251.92	77%	100%	$25,251.92
1P1L01A	PROJECT MANAGEMENT – PY91	$194,139.00	$21,277.25	$0.00	$21,277.25	$172,861.75	11%	11%	$709.45
1P1L01B		$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
1P1L01C		$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
1P1L01D		$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
1P1	POL MANAGEMENT CA TOTAL	$304,998.00	$106,884.33	$0.00	$106,884.33	$198,114.55	35%	38%	$25,961.37
A/E									
1P2L01	PRIOR DESIGN AND SPECIFICATIONS	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
1P2L02	PRIOR LEGAL EXPENSE	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
1P2L03	PRIOR POL EXPENSE	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
1P2	ENGINEERING CA TOTAL	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
1P	POL MANAGEMENT TASK TOTAL	$304,998.00	$106,884.33	$0.00	$106,884.33	$198,114.55	35%	38%	$25,961.37
CMC									
1C1L01	ENGINEERING SERVICES CONTRACT – PY90	$434,040.00	$394,156.74	$0.00	$394,156.74	$39,883.26	91%	100%	$39,883.26
1C1L01A	ENGINEERING SERVICES CONTRACT – PY91	$204,842.00	$84,460.30	$0.00	$84,460.30	$120,381.70	41%	40%	($6,308.75)
1C1L03	NO WORK PACKAGE ASSIGNED TO THIS WBS	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
1C1L04	NO WORK PACKAGE ASSIGNED TO THIS WBS	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
1C1L05	ENVIRONMENTAL MONITORING: PY90	$106,654.10	$50,740.28	$0.00	$50,740.28	$55,913.82	48%	100%	$55,913.82
1C1L05A	ENVIRONMENTAL MONITORING: PY91	$110,285.00	$44,135.25	$0.00	$44,135.25	$66,149.75	40%	40%	($53.12)
1C1	CONSTRUCTION MANAGEMENT CA TOTAL	$855,821.10	$573,492.57	$0.00	$573,492.57	$282,328.53	67%	75%	$80,435.20
INTERIM CMC									
1C2L01	COMPLETE 1989 (CONST. MGMT.)	$116,337.65	$115,775.00	$0.00	$115,775.00	$562.65	100%	100%	$562.65
1C2L02	COMPLETE 1989 (CMC PURCHASES)	$5,392.35	$5,392.35	$0.00	$5,392.35	$0.00	100%	100%	$0.00
1C2L03B	COMPLETE 1990 (ENV. MONITORING)	$78,288.90	$83,949.08	$0.00	$83,949.08	($5,660.18)	107%	100%	($5,660.18)
1C2	INTERIM CMC CA TOTAL	$200,018.90	$205,116.43	$0.00	$205,116.43	($5,097.53)	103%	100%	($5,097.53)
CONTINGENCY									
1C3L01	MITIGATION PER CO-OP AGREEMENT	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
1C3L02	REVEGETATION PER CO-OP AGREEMENT	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
1C3	O-OP AGREEMENT CONTINGENCY CA TOTAL	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
1C	CONSTRUCTION MANAGEMENT TASK TOTAL	$1,055,840.00	$778,609.00	$0.00	$778,609.00	$277,231.00	74%	80%	$84,337.67

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1	MANAGEMENT TOTAL	$1,360,838.00	$885,493.33	$0.00	$885,493.33	$475,345.55	65%	71%	$110,299.05
LCC ADMIN									
2L1L01	COMPLETE 1990 (LCC G&A)	$810,300.00	$811,000.40	$0.00	$811,000.40	($700.40)	100%	100%	($700.40)
2L1L02	DELETED 1990 (LCC MARGIN)	$0.00	$9,363.00	$0.00	$9,363.00	($9,363.00)	0%	0%	N/A
2L1	LCC COSTS CA TOTAL	$810,300.00	$820,363.40	$0.00	$820,363.40	($10,063.40)	101%	100%	($700.40)
2L2L01	COMPLETE 1990 (LCC MOB. G&A)	$119,100.00	$89,400.00	$0 00	$89,400.00	$29,700.00	75%	100%	$29,700.00
2L2L02	LCC INSURANCE: INTERIM – PY90	$145,500 00	$117,390.20	$0.00	$117,390.20	$28,109.80	81%	100%	$28,109.80
2L2L02A	LCC INSURANCE: INTERIM – PY91	$145,500.00	$108,711.00	$0.00	$108,711.00	$36,789.00	75%	60%	($35,685.00)
2L2L03	COMPLETE 1990 (LCC ADMIN COSTS)	$176,000.00	$176,000.00	$0.00	$176,000.00	$0.00	100%	100%	$0.00
2L2	LCC START-UP COSTS CA TOTAL	$586,100.00	$491,501.20	$0.00	$491,501.20	$94,598.80	84%	87%	$22,124.80
2L	LCC ADMINISTRATION TASK TOTAL	$1,396,400.00	$1,311,864.60	$0.00	$1,311,864.60	$84,535.40	94%	100%	$21,424.40
MOBILIZATION									
2M1L01	NO WORK PACKAGE ASSIGNED THIS WBS #	$0 00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2M1L05	COMPLETE 1990 (SMALL TOOLS)	$63,724.00	$61,934.04	$0.00	$61,934.04	$1,789.96	97%	100%	$1,789.96
2M1L06	COMPLETE 1990 (REMODELING)	$46,520.00	$50,732.20	$0.00	$50,732.20	($4,212.20)	109%	100%	($4,212.20)
2M1L07	COMPLETE 1990 (RECONDITIONING)	$97,163.00	$113,909.36	$19.38	$113,889.98	($16,746.36)	117%	100%	($16,726.98)
2M1L08	COMPLETE 1990 (SHOPS)	$192,210.00	$190,603.34	$0.00	$190,603.34	$1,606.66	99%	100%	$1,606.66
2M1X01	BARRICADING ROAD CLOSURE	$45,000.00	$16,480.57	$0.00	$16,480.57	$28,519.43	37%	60%	$17,532.38
2M1	MOBILIZATION CA TOTAL	$444,617.00	$433,659.51	$19.38	$433,640.13	$10,957.49	98%	98%	($10.18)
LAND SURVEY									
2M2N01	LAND SURVEY NP AREA	$117,913.00	$131,705.71	$2,550.04	$129,155.67	($13,792.71)	112%	100%	($11,242.67)
2M2S01	LAND SURVEY SP AREA	$266,237.00	$23,944.52	$1,081.04	$22,863.48	$242,292 48	9%	0%	$0.00
2M2J01	LAND SURVEY JP AREA	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2M2	LAND SURVEY CA TOTAL	$384,150.00	$155,650.23	$3,631.08	$152,019.15	$228,499.77	41%	38%	($11,242.67)
TRAINING									
2M3L01	COMPLETE 1990 (MOB. OP. TRAINING)	$0.00	$0.00	$0.00	$0 00	$0.00	0%	100%	$0.00
2M3L02	OPERATOR TRAINING: EARTHWORK – PY90	$171,628 00	$135,461 50	$3,635.60	$131,825.90	$36,166.50	79%	100%	$39,802 10
2M3L02A	OPERATOR TRAINING: EARTHWORK – PY91	$100,000.00	$8,510.25	$0.00	$8,510.25	$91,489.75	9%	0%	$0.00
2M3	LCC TRAINING CA TOTAL	$271,628.00	$143,971.75	$3,635.60	$140,336.15	$127,656.25	53%	61%	$39,802.10
2M	MOBILIZATION TASK TOTAL	$1,100,395.00	$733,281.49	$7,286.06	$725,995.43	$367,113.51	67%	68%	$28,549.25
BACKFILLING									
2E1N01	COMPLETE 1990 (NP HAUL ROADS)	$60,352.00	$87,120.86	$12,184.44	$74,936.42	($26,768.86)	144%	100%	($14,584.42)

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2E1N02	HAUL TO NP PIT: NP-PS-17	$1,838,682.00	$1,125,512.53	$288,214.26	$837,298.27	$713,169.47	61%	100%	$513,087.73
2E1N03	COMPLETED 1990 (NP-PS-18)	$1,313,140.00	$813,027.81	$222,620.62	$590,407.19	$500,112.19	62%	100%	$0.00
2E1N04	COMPLETED 1990 (NP-PS-14)	$413,123.00	$120,856.58	$30,389.74	$90,466.84	$292,266.42	29%	100%	$0.00
2E1N05	COMPLETED 1990 (NP-PS-15)	$408,830.00	$151,095.74	$33,927.65	$117,168.09	$257,734.26	37%	100%	$0.00
2E1N06	COMPLETED 1990 (NP-PS-16)	$257,759.00	$210,848.58	$39,889.15	$170,959.43	$46,910.42	82%	100%	$0.00
2E1N07	COMPLETE 1990 (SP-PS-01)	$1,616,723.00	$905,576.57	$213,963.59	$691,612.98	$711,146.43	56%	100%	$0.00
2E1N08	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E1N09	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E1N10	HAUL TO NP PIT: NP-WT-10	$102,067.00	$62,462.80	$9,653.05	$52,809.75	$39,604.20	61%	100%	$21,193.25
2E1N11	COMPLETE 1990 (NP-PS-13)	$149,157.00	$150,560.64	$18,071.14	$132,489.50	($1,403.64)	101%	100%	($14,403.50)
2E1N12	COMPLETE 1990 (NP-WS-19)	$148,393.00	$48,316.68	$0.00	$48,316.68	$100,076.32	33%	100%	$100,076.32
	NP BACKFILLING SUBTOTAL	$6,308,226.00	$3,675,378.79	$868,913.64	$2,806,465.15	$2,632,847.21	58%	49%	$605,369.38
2E1S01	CONSTRUCT SP HAUL ROADS	$87,899.00	$41,601.75	$5,609.10	$35,992.65	$46,297.25	47%	85%	$23,472.71
2E1S02	HAUL SP-PS-02 TO SP-OP-34	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
	SP BACKFILLING SUBTOTAL	$87,899.00	$41,601.75	$5,609.10	$35,992.65	$46,297.25	47%	56%	$23,472.71
2E1J01	CONSTRUCT JP HAUL ROADS & RAMPS	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E1J02	HAUL JP-PS-23 TO JP-OP-41	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E1J03	HAUL JP-PS-24 TO JP-OP-41	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E1J04	HAUL JP-PS-25 TO JP-OP-41	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E1J05	HAUL JP-PS-26 TO JP-OP-41	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E1J06	HAUL JP-WO-10 TO JP-OP-41	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E1J07	HAUL JP-PS-27 TO JP-OP-41	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E1J08	HAUL JP-WO-07 TO JP-OP-41	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E1J09	HAUL JP-WO-12 TO JP-OP-41	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E1J10	HAUL JP-WS-08 TO JP-OP-41	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E1J11	HAUL JP-WS-15 TO JP-OP-41	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E1J12	HAUL JP-WO-71 TO JP-OP-41	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E1J13	HAUL JP-WO-03 TO JP-OP-41	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E1J14	HAUL JP-WS-13/WO-20 TO JP-OP-42	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E1J15	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
	JP BACKFILLING SUBTOTAL	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E1	BACKFILLING CA TOTAL	$6,396,125.00	$3,716,980.54	$874,522.74	$2,842,457.80	$2,679,144.46	58%	49%	$628,842.09
DUMP SLOPING									
2E2N01	DELETED 1990 (NP-WO-01)	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2N02	CUT SLOPES NP-WO-02(BENEATH NP-PS-17)	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2N03	CUT NP-WS-03 SLOPES	$24,377.00	$15,759.42	$2,793.12	$12,966.30	$8,617.58	65%	100%	$11,410.70
2E2N04	COMPLETE 1990 (NP-WO-04)	$24,959.00	$20,111.21	$3,406.72	$16,704.49	$4,847.79	81%	100%	$0.00
2E2N05	CUT NP-WO-06 SLOPES	$23,741.00	$494.43	$41.68	$452.75	$23,246.57	2%	2%	($8,821.50)
2E2N06	CUT NP-WT-09 SLOPES	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2N07	REGRADE NP-DN-22	$12,788.00	$6,345.36	$1,134.34	$5,211.02	$6,442.64	50%	0%	$0.00
2E2N08	CUT NP-WM-12 SLOPES	$14,262.00	$4,993.22	$907.31	$4,085.91	$9,268.78	35%	100%	$10,176.09
2E2N09	COMPLETE 1990 (NP-HW-25)	$24,309.00	$15,690.44	$1,560.41	$14,130.03	$8,618.56	65%	100%	$0.00
	NP DUMP SLOPING SUBTOTAL	$124,436.00	$63,394.08	$9,843.58	$53,550.50	$61,041.92	51%	48%	$12,765.29
2E2S01	COMPLETED 1990 (SP-WO-13A/WO-10)	$156,202.00	$37,795.69	$6,964.98	$30,830.71	$118,406.31	24%	100%	$0.00
2E2S02	CUT SP-WS-17 SLOPES	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00

