USDA-FOREST SERVICE

Date of Report: 7/08/94 2/08/95

BURNED-AREA REPORT
(Reference FSH 2509.13, Report FS-2500-8)

PART I - TYPE OF REQUEST

A. Type of Report

[ ] 1. Funding request for estimated EFFS-FW22 funds
[X] 2. Accomplishment Report
[ ] 3. No Treatment Recommendation

B. Type of Action

[ ] 1. Initial Request (Best estimate of funds needed to complete eligible rehabilitation measures)

[ ] 2. Interim Report
[ ] Updating the initial funding request based on more accurate site data and design analysis
[ ] Status of accomplishments to-date

[X] 3. Final report - following completion of work

PART II - BURNED-AREA DESCRIPTION

A. Fire Name: **Big Rocks - Patos** B. Fire Number: P36847

C. State: NEW MEXICO D. County: LINCOLN
E. Region: R-3 F. Forest: LINCOLN
G. District: Smokey Bear

H. Date Fire Started: 6/24/94 I. Date Fire Controlled: 9/21/94
J. Suppression Cost: est $ 2,300,000

K. Fire Suppression Damages Repaired with EFFS-PF12 Funds:
1. Fireline waterbarred (miles) 00
2. Fireline seeded (miles) 00
3. Other (identify) _____

L. Watershed Number: 13060005 075 (13050003 067)

M. NFS Acres Burned: 5,440 Total Acres Burned: 5,540
Ownership type:
( )State ( )BLM (100)PVT ( )____ _____

N. Vegetation Types: MIXED CONIFER, PONDEROSA PINE, PINYON-JUNIPER

O. Dominant Soils: TYPIC EUTROBORALFS, TYPIC ARGIBOROLLS, PACHIC UDIC HAPLOBOROLLS

P. Geologic Types: TERTIARY ROCKS COMPOSED OF TRACHYANDESITE-TRACHYTE-RHYOLITE, QUATERNARY ALLUVIAL FAN DEPOSITS, MANCOS SHALE

Q. Miles of Stream Channels by Order or Class:

_____ _____ _____ _____

R. Transportation System:
Trails: 7.0 (miles) Roads: _____ (miles)

PART III - WATERSHED CONDITION

A. Fire Intensity (Acres): 1500 (low) 1400 (moderate) 1000 (high)

. Water Repellant Soil (Acres): 800

C. Soil Erosion Hazard Rating (Acres): HAZARD HIGH SOILS MOSTLY MOD DEEP/DEEP
1000 (low) 1500 (moderate) 3000 (high)

D. Erosion Potential: _____ tons/acre
E. Sediment Potential: _____ cu. yds/sq. mile

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period: 15 years.
B. Design Chance of Success: 70 percent.
C. Equivalent Design Recurrence Interval: 25 years.
D. Design Storm Duration: 24 hours.
E. Design Storm Magnitude: 1.6 inches.
F. Design Flow: 10 cfsm.
G. Estimated Reduction in Infiltration: 50 percent.
ENT Adjusted Design Flow: 30 cfsm.

PART V - SUMMARY OF ANALYSIS

A. Describe Emergency:
The northeast side of Patos Mountain had 1200 acres of high to moderate intensity burn in four drainages. Effective ground and canopy cover removal in these watersheds varies from 90% to 100%. In addition, high intensity burns occurred throughout the rest of the fire with large areas up to 500 acres which removed up to 70% - 100% ground and canopy cover from up to 80% of several watersheds on Patos Mountain. All of these areas have moderately deep and deep soils with severe sheet and rill erosion potential. Substantial soil loss is likely without stabilization. Flood flows are likely to occur until ground cover is reestablished. In addition, there is a hiking trail in the area which is situated so that flood flows would channel down portions of the trail causing significant erosion along and adjacent to the trail.

B. Emergency Treatment Objectives:
STABILIZE STEEP SLOPES WITH MODERATELY DEEP AND DEEP SOILS IN SEVERE EROSION POTENTIAL AND REDUCE IRREPAIRABLE SOIL LOSS, PROVIDE FOR INCREASED DRAINAGE ON HIKING TRAILS, PROTECT WATER QUALITY AND DOWNSTREAM PROPERTY VALUES.

USE LAYING LOGS HORIZONTALLY ON THE CONTOUR IN ORDER TO HOLD SOIL IN PLACE AND REDUCE SLOPE LENGTH, ALSO TO DISPERSE OVERLAND FLOW IN MOST BURNED AREAS OVER 20 PERCENT SLOPES. USE TEMPORARY CHANNEL TREATMENTS TO SLOW SEDIMENT TRAVEL IN EPHEMERAL CHANNELS. WATERBARRING OF TRAILS WHERE FLOOD FLOWS WOULD CONCENTRATE. USE AERIAL SEEDING TO ESTABLISH GROUND COVER QUICKLY TO STABILIZE SOIL AND DISPERSE OVERLAND FLOW.

