

SUMMARY REPORT

**EROSION CONTROL WORK PERFORMED ON
THE C-LINE, FORTYFOUR CREEK**

UNIT 87-9

By

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**REDWOOD N. P.
LIBRARY
South Operations Center**

Unit 87-9; Fortyfour Creek

Unit 87-9 consisted of the excavation of a single road-stream crossing, containing 9,600 yds³ of fill. Located on the C-Line in Fortyfour Creek, this stream crossing drains 150 acres and was originally treated in 1984 as part of Unit 84-5. This crossing was part of the half-mile extension of Unit 84-5 which occurred at the very end of the that equipment season. Because of the lack of lead time, this additional work was not thouroughly evaluated for its erosion potential prior to treatment.

The original treatment only partially excavated this very large crossing. A bedrock ledge existed on the left bank of this stream valley and, rather than excavating the entire crossing, the culvert was removed and streamflow was channeled onto this ledge. In reality, the bedrock was highly weathered and eroded quite readily during the larger runoff events. By 1987, streamflow had left the bedrock ledge by cutting laterally into the crossing's fill.

Because of the eminent failure of such a large crossing, Unit 84-5 was re-entered to completely excavate this crossing. The excavation was designed by Greg Bundros, and supervised by Greg Bundros and Mike Sandeck. Heavy Equipment work began on July 9 and was completed on July 22, 1987. It was performed under rental agreement.

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Table 1
REHABILITATION WORK COST SUMMARY
Unit 87-9; Fortyfour Creek

Treatment	Total Quantity	Total Cost	<u>Average Unit</u> Cost
HEAVY EQUIPMENT WORK ¹			
<u>Primary Treatments</u>			
Haul road crossing	9,600 yd ³	\$22,618	\$2.36/yd ³
<u>Secondary Treatments</u>	-none		
<u>Miscellaneous Costs</u>	-. -	820	-. -
TOTAL HEAVY EQUIPMENT COST =		<u>\$23,438</u>	

LABOR INTENSIVE WORK:			
<u>Primary Treatments</u>	none		
<u>Secondary Treatments</u>			
Straw mulch	170/bales	\$ 1,545	\$9.09/bale
<u>MISCELLANEOUS</u>			
Brush survey lines	-. -	332	-. -
Brush worksite	-. -	166	-. -
TOTAL LABOR INTENSIVE COST =		<u>\$2,043</u>	

Table 1 (cont'd)
REHABILITATION WORK COST SUMMARY
Unit 87-9; Fortyfour Creek

Treatment ¹	Total Quantity	Total Cost	<u>Average Unit Cost</u>
TECHNICAL WORK:			
<u>Evaluation of Rehab. Unit</u>			
Prescribe treatment	20 p.h.	\$287	-. -
Survey & design	30 p.h.	362	-. -
<u>Supervision of Work</u>			
Heavy equipment	100 p.h.	1372	-. -
<u>Documentation</u>			
Summary report	25 p.h.	358	-. -
TOTAL TECHNICAL WORK =		<u>\$2379</u>	
TOTAL PROJECT COST =		<u>\$27,860</u>	

¹Heavy equipment work was performed by rental agreement. Greg Bundros was the project supervisor for this unit.

Table 2
REHABILITATION WORK COST SUMMARY
Unit 87-9; Fortyfour Creek

Treatment ¹	Total Quantity	Total Cost	Unit Cost
Move In/out	-. -	\$ 820	-. -
Road Crossing	9,600 yds ³	22,618	\$2.36/yd ³
TOTALS	9,600 yds ³	\$23,438	-. -

¹This unit consisted of only one road crossing excavation. The excavated material was push-endhauled to a fillsite that was 700 ft. long. The average push distance was 400 ft. The following equipment (with rental rates) were used to perform the excavation: Case 220 A hydraulic excavator with 3 yd³ bucket (\$95.00/hr.); Cat D8 with U-blade and winch (\$87.94/hr); Cat D8 with U-blade and rippers (\$83.94). The excavation rate for this job was 39yd³/pc-hr.