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2E2S03	CUT SP-WO-13B/WS-18A SLOPES	$1,013,795.00	$854,355.58	$196,974.03	$657,381.55	$159,439.42	84%	93%	$95,748.12
2E2S04	COMPLETE 1990 (SP-WO-14)	$54,671.00	$39,385.36	$5,621.00	$33,764.36	$15,285.64	72%	100%	$0.00
2E2S05	CUT SP-WS-18B SLOPES	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2S06	COMPLETED 1990 (SP-WS-18C/WT-19)	$694,880.00	$499,655.55	$123,410.45	$376,245.10	$195,224.45	72%	100%	$0.00
2E2S07	COMPLETED 1990 (SP-WT-03)	$42,786.00	$30,433.21	$3,083.78	$27,349.43	$12,352.79	71%	100%	$0.00
2E2S08	DELETED 1990 (SP-WT-05)	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2S09	COMPLETE 1990 (SP-WO-38)	$2,377.00	$1,638.25	$197.80	$1,440.45	$738.75	69%	100%	$0.00
2E2S10	DELETED 1990 (SP-WS-06)	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2S11	COMPLETE 1990 (SP-WT-19A)	$36,843.00	$23,369.65	$397.22	$22,072.43	$13,473.35	63%	100%	$0.00
2E2S12	COMPLETED 1990 (SP-WM-12/WS-11)	$50,512.00	$44,187.45	$7,006.12	$37,181.33	$6,324.55	87%	100%	$0.00
2E2S13	DELETED 1990 (SP-WT-15A/15B)	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2S14	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2S15	COMPLETE 1990 (SP-WT-16/WT-37)	$34,710.00	$24,280.44	$2,994.50	$21,285.94	$10,429.56	70%	100%	$0.00
2E2S16	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2S17	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2S18	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2S19	COMPLETED 1990 (SP-MISCELLANEOUS SLOP	$5,080.00	$3,690.12	$530.73	$3,159.39	$1,389.88	73%	100%	$0.00
	SP DUMP SLOPING SUBTOTAL	$2,091,856.00	$1,558,791.30	$347,180.61	$1,211,610.69	$533,064.70	75%	61%	$95,748.12
2E2J01	CUT JP-WO-11 SLOPES	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2J02	CUT JP-WT-16D SLOPES	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2J03	CUT JP-WS-17 SLOPES	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2J04	CUT JP-PS-22 SLOPES	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2J05	CUT JP-WO-72 SLOPES	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2J06	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2J07	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2J08	CUT JP-WS-01 SLOPES	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2J09	DELETED 1990 (JP-WT-02A/02B/02C)	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2J10	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2J11	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2J12	CUT JP-WO-06 SLOPES	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2J13	CUT JP-WS-08/12 SLOPES	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2J14	CUT JP-WO-11 SLOPES	$721,679.00	$236,687.93	$45,632.61	$191,055.32	$484,991.07	33%	80%	$482,859.85
2E2J15	CUT JP-WS-15A/15B SLOPES	$157,141.00	$45,761.74	$8,560.86	$37,200.88	$111,379.26	29%	100%	$119,940.12
2E2J16	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2J17	CUT JP-WS-16A/16B/16C SLOPES	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2J18	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2J19	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2J20	CUT SLOPES JP-WO-14 (NORTH SLOPES)	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2J21	CUT JP-WS-19A SLOPES	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2J22	CUT JP-WS-19B SLOPES	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2J23	CUT JP-WS-19C SLOPES	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2J24	CUT JP-WO-66 SLOPES	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2J25	DELETED 1990 (JP-WO-70)	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2J26	CUT JP-WO-18/66A SLOPES	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2J27	CUT JP-WO-18/66B SLOPES	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2J28	CUT JP-WO-18/66C SLOPES	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2J29	DELETED 1990 (JP-WO-03A)	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00

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2E2J30	DELETED 1990 (JP-WO-03B)	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2J31	DELETED 1990 (JP-WO-04A)	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2J32	DELETED 1990 (JP-WO-04B)	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2J33	DELETED 1990 (JP-WO-05A)	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E2J34	DELETED 1990 (JP-WO-05B)	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
	JP DUMP SLOPING SUBTOTAL	$878,820.00	$282,449.67	$54,193.47	$228,256.20	$506,370.33	32%	83%	$802,799.97
2E2	DUMP SLOPING CA TOTAL	$3,095,112.00	$1,904,635.05	$411,217.66	$1,493,417.39	$1,190,476.95	62%	63%	$711,313.38
COVER PLACEMENT									
2E3N01	HAUL SOIL FROM NP-SB-61 TO NP-D8	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3N02	HAUL SOIL FROM NP-SB-26 TO NP-D2	$0.00	$0.00	$0.00	$0.00	$0.00	0%	70%	$0.00
2E3N03	HAUL SOIL FROM NP-SB-27 TO NP-D7	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3N04	HAUL SOIL FROM NP-SB-27 TO NP-D9	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3N05	HAUL SOIL FROM NP-SB-27 TO NP-D6	$246,424.00	$194.07	$0.00	$194.07	$246,229.93	0%	0%	$0.00
2E3N06	HAUL SOIL FROM NP-SB-61 TO NP-D9	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3N07	HAUL SOIL FROM SP-DN-61 TO NP-D4	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3N08	HAUL SOIL FROM SP-DN-61 TO NP-D1	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3N09	HAUL SOIL FROM SP-DN-61 TO NP-D3	$213,568.00	$20,058.97	$3,620.74	$16,438.23	$193,509.03	9%	70%	$190,084.81
2E3N10	HAUL SOIL FROM SP-DN-61 TO NP-D5	$223,417.00	$2,902.92	$622.25	$2,280.67	$220,514.08	1%	1%	($4,650.00)
2E3N11	HAUL SOIL FROM SP-DN-61 TO NP-D10	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3N12	DELETED 1990 (NP-WS-31)	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3N13	HAUL SHALE FROM NP-WS-31 TO NP-D9	$92,000.00	$10,322.10	$1,871.87	$8,450.23	$81,677.90	11%	31%	$64,741.19
2E3N14	SHALE BORROW TO NP-D4	$25,972.00	$4,458.28	$1,126.30	$3,331.98	$21,513.72	17%	20%	$9,312.10
2E3N15	SHALE BORROW TO NP-D5	$105,700.00	$87,547.81	$20,887.43	$66,660.38	$18,152.19	83%	95%	$35,531.18
2E3N16	HAUL SHALE FROM NP-WS-31 TO NP-D8	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3N17	HAUL SHALE FROM NP-WS-31 TO NP-D10	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3N18	HAUL SHALE FROM NP-WS-03 TO NP-D3	$88,354.00	$7,660.54	$1,681.22	$5,979.32	$80,693.46	9%	20%	$56,457.40
2E3N19	HAUL SHALE FROM NP-WS-03 TO NP-D2	$87,040.00	$119.46	$0.00	$119.46	$86,920.54	0%	0%	$0.00
2E3N20	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3N21	HAUL SHALE FROM NP-WS-03 TO NP-D1	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
	NP COVER PLACEMENT SUBTOTAL	$1,082,475.00	$133,264.15	$29,809.81	$103,454.34	$949,210.85	12%	0%	$353,476.69
2E3S01	SOIL BORROW SP-OP-35(SP-D1)FROM SP-SB	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3S02	SOIL BORROW SP-WS-17(SP-D2)FROM SP-SB	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3S03	SOIL BORROW SP-D3 FROM SP-SB-44	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3S04	HAUL SOIL FROM SP-SB-42 TO SP-D4	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3S05	HAUL SOIL FROM SP-SB-42 TO SP-D5	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3S06	HAUL SOIL FROM SP-SB-42 TO SP-D6	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3S07	HAUL SOIL FROM SP-SB-42 TO SP-D7	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3S08	SOIL BORROW (D8) FROM SP-SB-44	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3S09	SOIL BORROW (D9) FROM SP-SB-42	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3S10	HAUL SOIL FROM SP-SB-42 TO SP-D10	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3S11	SOIL BORROW (SP-D11) FROM SP-SB-42	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3S12	SOIL BORROW (SP-D12) FROM SP-SB-43	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3S13	SOIL BORROW (SP-D1B) FROM SP-SB-50	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3S14	SHALE BORROW (SP-13A)FROM SP-WS-17	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
[illegible]	SHALE BORROW (SP-13B)FROM SP-WS-17	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00

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2E3S16	SHALE BORROW SP-PS-01 FROM SP-WS-07	$83,484.00	$49,816.62	$11,104.33	$38,712.29	$33,667.38	60%	87%	$38,987.11
2E3S17	SHALE BORROW (SP-14) FROM SP-WS-07	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3S18	HAUL SHALE FROM SP-WS-07 TO SP-04	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3S19	HAUL SHALE FROM SP-WS-07 TO SP-D10	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3S20	HAUL SHALE FROM SP-WS-07 TO SP-38	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3S21	HAUL SHALE FROM SP-WS-07 TO SP-10	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
	SP COVER PLACEMENT SUBTOTAL	$83,484.00	$49,816.62	$11,104.33	$38,712.29	$33,667.38	60%	0%	$38,987.11
2E3J01	HAUL SOIL FROM JP-SB-53 TO D4	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3J02	HAUL SOIL FROM JP-SB-53 TO D5	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3J03	HAUL SOIL FROM JP-SB-53 TO D6	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3J04	HAUL SOIL FROM JP-SB-53 TO D9A	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3J05	HAUL SOIL FROM JP-SB-53 TO D1	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3J06	HAUL SOIL FROM JP-SB-53 TO D3	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3J07	HAUL SOIL FROM JP-SB-64 TO D2	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3J08	HAUL SOIL FROM JP-SB-64 TO D7	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3J09	HAUL SOIL FROM JP-SB-64 TO D11	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3J10	HAUL SOIL FROM JP-SB-64 TO D12	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3J11	HAUL SOIL FROM JP-SB-54 TO D16	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3J12	HAUL SOIL FROM JP-SB-54 TO D15	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3J13	DELETED 1990 (JP-SB-54)	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3J14	DELETED 1990 (JP-SB-54)	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3J15	DELETED 1990 (JP-SB-54)	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3J16	DELETED 1990 (JP-SB-54)	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3J17	DELETED 1990 (JP-SB-54)	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3J18	HAUL SHALE FROM JP-WS-19 TO D4	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3J19	HAUL SHALE FROM JP-WS-15 TO D1	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3J20	HAUL SHALE FROM JP-WS-15 TO D2	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3J21	HAUL SHALE FROM JP-WS-15 TO D7	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3J22	HAUL SHALE FROM JP-WS-15 TO D11	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3J23	HAUL SHALE FROM JP-WS-15 TO D12	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3J24	HAUL SHALE FROM JP-WT-02 TO D8A	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3J25	DELETED 1990 (JP-WT-02)	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3J26	DELETED 1990 (JP-WT-02)	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3J27	DELETED 1990 (JP-WT-02)	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3J28	HAUL SHALE FROM JP-WT-02 TO D15	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3J29	HAUL SHALE FROM JP-WT-02 TO D16	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
	JP COVER PLACEMENT SUBTOTAL	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E3	COVER PLACEMENT CA TOTAL	$1,165,959.00	$183,080.77	$40,914.14	$142,166.63	$982,878.23	16%	18%	$392,463.80
CONTAM SOIL EXV									
2E4NO1	HAUL CS FROM NP-CS-23/24 TO NP-OP-20	$106,304.00	$89,655.64	$20,825.16	$68,830.48	$16,648.36	84%	90%	$29,825.69
2E4NO1A	NORTH RIO PAGUATE-EAST	$45,600.00	$45,481.17	$10,334.34	$35,146.83	$118.83	100%	0%	$0.00
2E4NO1B	NORTH RIO PAGUATE-WEST	$45,600.00	$45,478.72	$10,246.14	$35,232.58	$121.28	100%	0%	$0.00
	NP CONTAMINATED SOIL SUBTOTAL	$197,504.00	$180,615.53	$41,405.64	$139,209.89	$16,888.47	91%	83%	$29,825.69
2E4S01	FM SP-CS-27/28/31/33/53 TO SP-OP-34	$162,633.00	$94,795.66	$20,855.59	$73,940.07	$67,837.34	58%	60%	($21,619.45)
2E4S02	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00

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2E4S03	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E4S04	SP-CS-33	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E4S05	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E4S06	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E4S07	COMPLETED 1990 (SP-CS-62/32 TO SP-OP-35)	$11,432.00	$23,146.83	$5,917.38	$17,229.45	($11,714.83)	202%	100%	($8,940.45)
	SP CONTAMINATED SOIL SUBTOTAL	$174,065.00	$117,942.49	$26,772.97	$91,169.52	$56,122.51	68%	50%	($30,559.90)
2E4J01	HAUL CS FROM JP-CS-36 TO JP-OP-41	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E4J02	HAUL CS FROM JP-CS-38/37 TO JP-OP-41	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E4J03	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E4J04	HAUL CS FROM JP-CS-39 TO JP-OP-42	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
	JP CONTAMINATED SOIL SUBTOTAL	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E4	CONTAMINATED SOIL CA TOTAL	$371,569.00	$298,558.02	$68,178.61	$230,379.41	$73,010.98	80%	62%	($734.21)
HIGHWALL RECLAM									
2E5N01	TRIM NP HIGHWALLS	$78,967.00	$1,005.96	$190.14	$815.82	$77,961.04	1%	0%	$0.00
2E5N02	SCALE NP HIGHWALLS	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
	NP HIGHWALL SUBTOTAL	$78,967.00	$1,005.96	$190.14	$815.82	$77,961.04	1%	1%	$0.00
2E5S01	TRIM SP HIGHWALLS	$67,698.00	$29,160.64	$0.00	$29,160.64	$38,537.36	43%	50%	($4,487.28)
2E5S02	SCALE SP HIGHWALLS	$66,312.00	$29,160.63	$0.00	$29,160.63	$37,151.37	44%	50%	$6,740.74
	SP HIGHWALL SUBTOTAL	$134,010.00	$58,321.27	$0.00	$58,321.27	$75,688.73	44%	44%	$2,253.46
2E5J01	TRIM JP HIGHWALLS	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E5J02	SCALE JP HIGHWALLS	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
	JP HIGHWALL SUBTOTAL	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E5	HIGHWALL CA TOTAL	$212,977.00	$59,327.23	$190.14	$59,137.09	$153,649.77	28%	28%	$2,253.46
EROSION CONTROL									
2E6NO1	DELETED 1990 (EROSION ROCK)	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E6NO2	DELETE RIO MOQUINO CHANNEL	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E6NO3	DELETED 1990 (BEDDING MATERIAL)	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
	RIO MOQUINO AND NP DITCH SUBTOTAL	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E6XO1	DELETED 1990 (QUARRY ROCK)	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E6XO2	DELETED 1990 (PROCESS ROCK)	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
	ROCK SUBTOTAL	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E6	EROSION CONTROL CA TOTAL	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2E	EARTHWORK TASK TOTAL	$11,241,742.00	$6,162,581.61	$1,395,023.29	$4,767,558.32	$5,079,160.39	55%	50%	$1,734,138.51
UG ENTRIES ABAN									
2S1N01	SEAL PW 2/3 UG ENTRY: NP SUBTOTAL	$0.00	$0.00	$0.00	$0.00	$0.00	0%	100%	$0.00
2S1SO1	SEAL P-13 ADIT	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2S1SO2	SEAL P-10 DECLINE	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00