C. Probability of Completing Treatment Prior to First Major Damage Producing Storm:
Land 50 % Channel 50 % Roads _____ % Other 50 %

D. Probability of Treatment Success

	<----Years after treatment----->		
	1	3	5
Land	60	70	80
Channel	60	70	80
Roads			
Other			

E. Cost of No-Action (Including Loss): $_____

F. Cost of Selected Alternative (Including Loss): $_____

. Skills Represented on Burned-Area Survey Team:

[X] Hydrology	[ ] Soils	[X] Geology	[X] Range
[X] Timber	[X] Wildlife	[ ] Fire Mgmt.	[ ] Engineering
[ ] Contracting	[ ] Ecology	[ ] Research	[X] Archaeology
[X] Botany____	[ ] _____	[ ] _____	[ ] _____

Team Leader: LIVIA CROWLEY
Phone: 505-434-7200 DG Address: R03F08A

H. Treatment Narrative:
Describe the emergency treatments, where and how they will be applied, and what they are intended to do. This information helps to determine qualifying treatments for the appropriate funding authorities. For seeding treatments, include species, application rates and species selection rationale.

AERIAL APPLICATION OF SEED ON SEVERE AND MODERATELY BURNED AREAS TO STABILIZE STEEP SLOPES AND PREVENT IRREPAIRABLE SOIL LOSS, PROTECT WATER QUALITY, AND DOWNSTREAM PROPERTY VALUES. IN PROPOSING THIS ACTION WE ARE REQUESTING EXPEDITED APPROVAL IN ORDER TO COORDINATE REHAB (SEEDING) AND CONTOUR FELLING ACTIVITIES WITH THE AVAILABILITY OF FIRE CREWS.

SEED MIX APPLICATION AT 5 PLS LBS PER ACRE ON SEVERE AND MODERATE EROSION HAZARD AREAS. ONE MIXTURE WILL BE USED FOR THE PONDEROSA PINE AREAS AND ANOTHER MIXTURE WILL BE USED ON THE PINYON-JUNIPER VEGETATION TYPE. THESE ARE DESCRIBED BELOW.

(SEED MIX REVISED 7/11/94)

45% MOUNTAIN BROME	3.2 #/ac	6
23% SIDEOATS GRAMMA	1.6 #/ac	6
20% ORCHARD GRASS	1.4 #/ac	19
9% YELLOW SWEET CLOVER	.6 #/ac	4
3% SPIKE MUHLY	.2 #/ac	6
		41 seeds/sq ft at 85% purity

UNIT COSTS BASED ON THE FOLLOWING RATES

FIXED WING PLANE	2400 ACRES AT $10/ACRE = $24,000.
SEED	12,000 LBS = $56,000

COSTS OF LAYING LOGS ON CONTOUR TO STABILIZE SOILS AND DISPERSE OVERLAND FLOW.
1200 ACRES TO BE TREATED
$1,500/ DAY FOR EACH OF TWO CREWS AND 7 DAYS TO COMPLETE = $21,000

CHANNEL TREATMENTS CONSIST OF PILED ROCKS AND FELLED LOGS LAID ACROSS THE BOTTOM OF PRIMARILY EPHEMERAL CHANNELS TO REDUCE SEDIMENT YIELD. 100 ACRES.
$1,500/DAY FOR ONE CREW AND 4 DAYS TO COMPLETE = $6,000.

COST TO WATER BAR AND PREVENT CONCENTRATION OF WATER ON AFFECTED TRAIL
3.5 MILES TO BE TREATED.
$1,500/DAY FOR ONE CREW AND 3 DAYS TO COMPLETE = $4,500

PART VI - EMERGENCY REHABILITATION TREATMENTS AND SOURCE OF FUNDS BY LAND OWNERSHIP

NOTE: Emergency rehabilitation is work done promptly following a wildfire and is not to solve watershed problems that existed prior to the wildfire.

Line Items	Units	Unit Cost $	NFS Lands Number of Units	NFS Lands EFFS-FW22 $	NFS Lands Other $ ident.	Other Lands Number of Units	Other Lands Fed $ ident.	Other Lands Non-Fed $ ident.	All Total $
A. LAND TREATMENTS									
SEED GRASS MIXTURES	AC	24.65	2400	59,160					$59,160
FIXED WING PLANE	AC	3.75	2400	9,000					9,000
SUPPORT CREW	AC	.21	2400	500					500
LAY LOGS ON CONTOUR	AC	34.92	630	22,000					22,000
B. CHANNEL TREATMENTS									
TEMP LOG STRUCTURES	AC	66.25	100	6,625					6,625
C. ROADS AND TRAILS									
WATER BAR AFFECTED TRAIL	MI	0	0.0	0					0
D. STRUCTURES									
E. BAER EVALUATION/ ADMINISTRATIVE SUPPORT									
EVAL. TEAM & SUPPORT	AC			1,460					1,460
F. TOTALS				98,745					98,745

PART VII - APPROVALS

1. /s/
Forest Supervisor (Signature) Date

2. /s/
Regional Forester (Signature) Date