SUMMARY OF AVERAGE LABOR COSTS
Unit 87-9; Fortyfour Creek

Treatments	Type of Labor	Total Person Hours	Avg. Cost Per Hour	Total Cost	Quantity	Avg. Unit Cost
<u>Primary Treatments</u> - none						
<u>Secondary Treatments</u>						
Materials	-.-	-.-	-.-	\$525	170 bales	\$3.09/bale
Distribute straw	RNP	40	\$11.06	442	170 bales	\$2.60/bale
Spread straw	RNP	16	11.06	177	170 bales	\$3.39/bale
	RU	52	7.71	<u>401</u>		
	TOTAL SECONDARY TREATMENTS=			\$1,545		
<u>Miscellaneous</u>						
Brush worksite	RNP	30	\$11.06	\$332	-.-	-.-
Brush skid trail	RNP	15	11.06	166	-.-	-.-
	TOTAL MISCELLANEOUS COST=			\$498		
TOTAL LABOR COST=				<u>\$2043</u>		

RNP - Redwood National Park employees
RU - Redwood United, Inc. employees



Unit:87-9 Date:9-1987, View downstream from upper channel, pre HE, (MS)



Unit:87-9 Date:7-1987, PP5, from LB to RB During HE, (MS)



Unit:87-9 Date:7-1987, PP5, from RB to LB during HE, (MS)



Unit:87-9 Date:7-1987, PP5, from RB to LB post HE, (MS)



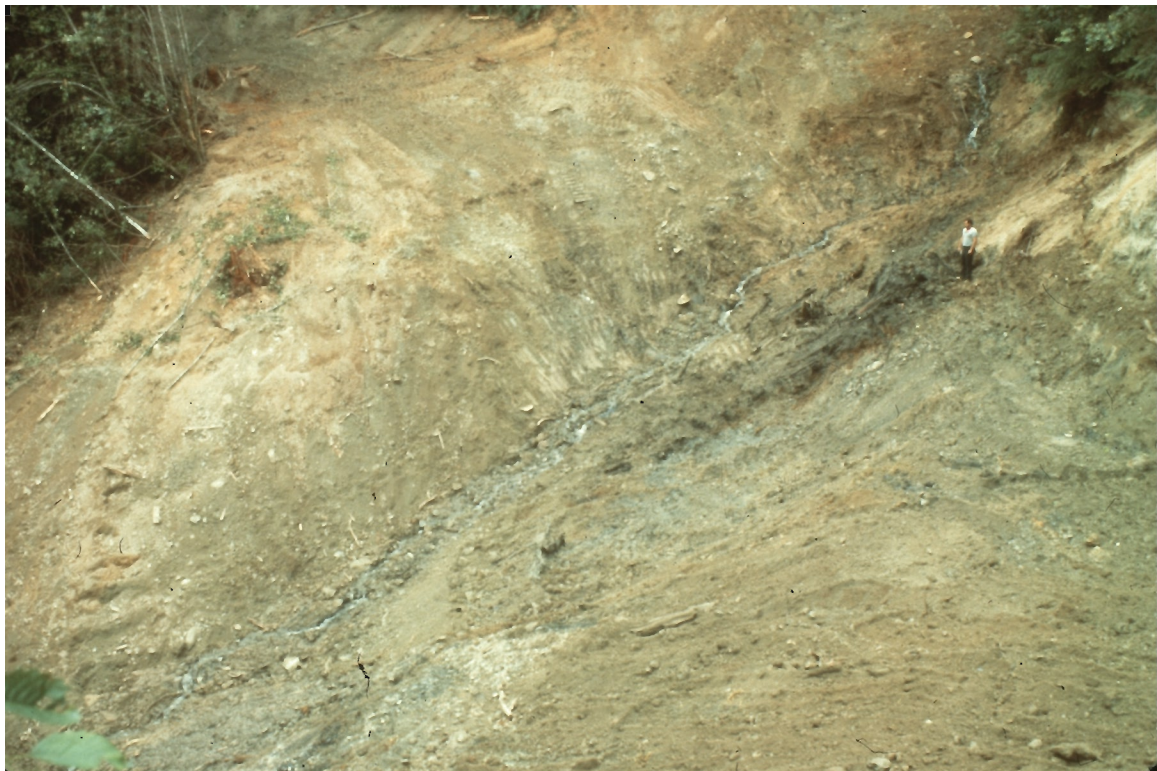
Unit:87-9 Date: ?, from LB seq #5



Unit:87-9 Date: ?, from LB seq #6



Unit:87-9 Date: ?, from LB seq #7



Unit:87-9 Date: ?, from LB seq #8