DETAIL FOR PTD

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WBS ID NO.	WORK PACKAGE DESCRIPTION	TOTAL COST ESTIMATE	PTD ACTUAL COST	ACTUAL EQUIP CREDIT	ACTUAL CASH FLOW	REMAINING COST ESTIMATE	% OF ESTIMATE SPENT	REPORTED % COMPLETE	ESTIMATED VARIANCE AT COMPLETION
2S1SO3	COMPLETE 1990 (H-I ADIT)	$10,902.00	$476.07	$0.00	$476.07	$10,425.93	4%	100%	$10,425.93
2S1SO4	SEAL VENT HOLES	$56,640.00	$11,824.73	$10.00	$11,814.73	$44,815.27	21%	70%	$23,878.81
2S1SO5	COMPLETE 1990 (DRILL HOLES)	$0.00	$0.00	$0.00	$0.00	$0.00	0%	100%	$0.00
	SP UG ENTRIES ABANDON SUBTOTAL	$67,542.00	$12,300.80	$10.00	$12,290.80	$55,241.20	18%	37%	$34,304.74
2S1J01	SEAL JP-SS-50 ENTRIES	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2S1J02	SEAL JP-SS-46 ENTIRES	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
	JP UG ENTRIES ABANDON SUBTOTAL	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2S1	UG ENTRIES ABANDON CA TOTAL	$67,542.00	$12,300.80	$10.00	$12,290.80	$55,241.20	18%	37%	$34,304.74
PIT WATER									
2S2N01	COMPLETE 1990 (NP PIT)	$141,666.00	$161,935.47	$36,761.23	$125,174.24	($20,269.47)	114%	100%	$16,491.76
2S2S01	DISPOSE OF SP PIT WATER	$93,920.00	$128,155.26	$23,736.58	$104,418.68	($34,235.26)	136%	100%	($12,033.68)
2S2J01	DISPOSE OF JP PIT WATER	$181,404.00	$103,231.66	$35,926.56	$67,305.10	$78,172.34	57%	38%	($12,055.68)
2S2	PIT WATER CA TOTAL	$416,990.00	$393,322.39	$96,424.37	$296,898.02	$23,667.61	94%	70%	($7,597.60)
SURF STRUC DEM									
2S3N01	COMPLETE 1990 (NP SURF. STRUC.)	$2,947.00	$1,172.41	$0.00	$1,172.41	$1,774.59	40%	100%	$1,774.59
2S3S01	DEMOLISH SP SURFACE STRUCTURES	$57,896.00	$35,016.80	$38.05	$34,978.75	$22,879.20	60%	100%	$22,917.25
2S3J01	DEMOLISH JP SURFACE STRUCTURES	$114,986.00	$100,820.32	$3,621.74	$97,198.58	$14,165.68	88%	95%	($11,970.29)
2S3	SS DEMOLITION CA TOTAL	$175,829.00	$137,009.53	$3,659.79	$133,349.74	$38,819.47	78%	82%	$12,721.55
SURF STRC DECOM									
2S4XY	NOT ASSIGNED	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2S4	SS DECOM CA TOTAL	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
PERM STRUC									
2S5N01	CONSTRUCT PERMANENT ACCESS ROADS:NP	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2S5N02	CONSTRUCT PERMANENT FENCES: NP AREA	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
	NP STRUCTURES SUBTOTAL	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2S5S01	CONSTRUCT PERMANENT ACCESS ROADS:SP	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2S5S02	CONSTRUCT PERMANENT FENCES: SP AREA	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
	SP STRUCTURES SUBTOTAL	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2S5J01	CONSTRUCT PERMANENT ACCESS ROADS:SP	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2S5J02	CONSTRUCT PERMANENT FENCES: SP AREA	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
	JP STRUCTURES SUBTOTAL	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2S5J09	CONSTRUCT PERMANENT FENCES: ALL AREA	$177,418.00	$94,784.31	$1,068.64	$93,715.67	$82,633.69	53%	40%	($56,871.17)
	ALL STRUCTURES SUBTOTAL	$177,418.00	$94,784.31	$1,068.64	$93,715.67	$82,633.69	53%	40%	($56,871.17)
2S5	PERMANENT STRUCTURES CA TOTAL	$177,418.00	$94,784.31	$1,068.64	$93,715.67	$82,633.69	53%	40%	($56,871.17)
2S	STRUCTURES TASK TOTAL	$837,779.00	$637,417.03	$101,162.80	$536,254.23	$200,361.97	76%	63%	($17,442.49)
SEEDBEDS									
2R1N01	PREPARE BED & SEED NP FLAT AREAS	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2R1N02	PREPARE BED & SEED NP SLOPE AREAS	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00

DETAIL FOR PTD

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WBS ID NO.	WORK PACKAGE DESCRIPTION	TOTAL COST ESTIMATE	PTD ACTUAL COST	ACTUAL EQUIP CREDIT	ACTUAL CASH FLOW	REMAINING COST ESTIMATE	% OF ESTIMATE SPENT	REPORTED % COMPLETE	ESTIMATED VARIANCE AT COMPLETION
	NP SEEDING SUBTOTAL	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2R1S01	PREPARE BED & SEED SP FLAT AREAS	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2R1S02	PREPARE BED & SEED SP SLOPE AREAS	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2R1S03	COMPLETE 1990 (RESEED AT HOUSING AREA)	$54,917.00	$31,304.00	$0.00	$31,304.00	$23,613.00	57%	100%	$23,613.00
	SP SEEDING SUBTOTAL	$54,917.00	$31,304.00	$0.00	$31,304.00	$23,613.00	57%	100%	$23,613.00
2R1J01	PREPARE BED & SEED JP FLAT AREAS	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2R1J02	PREPARE BED & SEED SP SLOPE AREAS	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
	JP SEEDING SUBTOTAL	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2R1	SEEDING CA SUBTOTAL	$54,917.00	$31,304.00	$0.00	$31,304.00	$23,613.00	57%	100%	$23,613.00
IRRIGATION									
2R2N01	DELETED 1990 (IRRIGATION)	0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2R2S01	DELETED 1990 (IRRIGATION)	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2R2J01	DELETED 1990 (IRRIGATION)	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2R2	IRRIGATION CA SUBTOTAL	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2R	REVEGETATION TASK TOTAL	$54,917.00	$31,304.00	$0.00	$31,304.00	$23,613.00	57%	100%	$23,613.00
TERRACING									
2T1N01	TERRACING NP AREA: 1200 LF								
2T1S01	TERRACING SP AREA: 19100 LF								
2T1J01	TERRACING JP AREA : 29000 LF								
2T1	TERRACING CA SUBTOTAL								
SPECIAL CASES									
2T2S01	CUT SP-SW-06 SLOPES - OAK CANYON								
2T2J01	CUT JP-WS-01 SLOPES - GAVILAN								
2T2J02	CUT JP-WO-14 SLOPES - RIO MOQUINO								
2T2J03	CUT JP-WO-03A/3B/4A/4B SLOPES								
2T2J04	CUT NORTH JP-WS-19 BENCHES								
2T2N01	CUT JP-WO-01 BENCHES - RIO MOQUINO								
2T2	SPECIAL CA SUBTOTAL								
2T	TERRACING/SPECIAL TASK	$0.00	$0.00	$0.00	$0.00	$0.00	0%	0%	$0.00
2	CONSTRUCTION TOTAL	$14,631,233.00	$8,876,448.73	$1,503,472.15	$7,372,976.58	$5,754,784.27	61%	57%	$1,790,282.68

DETAIL FOR PY91

DETAIL FOR PY91

FEBRUARY 1991

WBS ID NO.	WORK PACKAGE DESCRIPTION	PY91 ACTUAL COST	ACTUAL EQUIP CREDIT	ACTUAL CASH FLOW
POL MGMT				
1P1L01	PROJECT MANAGEMENT - PY90	$0.00	$0.00	$0.00
1P1L01A	PROJECT MANAGEMENT - PY91	$21,277.25	$0.00	$21,277.25
1P1L01B		$0.00	$0.00	$0.00
1P1L01C		$0.00	$0.00	$0.00
1P1L01D		$0.00	$0.00	$0.00
1P1	POL MANAGEMENT CA TOTAL	$21,277.25	$0.00	$21,277.25
A/E				
1P2L01	PRIOR DESIGN AND SPECIFICATIONS	$0.00	$0.00	$0.00
1P2L02	PRIOR LEGAL EXPENSE	$0.00	$0.00	$0.00
1P2L03	PRIOR POL EXPENSE	$0.00	$0.00	$0.00
1P2	ENGINEERING CA TOTAL	$0.00	$0.00	$0.00
1P	POL MANAGEMENT TASK TOTAL	$21,277.25	$0.00	$21,277.25
CMC				
1C1L01	ENGINEERING SERVICES CONTRACT - PY90	$0.00	$0.00	$0.00
1C1L01A	ENGINEERING SERVICES CONTRACT - PY91	$84,460.30	$0.00	$84,460.30
1C1L03	NO WORK PACKAGE ASSIGNED TO THIS WBS	$0.00	$0.00	$0.00
1C1L04	NO WORK PACKAGE ASSIGNED TO THIS WBS	$0.00	$0.00	$0.00
1C1L05	ENVIRONMENTAL MONITORING: PY90	$0.00	$0.00	$0.00
1C1L05A	ENVIRONMENTAL MONITORING: PY91	$44,135.25	$0.00	$44,135.25
1C1	CONSTRUCTION MANAGEMENT CA TOTAL	$128,595.55	$0.00	$128,595.55
INTERIM CMC				
1C2L01	COMPLETE 1989 (CONST. MGMT.)	$0.00	$0.00	$0.00
1C2L02	COMPLETE 1989 (CMC PURCHASES)	$0.00	$0.00	$0.00
1C2L03B	COMPLETE 1990 (ENV. MONITORING)	$0.00	$0.00	$0.00
1C2	INTERIM CMC CA TOTAL	$0.00	$0.00	$0.00
CONTINGENCY				
1C3L01	MITIGATION PER CO-OP AGREEMENT	$0.00	$0.00	$0.00
1C3L02	REVEGETATION PER CO-OP AGREEMENT	$0.00	$0.00	$0.00
1C3	CO-OP AGREEMENT CONTINGENCY CA TOTA	$0.00	$0.00	$0.00
1C	CONSTRUCTION MANAGEMENT TASK TOTAL	$128,595 55	$0.00	$128,595.55

DETAIL FOR PY91

FEBRUARY 1991

WBS ID NO.	WORK PACKAGE DESCRIPTION	PY91 ACTUAL COST	ACTUAL EQUIP CREDIT	ACTUAL CASH FLOW
1	MANAGEMENT TOTAL	$149,872.80	$0.00	$149,872.80
LCC ADMIN				
2L1L01	COMPLETE 1990 (LCC G&A)	$0.00	$0.00	$0.00
2L1L02	DELETED 1990 (LCC MARGIN)	$0.00	$0.00	$0.00
2L1	LCC COSTS CA TOTAL	$0.00	$0.00	$0.00
2L2L01	COMPLETE 1990 (LCC MOB. G&A)	$0.00	$0.00	$0.00
2L2L02	LCC INSURANCE: INTERIM - PY90	$0.00	$0.00	$0.00
2L2L02A	LCC INSURANCE: INTERIM - PY91	$108,711.00	$0.00	$108,711.00
2L2L03	COMPLETE 1990 (LCC ADMIN COSTS)	$0.00	$0.00	$0.00
2L2	LCC START-UP COSTS CA TOTAL	$108,711.00	$0.00	$108,711.00
2L	LCC ADMINISTRATION TASK TOTAL	$108,711.00	$0.00	$108,711.00
MOBILIZATION				
2M1L01	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00
2M1L05	COMPLETE 1990 (SMALL TOOLS)	$0.00	$0.00	$0.00
2M1L06	COMPLETE 1990 (REMODELING)	$0.00	$0.00	$0.00
2M1L07	COMPLETE 1990 (RECONDITIONING)	$0.00	$0.00	$0.00
2M1L08	COMPLETE 1990 (SHOPS)	$0.00	$0.00	$0.00
2M1X01	BARRICADING ROAD CLOSURE	$9,129.22	$0.00	$9,129.22
2M1	MOBILIZATION CA TOTAL	$9,129.22	$0.00	$9,129.22
LAND SURVEY				
2M2N01	LAND SURVEY NP AREA	$0.00	$0.00	$0.00
2M2S01	LAND SURVEY SP AREA	$23,944.52	$579.27	$23,365.25
2M2J01	LAND SURVEY JP AREA	$0.00	$0.00	$0.00
		$0.00	$0.00	$0.00
2M2	LAND SURVEY CA TOTAL	$23,944.52	$579.27	$23,365.25
TRAINING				
2M3L01	COMPLETE 1990 (MOB. OP. TRAINING)	$0.00	$0.00	$0.00
2M3L02	OPERATOR TRAINING: EARTHWORK - PY90	$0.00	$0.00	$0.00
2M3L02A	OPERATOR TRAINING. EARTHWORK - PY91	$8,511.25	$0.00	$8,511.25
2M3	LCC TRAINING CA TOTAL	$8,511.25	$0.00	$8,511.25
2M	MOBILIZATION TASK TOTAL	$41,584.99	$579.27	$41,005.72
BACKFILLING				
2E1N01	COMPLETE 1990 (NP HAUL ROADS)	$0.00	$0.00	$0.00

DETAIL FOR PY91

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WBS ID NO.	WORK PACKAGE DESCRIPTION	PY91 ACTUAL COST	ACTUAL EQUIP CREDIT	ACTUAL CASH FLOW
2E1N02	HAUL TO NP PIT: NP-PS-17	$483,463.11	$114,685.12	$368,777.99
2E1N03	COMPLETED 1990 (NP-PS-18)	$13,712.19	$0.00	$13,712.19
2E1N04	COMPLETED 1990 (NP-PS-14)	$7,266.41	$0.00	$7,266.41
2E1N05	COMPLETED 1990 (NP-PS-15)	$6,934.27	$0.00	$6,934.27
2E1N06	COMPLETED 1990 (NP-PS-16)	$46,910.41	$0.00	$46,910.41
2E1N07	COMPLETE 1990 (SP-PS-01)	$19,546.42	$0.00	$19,546.42
2E1N08	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00
2E1N09	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00
2E1N10	HAUL TO NP PIT: NP-WT-10	$34,305.13	$7,136.53	$27,168.60
2E1N11	COMPLETE 1990 (NP-PS-13)	$0.00	$0.00	$0.00
2E1N12	COMPLETE 1990 (NP-WS-19)	$0.00	$0.00	$0.00
	NP BACKFILLING SUBTOTAL	$612,137.94	$121,821.65	$490,316.29
2E1S01	CONSTRUCT SP HAUL ROADS	$0.00	$0.00	$0.00
2E1S02	HAUL SP-PS-02 TO SP-OP-34	$0.00	$0.00	$0.00
	SP BACKFILLING SUBTOTAL	$0.00	$0.00	$0.00
2E1J01	CONSTRUCT JP HAUL ROADS & RAMPS	$0.00	$0.00	$0.00
2E1J02	HAUL JP-PS-23 TO JP-OP-41	$0.00	$0.00	$0.00
2E1J03	HAUL JP-PS-24 TO JP-OP-41	$0.00	$0.00	$0.00
2E1J04	HAUL JP-PS-25 TO JP-OP-41	$0.00	$0.00	$0.00
2E1J05	HAUL JP-PS-26 TO JP-OP-41	$0.00	$0.00	$0.00
2E1J06	HAUL JP-WO-10 TO JP-OP-41	$0.00	$0.00	$0.00
2E1J07	HAUL JP-PS-27 TO JP-OP-41	$0.00	$0.00	$0.00
2E1J08	HAUL JP-WO-07 TO JP-OP-41	$0.00	$0.00	$0.00
2E1J09	HAUL JP-WO-12 TO JP-OP-41	$0.00	$0.00	$0.00
2E1J10	HAUL JP-WS-08 TO JP-OP-41	$0.00	$0.00	$0.00
2E1J11	HAUL JP-WS-15 TO JP-OP-41	$0.00	$0.00	$0.00
2E1J12	HAUL JP-WO-71 TO JP-OP-41	$0.00	$0.00	$0.00
2E1J13	HAUL JP-WO-03 TO JP-OP-41	$0.00	$0.00	$0.00
2E1J14	HAUL JP-WS-13/WO-20 TO JP-OP-42	$0.00	$0.00	$0.00
2E1J15	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00
	JP BACKFILLING SUBTOTAL	$0.00	$0.00	$0.00
2E1	BACKFILLING CA TOTAL	$612,137.94	$121,821.65	$490,316.29
DUMP SLOPING				
2E2N01	DELETED 1990 (NP-WO-01)	$0.00	$0.00	$0.00
2E2N02	CUT SLOPES NP-WO-02(BENEATH NP-PS-17)	$0.00	$0.00	$0.00
2E2N03	CUT NP-WS-03 SLOPES	$15,759.42	$2,793.12	$12,966.30
2E2N04	COMPLETE 1990 (NP-WO-04)	$4,847.78	$0.00	$4,847.78
2E2N05	CUT NP-WO-06 SLOPES	$0.00	$0.00	$0.00
2E2N06	CUT NP-WT-09 SLOPES	$0.00	$0.00	$0.00
2E2N07	REGRADE NP-DN-22	$6,345.36	$1,134.34	$5,211.02
2E2N08	CUT NP-WM-12 SLOPES	$4,993.22	$907.31	$4,085.91
2E2N09	COMPLETE 1990 (NP-HW-25)	$8,618.57	$0.00	$8,618.57
	NP DUMP SLOPING SUBTOTAL	$40,564.35	$4,834.77	$35,729.58
2E2S01	COMPLETED 1990 (SP-WO-13A/WO-10)	$4,406.30	$0.00	$4,406.30
2E2S02	CUT SP-WS-17 SLOPES	$0.00	$0.00	$0.00

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WBS ID NO.	WORK PACKAGE DESCRIPTION	PY91 ACTUAL COST	ACTUAL EQUIP CREDIT	ACTUAL CASH FLOW
2E2S03	CUT SP-WO-13B/WS-18A SLOPES	$155,180.81	$33,582.90	$121,597.91
2E2S04	COMPLETE 1990 (SP-WO-14)	$15,285.64	$0.00	$15,285.64
2E2S05	CUT SP-WS-18B SLOPES	$0.00	$0.00	$0.00
2E2S06	COMPLETED 1990 (SP-WS-18C/WT-19)	$5,224.45	$0.00	$5,224.45
2E2S07	COMPLETED 1990 (SP-WT-03)	$12,352.80	$0.00	$12,352.80
2E2S08	DELETED 1990 (SP-WT-05)	$0.00	$0.00	$0.00
2E2S09	COMPLETE 1990 (SP-WO-38)	$738.76	$0.00	$738.76
2E2S10	DELETED 1990 (SP-WS-06)	$0.00	$0.00	$0.00
2E2S11	COMPLETE 1990 (SP-WT-19A)	$13,474.35	$0.00	$13,474.35
2E2S12	COMPLETED 1990 (SP-WM-12/WS-11)	$6,323.55	$0.00	$6,323.55
2E2S13	DELETED 1990 (SP-WT-15A/15B)	$0.00	$0.00	$0.00
2E2S14	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00
2E2S15	COMPLETE 1990 (SP-WT-16/WT-37)	$10,429.56	$0.00	$10,429.56
2E2S16	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00
2E2S17	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00
2E2S18	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00
2E2S19	COMPLETED 1990 (SP-MISCELLANEOUS SLOP	$1,389.88	$0.00	$1,389.88
	SP DUMP SLOPING SUBTOTAL	$224,806.10	$33,582.90	$191,223.20
2E2J01	CUT JP-WO-11 SLOPES	$0.00	$0.00	$0.00
2E2J02	CUT JP-WT-16D SLOPES	$0.00	$0.00	$0.00
2E2J03	CUT JP-WS-17 SLOPES	$0.00	$0.00	$0.00
2E2J04	CUT JP-PS-22 SLOPES	$0.00	$0.00	$0.00
2E2J05	CUT JP-WO-72 SLOPES	$0.00	$0.00	$0.00
2E2J06	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00
2E2J07	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00
2E2J08	CUT JP-WS-01 SLOPES	$0.00	$0.00	$0.00
2E2J09	DELETED 1990 (JP-WT-02A/02B/02C)	$0.00	$0.00	$0.00
2E2J10	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00
2E2J11	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00
2E2J12	CUT JP-WO-06 SLOPES	$0.00	$0.00	$0.00
2E2J13	CUT JP-WS-08/12 SLOPES	$0.00	$0.00	$0.00
2E2J14	CUT JP-WO-11 SLOPES	$161,886.53	$29,963.11	$131,923.42
2E2J15	CUT JP-WS-15A/15B SLOPES	$40,626.67	$7,385.65	$33,241.02
2E2J16	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00
2E2J17	CUT JP-WS-16A/16B/16C SLOPES	$0.00	$0.00	$0.00
2E2J18	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00
2E2J19	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00
2E2J20	CUT SLOPES JP-WO-14 (NORTH SLOPES)	$0.00	$0.00	$0.00
2E2J21	CUT JP-WS-19A SLOPES	$0.00	$0.00	$0.00
2E2J22	CUT JP-WS-19B SLOPES	$0.00	$0.00	$0.00
2E2J23	CUT JP-WS-19C SLOPES	$0.00	$0.00	$0.00
2E2J24	CUT JP-WO-66 SLOPES	$0.00	$0.00	$0.00
2E2J25	DELETED 1990 (JP-WO-70)	$0.00	$0.00	$0.00
2E2J26	CUT JP-WO-18/66A SLOPES	$0.00	$0.00	$0.00
2E2J27	CUT JP-WO-18/66B SLOPES	$0.00	$0.00	$0.00
2E2J28	CUT JP-WO-18/66C SLOPES	$0.00	$0.00	$0.00
2E2J29	DELETED 1990 (JP-WO-03A)	$0.00	$0.00	$0.00

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WBS ID NO.	WORK PACKAGE DESCRIPTION	PY91 ACTUAL COST	ACTUAL EQUIP CREDIT	ACTUAL CASH FLOW
2E2J30	DELETED 1990 (JP-WO-03B)	$0.00	$0.00	$0.00
2E2J31	DELETED 1990 (JP-WO-04A)	$0.00	$0.00	$0.00
2E2J32	DELETED 1990 (JP-WO-04B)	$0.00	$0.00	$0.00
2E2J33	DELETED 1990 (JP-WO-05A)	$0.00	$0.00	$0.00
2E2J34	DELETED 1990 (JP-WO-05B)	$0.00	$0.00	$0.00
	JP DUMP SLOPING SUBTOTAL	$202,513.20	$37,348.76	$165,164.44
2E2	DUMP SLOPING CA TOTAL	$467,883.65	$75,766.43	$392,117.22
COVER PLACEMEN				
2E3N01	HAUL SOIL FROM NP-SB-61 TO NP-D8	$0.00	$0.00	$0.00
2E3N02	HAUL SOIL FROM NP-SB-26 TO NP-D2	$0.00	$0.00	$0.00
2E3N03	HAUL SOIL FROM NP-SB-27 TO NP-D7	$0.00	$0.00	$0.00
2E3N04	HAUL SOIL FROM NP-SB-27 TO NP-D9	$0.00	$0.00	$0.00
2E3N05	HAUL SOIL FROM NP-SB-27 TO NP-D6	$0.00	$0.00	$0.00
2E3N06	HAUL SOIL FROM NP-SB-61 TO NP-D9	$0.00	$0.00	$0.00
2E3N07	HAUL SOIL FROM SP-DN-61 TO NP-D4	$0.00	$0.00	$0.00
2E3N08	HAUL SOIL FROM SP-DN-61 TO NP-D1	$0.00	$0.00	$0.00
2E3N09	HAUL SOIL FROM SP-DN-61 TO NP-D3	$20,058.97	$3,620.74	$16,438.23
2E3N10	HAUL SOIL FROM SP-DN-61 TO NP-D5	$2,902.92	$622.25	$2,280.67
2E3N11	HAUL SOIL FROM SP-DN-61 TO NP-D10	$0.00	$0.00	$0.00
2E3N12	DELETED 1990 (NP-WS-31)	$0.00	$0.00	$0.00
2E3N13	HAUL SHALE FROM NP-WS-31 TO NP-D9	$10,322.10	$1,871.87	$8,450.23
2E3N14	SHALE BORROW TO NP-D4	$4,458.28	$1,126.30	$3,331.98
2E3N15	SHALE BORROW TO NP-D5	$87,547.81	$20,887.43	$66,660.38
2E3N16	HAUL SHALE FROM NP-WS-31 TO NP-D8	$0.00	$0.00	$0.00
2E3N17	HAUL SHALE FROM NP-WS-31 TO NP-D10	$0.00	$0.00	$0.00
2E3N18	HAUL SHALE FROM NP-WS-03 TO NP-D3	$7,660.54	$1,681.22	$5,979.32
2E3N19	HAUL SHALE FROM NP-WS-03 TO NP-D2	$119.46	$0.00	$119.46
2E3N20	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00
2E3N21	HAUL SHALE FROM NP-WS-03 TO NP-D1	$0.00	$0.00	$0.00
	NP COVER PLACEMENT SUBTOTAL	$133,070.08	$29,809.81	$103,260.27
2E3S01	SOIL BORROW SP-OP-35(SP-D1)FROM SP-SB	$0.00	$0.00	$0.00
2E3S02	SOIL BORROW SP-WS-17(SP-D2)FROM SP-SB	$0.00	$0.00	$0.00
2E3S03	SOIL BORROW SP-D3 FROM SP-SB-44	$0.00	$0.00	$0.00
2E3S04	HAUL SOIL FROM SP-SB-42 TO SP-D4	$0.00	$0.00	$0.00
2E3S05	HAUL SOIL FROM SP-SB-42 TO SP-D5	$0.00	$0.00	$0.00
2E3S06	HAUL SOIL FROM SP-SB-42 TO SP-D6	$0.00	$0.00	$0.00
2E3S07	HAUL SOIL FROM SP-SB-42 TO SP-D7	$0.00	$0.00	$0.00
2E3S08	SOIL BORROW (D8) FROM SP-SB-44	$0.00	$0.00	$0.00
2E3S09	SOIL BORROW (D9) FROM SP-SB-42	$0.00	$0.00	$0.00
2E3S10	HAUL SOIL FROM SP-SB-42 TO SP-D10	$0.00	$0.00	$0.00
2E3S11	SOIL BORROW (SP-D11) FROM SP-SB-42	$0.00	$0.00	$0.00
2E3S12	SOIL BORROW (SP-D12) FROM SP-SB-43	$0.00	$0.00	$0.00
2E3S13	SOIL BORROW (SP-D1B) FROM SP-SB-50	$0.00	$0.00	$0.00
2E3S14	SHALE BORROW (SP-13A)FROM SP-WS-17	$0.00	$0.00	$0.00
2E3S15	SHALE BORROW (SP-13B)FROM SP-WS-17	$0.00	$0.00	$0.00

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WBS ID NO.	WORK PACKAGE DESCRIPTION	PY91 ACTUAL COST	ACTUAL EQUIP CREDIT	ACTUAL CASH FLOW
2E3S16	SHALE BORROW SP-PS-01 FROM SP-WS-07	$49,816.62	$11,104.33	$38,712.29
2E3S17	SHALE BORROW (SP-14) FROM SP-WS-07	$0.00	$0.00	$0.00
2E3S18	HAUL SHALE FROM SP-WS-07 TO SP-04	$0.00	$0.00	$0.00
2E3S19	HAUL SHALE FROM SP-WS-07 TO SP-D10	$0.00	$0.00	$0.00
2E3S20	HAUL SHALE FROM SP-WS-07 TO SP-38	$0.00	$0.00	$0.00
2E3S21	HAUL SHALE FROM SP-WS-07 TO SP-10	$0.00	$0.00	$0.00
	SP COVER PLACEMENT SUBTOTAL	$49,816.62	$11,104.33	$38,712.29
2E3J01	HAUL SOIL FROM JP-SB-53 TO D4	$0.00	$0.00	$0.00
2E3J02	HAUL SOIL FROM JP-SB-53 TO D5	$0.00	$0.00	$0.00
2E3J03	HAUL SOIL FROM JP-SB-53 TO D6	$0.00	$0.00	$0.00
2E3J04	HAUL SOIL FROM JP-SB-53 TO D9A	$0.00	$0.00	$0.00
2E3J05	HAUL SOIL FROM JP-SB-53 TO D1	$0.00	$0.00	$0.00
2E3J06	HAUL SOIL FROM JP-SB-53 TO D3	$0.00	$0.00	$0.00
2E3J07	HAUL SOIL FROM JP-SB-64 TO D2	$0.00	$0.00	$0.00
2E3J08	HAUL SOIL FROM JP-SB-64 TO D7	$0.00	$0.00	$0.00
2E3J09	HAUL SOIL FROM JP-SB-64 TO D11	$0.00	$0.00	$0.00
2E3J10	HAUL SOIL FROM JP-SB-64 TO D12	$0.00	$0.00	$0.00
2E3J11	HAUL SOIL FROM JP-SB-54 TO D16	$0.00	$0.00	$0.00
2E3J12	HAUL SOIL FROM JP-SB-54 TO D15	$0.00	$0.00	$0.00
2E3J13	DELETED 1990 (JP-SB-54)	$0.00	$0.00	$0.00
2E3J14	DELETED 1990 (JP-SB-54)	$0.00	$0.00	$0.00
2E3J15	DELETED 1990 (JP-SB-54)	$0.00	$0.00	$0.00
2E3J16	DELETED 1990 (JP-SB-54)	$0.00	$0.00	$0.00
2E3J17	DELETED 1990 (JP-SB-54)	$0.00	$0.00	$0.00
2E3J18	HAUL SHALE FROM JP-WS-19 TO D4	$0.00	$0.00	$0.00
2E3J19	HAUL SHALE FROM JP-WS-15 TO D1	$0.00	$0.00	$0.00
2E3J20	HAUL SHALE FROM JP-WS-15 TO D2	$0.00	$0.00	$0.00
2E3J21	HAUL SHALE FROM JP-WS-15 TO D7	$0.00	$0.00	$0.00
2E3J22	HAUL SHALE FROM JP-WS-15 TO D11	$0.00	$0.00	$0.00
2E3J23	HAUL SHALE FROM JP-WS-15 TO D12	$0.00	$0.00	$0.00
2E3J24	HAUL SHALE FROM JP-WT-02 TO D8A	$0.00	$0.00	$0.00
2E3J25	DELETED 1990 (JP-WT-02)	$0.00	$0.00	$0.00
2E3J26	DELETED 1990 (JP-WT-02)	$0.00	$0.00	$0.00
2E3J27	DELETED 1990 (JP-WT-02)	$0.00	$0.00	$0.00
2E3J28	HAUL SHALE FROM JP-WT-02 TO D15	$0.00	$0.00	$0.00
2E3J29	HAUL SHALE FROM JP-WT-02 TO D16	$0.00	$0.00	$0.00
	JP COVER PLACEMENT SUBTOTAL	$0.00	$0.00	$0.00
2E3	COVER PLACEMENT CA TOTAL	$182,886.70	$40,914.14	$141,972.56
CONTAM SOIL EXV				
2E4NO1	HAUL CS FROM NP-CS-23/24 TO NP-OP-20	$88,925.10	$20,825.16	$68,099.94
2E4NO1A	NORTH RIO PAGUATE-EAST	$45,481.17	$10,334.34	$35,146.83
2E4NO1B	NORTH RIO PAGUATE WEST	$45,478.72	$10,246.14	$35,232.58
	NP CONTAMINATED SOIL SUBTOTAL	$179,884.99	$41,405.64	$138,479.35
2E4S01	FM SP-CS-27/28/31/33/53 TO SP-OP-34	$1,350.97	$95.73	$1,255.24
2E4S02	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00

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WBS ID NO.	WORK PACKAGE DESCRIPTION	PY91 ACTUAL COST	ACTUAL EQUIP CREDIT	ACTUAL CASH FLOW
2E4S03	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00
2E4S04	SP-CS-33	$0.00	$0.00	$0.00
2E4S05	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00
2E4S06	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00
2E4S07	COMPLETED 1990 (SP-CS-62/32 TO SP-OP-35)	$0.00	$0.00	$0.00
	SP CONTAMINATED SOIL SUBTOTAL	$1,350.97	$95.73	$1,255.24
2E4J01	HAUL CS FROM JP-CS-36 TO JP-OP-41	$0.00	$0.00	$0.00
2E4J02	HAUL CS FROM JP-CS-38/37 TO JP-OP-41	$0.00	$0.00	$0.00
2E4J03	NO WORK PACKAGE ASSIGNED THIS WBS #	$0.00	$0.00	$0.00
2E4J04	HAUL CS FROM JP-CS-39 TO JP-OP-42	$0.00	$0.00	$0.00
	JP CONTAMINATED SOIL SUBTOTAL	$0.00	$0.00	$0.00
2E4	CONTAMINATED SOIL CA TOTAL	$181,235.96	$41,501.37	$139,734.59
HIGHWALL RECLA				
2E5N01	TRIM NP HIGHWALLS	$1,005.96	$190.14	$815.82
2E5N02	SCALE NP HIGHWALLS	$0 00	$0.00	$0.00
	NP HIGHWALL SUBTOTAL	$1,005.96	$190.14	$815.82
2E5S01	TRIM SP HIGHWALLS	$0.00	$0.00	$0.00
2E5S02	SCALE SP HIGHWALLS	$0.00	$0.00	$0.00
	SP HIGHWALL SUBTOTAL	$0.00	$0.00	$0.00
2E5J01	TRIM JP HIGHWALLS	$0.00	$0.00	$0.00
2E5J02	SCALE JP HIGHWALLS	$0.00	$0.00	$0.00
	JP HIGHWALL SUBTOTAL	$0.00	$0.00	$0.00
2E5	HIGHWALL CA TOTAL	$1,005.96	$190.14	$815.82
EROSION CONTRO				
2E6NO1	DELETED 1990 (EROSION ROCK)	$0.00	$0.00	$0.00
2E6NO2	DELETE RIO MOQUINO CHANNEL	$0.00	$0 00	$0.00
2E6NO3	DELETED 1990 (BEDDING MATERIAL)	$0.00	$0.00	$0.00
	RIO MOQUINO AND NP DITCH SUBTOTAL	$0.00	$0.00	$0.00
2E6XO1	DELETED 1990 (QUARRY ROCK)	$0.00	$0.00	$0.00
2E6XO2	DELETED 1990 (PROCESS ROCK)	$0.00	$0.00	$0.00
	ROCK SUBTOTAL	$0.00	$0.00	$0.00
2E6	EROSION CONTROL CA TOTAL	$0.00	$0.00	$0.00
2E	EARTHWORK TASK TOTAL	$1,445,150.21	$280,193.73	$1,164,956.48
UG ENTRIES ABAN				
2S1N01	SEAL PW 2/3 UG ENTRY: NP SUBTOTAL	$0.00	$0.00	$0.00
2S1SO1	SEAL P-13 ADIT	$0.00	$0 00	$0.00
2S1SO2	SEAL P-10 DECLINE	$0.00	$0.00	$0.00

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WBS ID NO.	WORK PACKAGE DESCRIPTION	PY91 ACTUAL COST	ACTUAL EQUIP CREDIT	ACTUAL CASH FLOW
2S1SO3	COMPLETE 1990 (H-I ADIT)	$0.00	$0.00	$0.00
2S1SO4	SEAL VENT HOLES	$0.00	$0.00	$0.00
2S1SO5	COMPLETE 1990 (DRILL HOLES)	$0.00	$0.00	$0.00
	SP UG ENTRIES ABANDON SUBTOTAL	$0.00	$0.00	$0.00
2S1J01	SEAL JP-SS-50 ENTRIES	$0.00	$0.00	$0.00
2S1J02	SEAL JP-SS-46 ENTIRES	$0.00	$0.00	$0.00
	JP UG ENTRIES ABANDON SUBTOTAL	$0.00	$0.00	$0.00
2S1	UG ENTRIES ABANDON CA TOTAL	$0.00	$0.00	$0.00
PIT WATER				
2S2N01	COMPLETE 1990 (NP PIT)	$0.00	$0.00	$0.00
2S2S01	DISPOSE OF SP PIT WATER	$0.00	$0.00	$0.00
2S2J01	DISPOSE OF JP PIT WATER	$4,866.89	$0.00	$4,866.89
2S2	PIT WATER CA TOTAL	$4,866.89	$0.00	$4,866.89
SURF STRUC DEM				
2S3N01	COMPLETE 1990 (NP SURF STRUC.)	$0.00	$0.00	$0.00
2S3S01	DEMOLISH SP SURFACE STRUCTURES	$0.00	$0.00	$0.00
2S3J01	DEMOLISH JP SURFACE STRUCTURES	$0.00	$0.00	$0.00
2S3	SS DEMOLITION CA TOTAL	$0.00	$0.00	$0.00
SURF STRC DECO				
2S4XY	NOT ASSIGNED	$0.00	$0.00	$0.00
2S4	SS DECOM CA TOTAL	$0.00	$0.00	$0.00
PERM STRUC				
2S5N01	CONSTRUCT PERMANENT ACCESS ROADS:NP	$0.00	$0.00	$0.00
2S5N02	CONSTRUCT PERMANENT FENCES: NP AREA	$0.00	$0.00	$0.00
	NP STRUCTURES SUBTOTAL	$0.00	$0.00	$0.00
2S5S01	CONSTRUCT PERMANENT ACCESS ROADS:SP	$0.00	$0.00	$0.00
2S5S02	CONSTRUCT PERMANENT FENCES: SP AREA	$0.00	$0.00	$0.00
	SP STRUCTURES SUBTOTAL	$0.00	$0.00	$0.00
2S5J01	CONSTRUCT PERMANENT ACCESS ROADS:SP	$0.00	$0.00	$0.00
2S5J02	CONSTRUCT PERMANENT FENCES: SP AREA	$0.00	$0.00	$0.00
	JP STRUCTURES SUBTOTAL	$0.00	$0.00	$0.00
2S5J09	CONSTRUCT PERMANENT FENCES: ALL AREA	$22,467.35	$281.87	$22,185.48
	ALL STRUCTURES SUBTOTAL	$22,467.35	$281.87	$22,185.48
2S5	PERMANENT STRUCTURES CA TOTAL	$22,467.35	$281.87	$22,185.48
2S	STRUCTURES TASK TOTAL	$27,334.24	$281.87	$27,052.37
SEEDBEDS				
2R1N01	PREPARE BED & SEED NP FLAT AREAS	$0.00	$0.00	$0.00
2R1N02	PREPARE BED & SEED NP SLOPE AREAS	$0.00	$0.00	$0.00

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WBS ID NO.	WORK PACKAGE DESCRIPTION	PY91 ACTUAL COST	ACTUAL EQUIP CREDIT	ACTUAL CASH FLOW
	NP SEEDING SUBTOTAL	$0.00	$0.00	$0.00
2R1S01	PREPARE BED & SEED SP FLAT AREAS	$0.00	$0.00	$0.00
2R1S02	PREPARE BED & SEED SP SLOPE AREAS	$0.00	$0.00	$0.00
2R1S03	COMPLETE 1990 (RESEED AT HOUSING AREA)	$0.00	$0.00	$0.00
	SP SEEDING SUBTOTAL	$0.00	$0.00	$0.00
2R1J01	PREPARE BED & SEED JP FLAT AREAS	$0.00	$0.00	$0.00
2R1J02	PREPARE BED & SEED SP SLOPE AREAS	$0.00	$0.00	$0.00
	JP SEEDING SUBTOTAL	$0.00	$0.00	$0.00
2R1	SEEDING CA SUBTOTAL	$0.00	$0.00	$0.00
IRRIGATION				
2R2N01	DELETED 1990 (IRRIGATION)	$0.00	$0.00	$0.00
2R2S01	DELETED 1990 (IRRIGATION)	$0.00	$0.00	$0.00
2R2J01	DELETED 1990 (IRRIGATION)	$0.00	$0.00	$0.00
2R2	IRRIGATION CA SUBTOTAL	$0.00	$0.00	$0.00
2R	REVEGETATION TASK TOTAL	$0.00	$0.00	$0.00
TERRACING				
2T1N01	TERRACING NP AREA: 1200 LF	$0.00	$0.00	$0.00
2T1S01	TERRACING SP AREA: 19100 LF	$0.00	$0.00	$0.00
2T1J01	TERRACING JP AREA : 29000 LF	$0.00	$0.00	$0.00
2T1	TERRACING CA SUBTOTAL	$0.00	$0.00	$0.00
SPECIAL CASES				
2T2S01	CUT SP-SW-06 SLOPES - OAK CANYON	$0.00	$0.00	$0.00
2T2J01	CUT JP-WS-01 SLOPES - GAVILAN	$0.00	$0.00	$0.00
2T2J02	CUT JP-WO-14 SLOPES - RIO MOQUINO	$0.00	$0.00	$0.00
2T2J03	CUT JP-WO-03A/3B/4A/4B SLOPES	$0.00	$0.00	$0.00
2T2J04	CUT NORTH JP-WS-19 BENCHES	$0.00	$0.00	$0.00
2T2N01	CUT JP-WO-01 BENCHES - RIO MOQUINO	$0.00	$0.00	$0.00
2T2	SPECIAL CA SUBTOTAL	$0.00	$0.00	$0.00
2T	TERRACING/SPECIAL TASK	$0.00	$0.00	$0.00
2	CONSTRUCTION TOTAL	$1,622,780.44	$281,054.87	$1,341,725.57

5.2 WORK PACKAGE DISCUSSION

WP#	DESCRIPTION	REMARKS
1C1LO1	Engineering/Consulting Services	Completing designs; Phasing out by May, 1991;
1C1L05	Environmental Monitoring	on-going;
2M2N01	Surveying	on-going;
1P1L01	POL Management	on-going; technician training is underway;
2M1X01	Highway barricades	closed until 3/15/91 (latest estimate);
2M3L02	Operator Training	still open as the need arises;
2E1N02	Haul NP-PS-17	substantially complete;
2E1S01	South Paguate Haul Roads	on-going;
2E2S03,04	Cut S. Paguate slopes	on-going with SP-OP-34 backfill;
2E4S01	Contaminated soil cleanup	on-going;
2E5N01,01	Trim/scale Paguate highwalls	pending re-evaluation and scheduling;
2S5J09	Site Fencing	completion pending warehouse rehab for LII, Inc.
2S1S04	Seal Vent Holes	two remaining in Jackpile;
2S1S02	Seal P-10 decline	scheduling pending completion of other surface crew work;
2S3S01	Demolish S. Paguate Structures	three buildings still intact; need Council action;
2S2J01	Dewater Jackpile Pit	on-going water being used for dust control on haul roads

5.2 WORK PACKAGE DISCUSSION (CONTINUED)

WP#	DESCRIPTION	REMARKS
2E2J14	Cut slopes JP-WO-11	on-going thru spring;
2E2N03	Cut NP-WS-03 slopes	substantially complete
2E3N18	Haul shale to NP-03	substantially complete
2E2N08	Contouring around the NP-WM-12 area	substantially complete
2E2N09	Sloping NP-25 highwall	substantially complete
2E3N09	Haul soil to NP-3	on-going;
2E3N18	Haul shale to NP-03	substantially complete
2E4N01	Haul CS-23/24 to OP-20	minor cleanup along banks needed;
2E4N01 A & B	Rio Paguate contaminated soil cleanup-scrapers	substantially complete
2E4S01	Contaminated soil cleanup	on-going;
2E3N13	Shale to NP-D9	on-going;
2E3N15	Shale to NP-D5	on-going;
2E3S16	Shale to SP-PS-01 area	on-going;
2E3N14	Shale to NP-D4	on-going;
2E3N10	Soil to NP-D5	on-going;

5.3 WORK PACKAGE CLOSEOUTS

1) New items submitted by LCC, Inc. for Final Inspection/Closeout

NONE for February, 1991. Packages submitted in January, 1991 are being inspected and circulated for the necessary signatures.

2) New items submitted by Pueblo of Laguna for BIA for Final Closeout

NONE for Fcbruary, 1991

5.4 CHANGE ORDER SUMMARY

Two new work packages were created to pay for the excavation of the additional contaminated material underneath and adjacent to the protore piles NP-PS-13, -14, -15, and -16. This volume was unanticipated in the original Jacobs design estimate; the material had to be excavated to meet the gamma radiation standard adopted for this Project. The packages are as follows:

WORK PACKAGE NUMBER	AMOUNT	PRICE TYPE
2E4N01-A (east half area)	$ 45,600	Force Account
2E4N01-B (west half area)	$ 45,600	Force Account

Work Package #2E3N13 (an "alternate" in the 2nd Annual Operating Plan) was activated in February to schedule the shale cover in the North Paguate Area NP-D9. This is not a change order but only a schedule advance for already-identified work.

6.1 PERFORMANCE MEASUREMENT

During February, 1991, the Project did not experience any severe weather-related disruptions. Returning to the 4 day/10 hour shift schedule is not expected to negatively impact operations. This is the first month where some actual operating experience with the shale and soil materials was able to be evaluated. The presence of rocky and blocky material indicates more care in sorting, loading and placement but this potential problem was built into the anticipated productivities for those work packages in the 2nd Annual Operating Plan. A better assessment will be made after a longer period of time to monitor and observe but initial results were encouraging. Based upon the actual volume moved to-date, the Project is approximately 35 weeks ahead of the baseline production rates. Cash flows are tracking as expected and the status of projected cash needs are being examined and update.

7.0

APPENDIX A: SPECIAL REPORTS/PLANS

1) Jim Harrison-Landmark Reclamation
Victor Sarracino-Reclamation Technician
Marvin Sarracino-Reclamation Technician

Monthly Inspection Report-February, 1991

2) Paper submitted to American Society of Surface Mining & Reclamation-Annual Meeting in May, 1991, Durango, CO.

Regulatory and Reclamation Design Process Update: Jackpile Uranium Mine Reclamation Project

by

James H. Olsen, Jr., PE and Michael J. Bone, PE

LANDMARK RECLAMATION

DATE: March 6, 1991

TO: Jim Olsen, Jr., P.E. -- Reclamation Project Manager

FROM: Jim Harrison, Engineering Services
Marvin Sarracino and Victor Sarracino, POL

RE: Inspection Report, Month of February, 1991 -- Jackpile Project.

Weather was not a factor on the operation this month.

The scrapers completed removing contaminated material from Rio Paguate-West (Rio Paguate-East was cleaned up in January). Eberline's subsequent gamma survey showed that the remaining material was below ten times background, averaging 56.9uR/Hr; with the exception of one station. The material causing this high reading was removed.

Shale cover was placed on the Rio Paguate-East area. Shale cover placement is continuing on the Rio Paguate-West area. Furthermore shale cover was placed on SP-PS 01. Depth measurements were taken at a density of four holes per acre. When depths less than twelve inches are encountered the hole(s) are flagged and LCC builds the material up from that hole to half way to surrounding holes that are in compliance to the required depth. The Rio Paguate-East and SP-PS-01, but with the exception of Rio Paguate-West, are ready for soil cover. Average depths of shale cover are: 12.7" on East Rio Paguate and 13.1" on SP-PS-01.

Field gamma surveys were also done after the shale cover placement showing that the readings are below two times background. The average readings are: 14.2uR/Hr from SP-PS-01 and 20.5uR/Hr from Rio Paguate-East. A field gamma survey was also done over NP-WT-09, the former location of the haul road over Highway 279. The average reading here was 23uR/Hr. The above readings were expected as the shale source from NP-WS-03 is quite clean, not contaminated by Ore Associated Waste.

One special case is the dike boulder pile on the east side of NP-PS-16. While this area originally measured less than two times background in gamma radiation, the counts did go up to an average of 150uR/Hr. This was the result of taking gamma counts from sandstone placed over the boulders prior to shale cover. This particular area has been covered with 12 inches of shale and 18 inches of top soil to bring the average to 20.8uR/Hr under twice background.

Contamination of the ground after removal of Protore NP-PS-17 was completed. Eberline's' survey showed the gamma readings averaged 26.7uR/Hr.

The log of airborne particulate data, in addition to the RGM2 data, was updated during the month.

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303/595-0933

REGULATORY AND RECLAMATION DESIGN PROCESS UPDATE: JACKPILE URANIUM MINE RECLAMATION PROJECT[1]

by

James H. Olsen, Jr. P.E.[2] and Michael J. Bone P.E.[3]

Abstract. The uniqueness of the Jackpile Reclamation Project and the changes in reclamation technology over the past few years prompted a reexamination of some of the design criteria specified by the Department of the Interior (DOI) in 1986. To meet the Project's goals in as cost effective a manner as possible, identification and utilization of on-site conditions and previous work pointed to opportunities to better achieve both ends. A joint effort among the Pueblo of Laguna, the Bureau of Indian Affairs, the Laguna Construction Company, and Roy F. Weston, Inc. was undertaken to work within the "spirit" of the original Record of Decision criteria to demonstrate new project design and management approaches to the regulatory agencies.

This would allow for some flexibility in design and obtain optimum value for the effort expended yet still meet the overall goals of protecting human health and safety and long-term site stability.

Additional Key Words: slope length stability; New Mexico; value-engineering; flexible approach; slope benching and terracing techniques; joint regulatory/Project management efforts.

Introduction

The Jackpile-Paguate Uranium mine was, in the late 1970's, the largest surface/underground uranium mining complex in the world. The operation is located on the Laguna Indian Reservation in west-central New Mexico, approximately forty miles west of Albuquerque, New Mexico. It was operated by the Anaconda Company (later a subsidiary of the Atlantic-Richfield Company) from 1953 to 1982. When the operation was closed, the environmental impacts for reclaiming the site were identified and evaluated in an Environmental Impact Statement (EIS) that was prepared by the Department of the Interior (DOI) as a joint effort between the Bureau of Indian Affairs (BIA) and the Bureau of Land Management (BLM) on behalf of the Pueblo of Laguna. This step was taken since there existed no specific reclamation requirements nor environmental standards for uranium mines. The operation also predated any environmental assessment which may have been required in the 1970's and 1980's. Upon completion, a Record of Decision (ROD) was published (DOI 1986) outlining the intent of the reclamation effort and some of the specific requirements for achieving the various goals.

[1]Paper presented at the 1991 National Meeting of the American Society for Surface Mining and Reclamation, Durango, Colorado, May 14-17, 1991.

[2]James H. Olsen, Jr. P.E., Reclamation Project Manager, Pueblo of Laguna, Laguna, NM 87026

[3]Michael J. Bone, P.E. Engineering Section Manager, Roy F. Weston, Inc., Albuquerque, NM 87108

Engineering design work, job cost estimation, and equipment purchases were made with the Pueblo of Laguna assuming responsibility for the reclamation work on approximately 2700 acres. The Jackpile Reclamation Project was formally mobilized and reclamation activities began on July 17, 1989. Early into the Project, however, several of the key criteria and their applicability to the site were still in question. Given that the funds available to perform the work were limited for the Pueblo of Laguna, it was imperative that special care and attention be given to the associated "value-engineering" in order to be as cost-effective as practical and yet still meet the intentions and requirements of the ROD.

Background

The primary objective of the ROD resulting from the EIS process was to insure human health & safety. This was to be achieved by placement of low-grade ore into the pit bottoms and prevention elsewhere of its erosion into water and airways. This included covering the low-grade ore and ore-contaminated materials with specified thicknesses of shale and topsoil. The cover materials served the purposes of inhibiting radon gas and gamma radiation emissions as well as sufficient soil thickness to support vegetation comparable to the surrounding area.

Problem Areas

The numerous and extensive waste dumps on the site had been evaluated for stability utilizing generally accepted slope stability techniques. To avoid the potential for catastrophic slope failure, it was decided to reduce the angle of repose from 1.5h:1v (horizontal:vertical) to a 3h:1v slope. The presence of "benches" was also to be eliminated since the potential for ponding of water on the outside edges of these slope benches could cause "piping" and eventual failure.

As the Project began, numerous field visits by the Pueblo Reclamation Project Manager, Bureau of Indian Affairs Project Engineer, and the Laguna Construction Company management raised questions on the applicability of the ROD criteria in some cases. The exceptions noted were:

1) Many dumps had been reclaimed during the mid- to late-1970's and had been demonstrated to be stable and supporting excellent stands of vegetation. While some of the slopes on these dumps had "spotty" vegetation, additional remedial revegetation work was thought to be a more cost-effective alternative to upsetting already-established growth with slope reduction.

2) No "slip circle" type slope failures had been observed on the site with many of the dumps remaining stable for more than twenty-five years. Problems with washouts had occurred in some cases but these were the result of concentrated stormwater runoff due to improper water diversion, not instability of the dump material. Also, the heights of some dumps were shallow enough to indicate that the stability concerns may have been overstated for most cases.

3) The installation of a 3h:1v slope increases the slope length and in some of the larger dumps, the slope lengths would have been in excess of 1200 feet long. Consultation with other regulatory and reclamation personnel at several surface mine sites in New Mexico indicated that these long, uninterrupted slope lengths would fail erosively since the runoff velocities would be high enough to remove the topdressing. In fact, it had been demonstrated both empirically and theoretically that slope lengths over 200 feet in length would begin to have erosion problems. In other reclamation environments, the slope lengths resulting from the ROD criteria for the Jackpile Project would not have been allowed by other regulatory agencies. Using seed drills and other equipment on these relatively steep slopes also caused concerns for operational practicality and efficiency.

4) Reclamation technology and practice in New Mexico had seen changes from the accepted practice upon which the ROD (DOI 1986) had been based. Long slopes, use of contour furrowing, applications of fertilizer, seed mixtures, use of seed drilling, disturbance of previously reclaimed areas, and other items led the Project Management group to undertake a reevaluation of these portions of the criteria.

It was not the intention of the Project Management group to perform a "complete redesign" of the Project but it was felt important that the final, (and visual) success of the reclamation effort would rest heavily on the extent and stability of the revegetation work. Additionally, there was the need to blend the completed site in

with the natural surroundings. Ever present was the need to be as cost-effective as possible and avoid creating more problems than the ones currently at hand through duplication of effort by reworking stable sites. Thus, the approach taken by the group was one which would be in compliance with the "spirit" of the ROD goals and objectives while obtaining approval to utilize more current (and demonstrably better) techniques than those specified in the ROD.

Approach

In order to initiate the Project in a timely fashion the effort in the first year was directed to the more serious environmental concerns such as placing of the low-grade ore materials in the pit bottoms and clean up of ore-contaminated soils. Concurrently, efforts were undertaken to address the aforementioned slope and revegetation issues, while the Laguna Construction Company (a Pueblo-owned enterprise) performed the other earthmoving tasks. This approach met with the approval of the BIA oversight personnel. It allowed for reevaluation of the remaining design issues while not impeding the progress of the more immediate problems. Only work for which the final plans and specifications had been approved by both the Pueblo of Laguna and the BIA was scheduled; while the final erosion control, special slope conditions, and revegetation specifications were deferred for further study.

The Pueblo of Laguna, BIA, BLM, Laguna Construction Company, and an engineering/reclamation consulting team (Landmark Reclamation/Roy F. Weston, Inc.) combined their efforts in January, 1990 to finalize the remaining issues and settle on the remaining specifications which would govern the Project thru completion.

Early in this subsequent effort, it became apparent that some of the items being proposed could be in direct conflict with the ROD. Significant changes to the ROD were felt to potentially cause two negative results:

1) resistance and conflict from the oversight agencies since the ROD should stand as it was written, i.e., other options had already been considered; and

2) reinitiating the entire evaluation process could trigger more expense and time, in turn delaying the Project and burdening an already-fixed monetary fund.

Initial meetings with upper management from the BIA in the environmental and regulatory areas early in 1990 were conducted to explore the possibilities of what changes would be acceptable. As had been anticipated, the first concern from the upper management would be the potential conflicts with the ROD. However, BIA did feel that certain items could be addressed as "enhancements" to the ROD which could correct some unforeseen changes in reclamation practice and technology and would ultimately yield a "better finished product." The ROD was felt to have some "flexibility" if the overall goals and objectives could be met.

The Group stressed that the proposed changes were in the "spirit" of the original intentions of the ROD and the BIA upper management agreed in principal to consider allowing some deviation if the revisions could demonstrate that the result was a better design. The Pueblo of Laguna was concerned that these design changes or "enhancements" had to be cost-effective and within the monetary limits already established, since the reclamation costs and first design had been predicated upon the ROD criteria. The reclamation fund managed by the Pueblo of Laguna was to be the only source of money to perform the work so the cost/benefit of any changes had to be considered carefully.

The areas where changes were needed as determined by the Group were: shortening slope lengths by the installation of draining terraces, salvaging previously-reclaimed areas since they were stable and only needed remedial revegetation work, redesign of a proposed river rechannelization for which severe construction and cost constraints were anticipated, and dealing with an area where the sloping work would have resulted in encroaching on private land outside the Pueblo of Laguna boundary. In addition, the "philosophy" of reclamation needed to be reexamined. It was becoming apparent from other reclamation practice and experience that this type of work is not a "one-shot deal", i.e., it will require monitoring and some maintenance long after the heavy construction/earthmoving is completed. It was the goal to eliminate long-term maintenance

but realistically, close scrutiny and fixing of problems early in the monitoring period would be necessary and contribute to the long-term success of the effort.

Engineering Work

Engineering work included a reevaluation of the slope length issue (Bone and Olsen 1990). The engineering work yielded results which showed that the slope lengths had to be reduced to insure long-term resistance to erosive forces. Flatter slopes had been examined, i.e., going to slopes less than the 3h:1v criteria but this was soon rejected since the volume of material to be handled to achieve this slope was prohibitive; in addition, it became apparent that "slope length" is the critical item and not necessarily the "slope angle" itself. The recommended method to reduce slope lengths was the installation of draining terraces which were designed to handle anticipated precipitation events. Where feasible, the terraces were designed to drain against resistant features (highwalls and rock outcrops) and eliminate the costs of rock-lined drainage structures.

An outgrowth of the slope length analysis was the development of criteria for "benching" on slopes. These criteria showed that reducing a slope to less than the "critical height" would eliminate the need for sloping down to the 3h:1v requirement. This approach eliminated the need to disturb previously-reclaimed areas (since they were, in most cases, shallow dumps); it also gave some flexibility on the dumps adjacent to the river which had been scheduled for rechannelization. The cost of removing dump material to construct the bench and meet the critical height requirement was about 40% of the rechannelization cost and eliminated disturbing the existing channel. The aforementioned property line encroachment problem can also be resolved with this technique.

Support for the findings was received by the BIA management and the requested authorization to utilize these techniques was given in June, 1990.

Conclusions

Several key items which may have application to future efforts of this kind were identified:

a) A cooperative effort among all involved parties yielded a high level of confidence in achieving the intended goals of the reclamation work; areas where the "letter of the law" was (perhaps) in conflict with the "spirit" were addressed with open-minded approaches; and a fair consideration of the new approaches (engineering & construction) were felt to increase the chances for success and still be cost-effective.

b) Engineering and reclamation practice continue to "evolve" as more is learned about such work. Reclamation is as much an "art" as a science. Site-specific conditions are judged to sometimes preclude rigid adherence to certain techniques; realistic goals should be set with the realization that flexibility and judgement are needed to deal with changing or unforeseen conditions; and as long as the goals can be achieved, alternative methodologies should be allowed and even encouraged.

c) The uniqueness of the Jackpile Project has afforded an opportunity to add to the knowledge in both technical and regulatory areas. The size of the Project, its arid environment, and the approach in evaluating the environmental impacts has established important precedents for future work of this kind.

d) The approach taken by this Group is also finding use in another arena of nuclear waste disposal technology. The National Research Council's Board on Radioactive Waste Management is taking the "flexible" approach in order to incorporate new & changing technologies. "Rather than being wedded to specific architectural details defined in advance, designs and procedures could be modified to meet performance requirements at any step of the construction and operations processes based on new information gathered during prior stages and from other projects, says the Board." (NSPE 1990)

Literature Cited

Bone, Michael J., P.E. and J.H. Olsen, Jr., P.E., 1990. "Developing Waste Pile Slope Design Criteria for Steep Slope Planes: Jackpile Uranium Mine".

DOI. 1986. "Jackpile-Paguate Uranium Mine Reclamation Project Record of Decision." U.S. Department of the Interior, Bureau of Land Management, and Bureau of Indian Affairs, Albuquerque, New Mexico. 1986.

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DEVELOPING WASTE PILE SLOPE DESIGN CRITERIA FOR STEEP PLANE SLOPES JACKPILE URANIUM MINE RECLAMATION PROJECT[1]

by

Michael J. Bone P.E.[2] and James H. Olsen, Jr., P.E.[3]

Abstract. The challenge of the Jackpile Reclamation Project was the need for quick development of necessary design changes that would harmonize with a rapidly proceeding construction effort. This paper describes the development of waste pile slope design criteria for generic application to provide needed erosional stability to the design. Of specific interest was the method used to estimate the drainage area applied to the base of steep plane slopes. A realistic approach was developed to account for the effect of rill development upon contributory drainage.

Additional Key Words: reclamation criteria; erosional stability; retrofit draining terrace; allowable slope length; effective drainage width; rill and gully network development; and lateral drainage angle.

Introduction

The Jackpile-Paguate Uranium Mine was, in the late 1970's, the largest surface/underground uranium mining complex in the world. The operation is located on the Laguna Indian Reservation in west-central New Mexico, approximately forty miles west of Albuquerque, New Mexico. It was operated by the Anaconda Company (later a subsidiary of the Atlantic-Richfield Company) from 1953 to 1982.

An estimated 400 million tons of earth were moved during the 29 years of mine operation and approximately 2,656 acres of land were disturbed during its operation. The disturbed areas include 3 open pits, 32 overburden waste piles, 23 protore (low-grade ore) stockpiles, 4 topsoil stockpiles, and 240 acres of support facilities and depleted ore stockpiles.

When the operation was closed, the environmental impacts for reclaiming the site were identified and evaluated in an Environmental Impact Statement (EIS) that was prepared (DOI 1986a) by the Department of the Interior (DOI) as a joint effort between the Bureau of Indian Affairs (BIA) and the Bureau of Land Management (BLM) on behalf of the Pueblo of Laguna. This step was taken since there existed no specific reclamation requirements nor environmental standards for uranium mines. The operation also pre-dated any environmental assessment which may have been required in the 1970's and 1980's. Upon completion, a Record of Decision (ROD) was published (DOI 1986b) outlining the intent of the reclamation effort and some of the specific requirements for achieving the various goals.

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[1]Paper presented at the 1991 National Meeting of the American Society for Surface Mining and Reclamation, Durango, Colorado, May 14-17, 1991.

[2]Michael J. Bone, P.E., Engineering Section Manager, Roy F. Weston, Inc., Albuquerque, NM 87108

[3]James H. Olsen, Jr. P.E., Reclamation Project Manager, Pueblo of Laguna, Laguna, NM 87026

Record of Decision Waste Pile Criteria

For purposes of this paper, the relevant reclamation criteria cited for the waste piles are summarized as follows:

- slopes will be reduced to 3h:lv or less;
- waste piles will be covered with 18 inches of topsoil;
- berms will be installed on all crests to control erosion;
- tops will slope slightly away from their outer slopes;
- slopes will be contoured so their toes are convex to prevent formation of major gullies on slopes; and
- after applying top soil, slopes will be fertilized, disked to a depth of 8 inches, and then contour furrowed.

Site Background

The primary basis for the ROD criteria stems from geotechnical slope stability being a major consideration of the EIS evaluation. However, slope failures due to slope instability have not been observed in the field. There are many examples of waste piles 25 to 30 years old with angle of repose slopes that have shown no evidence of slope instability.

In retrospect, though, many of the waste pile slopes reflect rill and gully erosion. This instability has been due to a lack of stormwater runoff control. Large "washouts" have occurred on several waste piles due to uncontrolled ponding of runoff at waste pile crests that has breached and carried large quantities of soil down the steep slopes.

The installation of 3h:1v slopes on waste piles raised the most critical concern because of the increase to slope lengths. Many of the waste piles are 200 to 300 feet high which will produce slope lengths of 600 to 900 feet. These long slopes were initially designed without runoff control measures that would have intercepted and diverted runoff down the long slopes. A redesign effort was initiated to reduce slope lengths with the installation of draining terraces. Construction was already proceeding at a rapid pace, however, which necessitated the need for a design that retrofitted the draining terraces into the 3h:1v slopes.

Erosional Stability Considerations

Soil erosion is the detachment and movement of soil by the action of water, ice, gravity, or wind (EPA 1976). Of these actions, erosion by water is by far the problem most frequently encountered. This is the case at the Jackpile-Paguate uranium mine. The basic types of overland erosion by water are splash or sheet, rill, and gully. The factors that influence the erosion potential of an area include climate, soil characteristics, topography, and ground cover (Goldman et al. 1986).

Runoff Control

Soil erosion is primarily prevented by controlling stormwater runoff, its principal cause. Stormwater runoff control is achieved through the proper use of vegetative and structural practices. Proper stormwater handling can be accomplished by one or more of the following measures:

- reduction and detention,
- interception and diversion, and
- handling and disposal of concentrated flows.

Reduction and Detention

Reductions in both the amount and speed of runoff can be accomplished by manipulating the surface soil to detain and increase infiltration of runoff and by manipulating the slope length and gradient to reduce the velocity and rate of runoff. Manipulation of the surface soil includes roughening and loosening the soil, adding topsoil and soil amendment, and mulching and revegetation. With regard to slope and gradient, slope design should be based on the erodibility of the surface soils as well as stability against slope failure.

Interception and Diversion

Intercepting and diverting runoff before it can build up and concentrate is a critical measure in controlling soil erosion. This can be accomplished through the use of various diversion structures, including reverse benches or terraces, ditches, earth dikes, and combined ditches and dikes.

Handling and Disposal of Concentrated Flows

Interception and diversion of runoff will necessitate the handling and disposal of concentrated flow. Proper techniques applicable for the Jackpile-Paguate waste piles include spreading the concentrated flow into a wider flat area to dissipate the flow and create a nonerosive sheet flow, and diverting the flows into a high wall to act as an energy dissipater.

Hydrology/Hydraulics

Hydrology is an earth science that involves estimating the amount of runoff for given conditions at a particular site, while hydraulics relates to the rate of runoff and the conditions of that flow. In terms of erosion and soil loss, an analysis of the critical parameters affecting hydrology and hydraulics was necessary for appropriate runoff control to be determined for the Jackpile-Paguate waste piles.

Determination of the following parameters was necessary for this evaluation:

Hydrology

- runoff coefficients
- rainfall intensity
- drainage area (slope length and effective drainage width)

Hydraulics

- maximum allowable flow velocities
- Manning's roughness coefficient
- drainage slope
- flow depth
- allowable effective drainage width

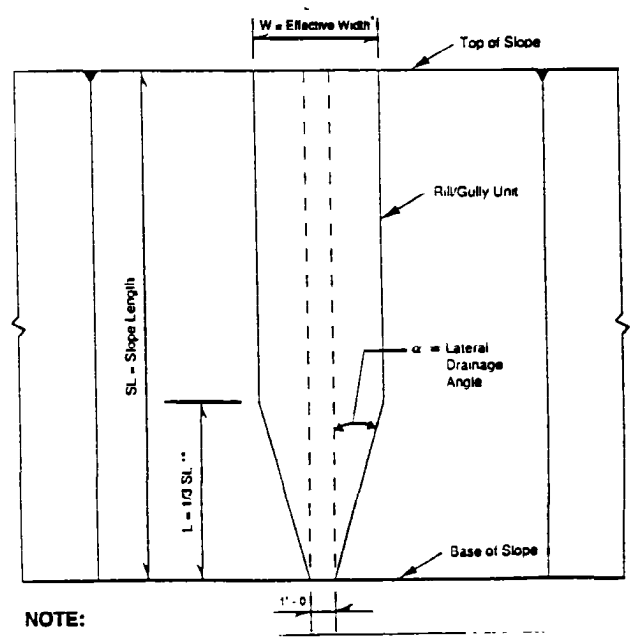
Due to the range of possible field conditions, the evaluation developed a range of results to understand the sensitivity of the parameters. Knowing the sensitivity of parameters is as important as knowing the actual values. Based upon this sensitivity evaluation, a conservative choice of parameters was made in order to complete the analysis and recommend specific design criteria.

Methodology

The methodology of this evaluation involves the use of a maximum allowable flow velocity that was used to back calculate into a maximum allowable effective drainage width. The effective drainage width is a concept that recognizes increased contributory drainage area to a 1-foot base-of-slope segment as a result of rill and gully network development.

The effect of slope on the development of rills was investigated by Mosley (1972). Results of his investigation were used to estimate the average effective width of contributory drainage from a rill/gully unit.

This concept is illustrated in Figure 1 - Rill



NOTE:

* Effective width is defined as the fully developed width of a rill/gully unit that contributes drainage to a 1' - 0 segment at the base of the slope.

** Lateral degree of spread assumed to reach effective width at one third the slope length.

Figure 1. Rill and gully effective drainage width.

and gully effective drainage width. The estimated values of effective drainage width were compared against the allowable values in order to determine stable slope lengths for different degrees of slope steepness.

Two critical assumptions are necessary to determine contributory drainage area by this concept: the lateral drainage angle and the point at which the rill/gully units stop spreading and become parallel.

Parameter Values

The hydrologic portion of this analysis was performed using the rational method. Due to the short times of concentration for flow off the slopes, the simplistic and empirical nature of this method was deemed more suitable. The hydraulic analysis used Manning's equation and assumed a 1-foot lineal segment at the slope base to be a channel. The values or ranges used for the various parameters are listed as follows:

- c = runoff coefficient
  = 0.50 to 0.75
  (Goldman et al. 1986)

- i = rainfall intensity
  = 6.89 in/hr (100-year return period, <5-minute duration) (NOAA 1973)

- v = flow velocity $\leq$3.0 fps

- n = Manning's roughness coefficient
  = 0.025 to 0.035

- s = slope = 3h:1v and 2h:1v

The remaining necessary parameter for this evaluation is that of contributory drainage for steep plane slopes.

Drainage Area

As discussed in the methodology, the key to determining a realistic drainage area for a plane slope is estimating an effective drainage width as shown in Figure 1. The work by Mosley (1972) investigated rill developments for developments for different slopes as partially illustrated in Figure 2 - Rill development on plane surfaces.

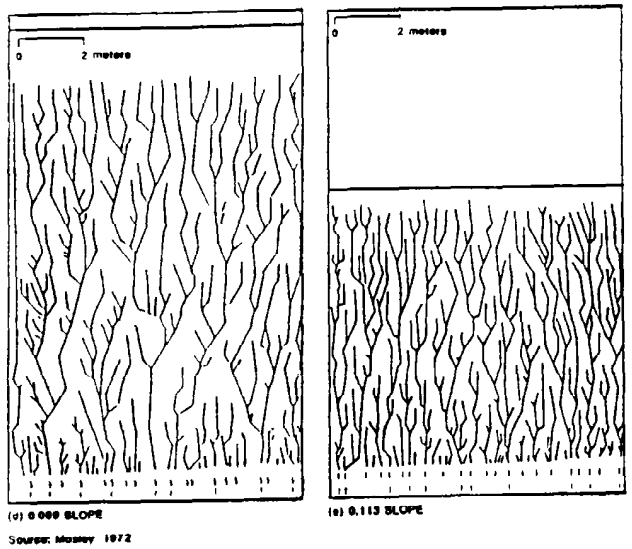


Figure 2. Rill development on plane surfaces.

The experimental chamber used by Mosely had a constant width of 30.2 feet with varied lengths depending on the gradient used. The number of gullies in each case were counted by two methods for this evaluation. The first method included both primary and secondary gullies as counted by Mosley. The second method took a more conservative approach and counted only the primary rill networks. The chamber width was then divided by the number of gullies in each case to formulate an average effective width. The lateral spread angle was then calculated using the average effective width and assuming the chamber length was L as shown in Figure 1. The results of this analysis are illustrated in Figure 3 - Lateral rill drainage angle vs slope. The results indicate that the lateral drainage angle approaches a range of 0.5 - 1.5 degrees for an 11 percent slope and would be conservative for use with steeper slopes. The assumption was then made that the lateral drainage spread reaches a maximum effective width at one-third the slope length and that rill network overlapping occurs beyond that point. This basic effect has been observed, but not measured in the field. With this assumption, the effective drainage widths and areas can be calculated for various slope lengths. This analysis was performed for 3h:1v and 2h:1v slopes; and for the range of 0.5 - 1.5 degrees for the lateral drainage angle.

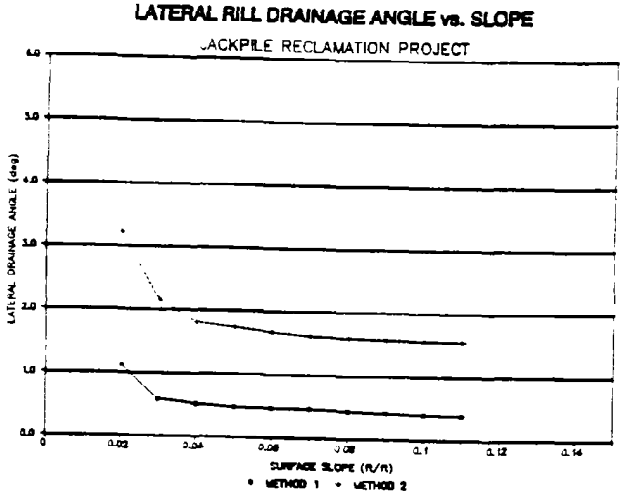


Figure 3. Lateral rill drainage angle vs. slope.

The corresponding results are illustrated in Figure 4 - Allowable slopes lengths, slope 3h:1v; and Figure 5 - Allowable slopes lengths, slope 2h:1v.

Final waste pile slope design

Draining terraces were specified in order to maintain sufficient geotechnical slope stability. As previously mentioned, the terraces would be retrofit into 3h:1v slopes. Therefore, the most critical point of slope (being the base) would actually be steeper than 3h:1v. For this reason a 2h:1v slope was also evaluated as shown in Figure 5. the allowable slope length of approximately 180 feet was then used as a design criterion to detail a typical terrace slope. These details are illustrated in Figure 6 - Typical retrofit terrace cross section; and Figure 7 - Retrofit 2 - terrace slope.

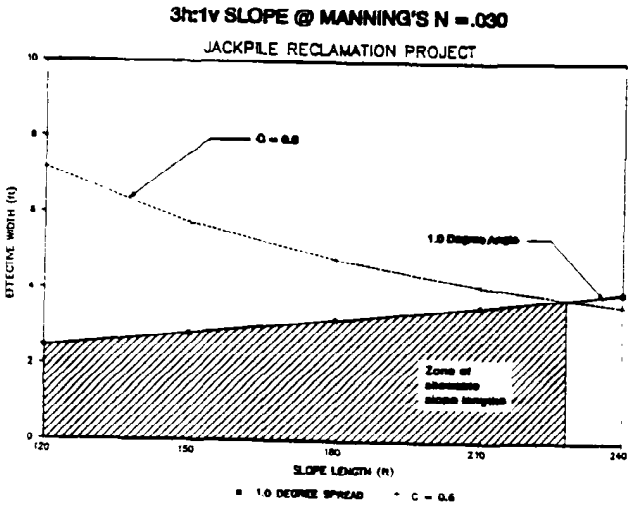


Figure 4. Allowable slope lengths, slope 3h:1v.

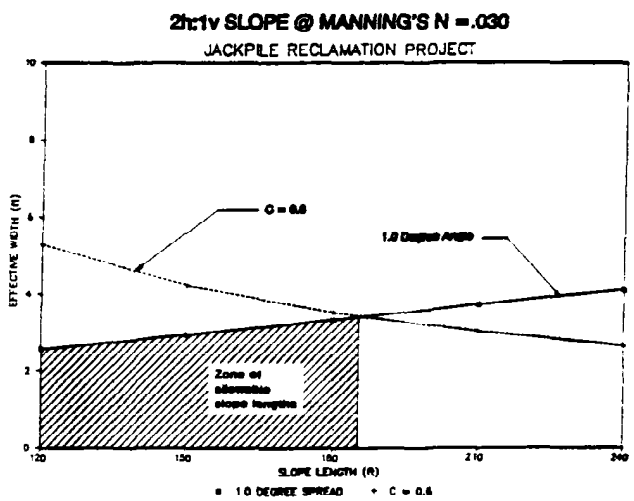


Figure 5. Allowable slope lengths, slope 2h:1v.

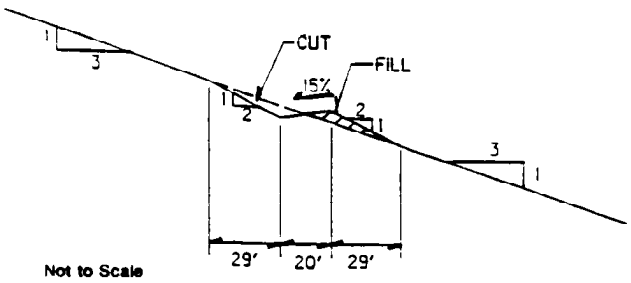


Figure 6. Typical retrofit terrace cross section.

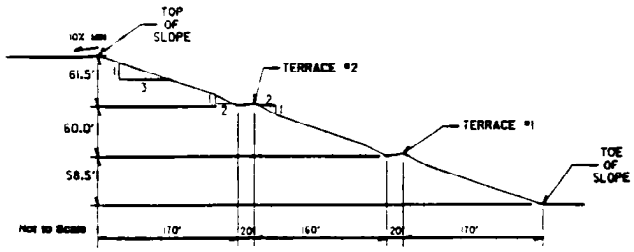


Figure 7. Retrofit 2-Terrace slope.

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