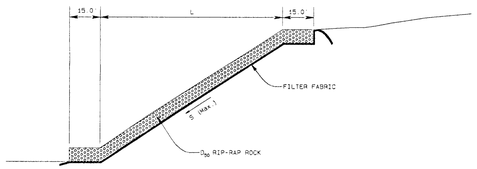
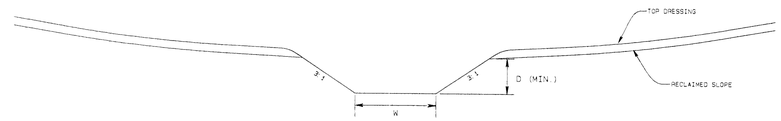
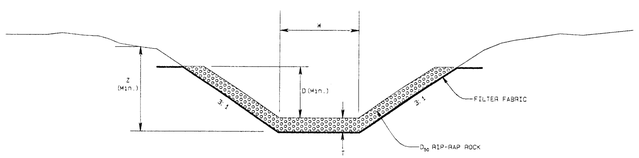


DROP STRUCTURE
TYPICAL PROFILE
N.T.S.



TYPICAL RECLAIMED CHANNEL SECTION
N.T.S.



DROP STRUCTURE
TYPICAL SECTION
N.T.S

RECLAIMED CHANNEL DEMENSIONS

REACH	W (ft)	D (ft)
LOWE NORTH R1	18	1.0
LOWE NORTH R2	10	2.0
LOWE NORTH R3	10	1.0
LOWE NORTH	10	2.0
LOWE SOUTH	10	2.0
NORTH FORK	20	2.5

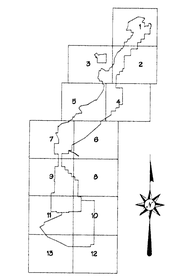
RIPRAPPED DOWNDRAIN SCHEDULE

LOCATION										
STRUCTURE ID	CHANNEL REACH	DOWNSTREAM STATION	UPSTREAM STATION	L (ft)	S (%) Max.	W (ft)	D (ft) Min.	Z (ft) Min.	T (ft)	D_{50} ROCK SIZE (IN)
LNDS1	LOWE NORTH	38+83	44+98	605	1.85	25.0	3.5	4.0	1.5	1.00
LNDS2	LOWE NORTH	54+87	65+11	1024	2.27	25.0	3.5	4.0	1.5	1.00
LNDS3	LOWE NORTH R1	0+00	6+00	600	2.48	10.0	2.5	3.0	1.5	0.75
LNDS4	LOWE NORTH R3	6+25	10+06	381	11.50	10.0	2.0	2.5	2.5	1.75
LNDS5	LOWE NORTH R4	2+00	6+01	401	11.50	14.0	2.5	3.0	4.0	2.50
LSDS1	LOWE SOUTH	33+20	44+61	1141	2.75	25.0	3.0	3.5	1.5	1.00
LSDS2	LOWE SOUTH R1	0+00	3+21	321	3.02	15.0	2.5	3.0	1.5	0.75
LSDS3	LOWE SOUTH	244+61	248+59	398	1.72	18.0	2.5	3.0	1.5	1.00

NOTES:
1. REFER TO EXHIBIT 11-78 AND 11-78B FOR MORE INFORMATION.
2. DROP STRUCTURES LNDS4 AND LNDS5 ARE CONSTRUCTED AND THE MAXIMUM GRADE WITHIN THE REACH WHERE THE RIPRAP IS PLACED IS 11.5%.

LEGEND

- ROAD
- WATERSHED
- BUILDING
- FENCE
- IRRIGATION LINE
- CULVERT
- DAM
- DRAINAGE
- RAILROAD
- TREES
- POWERLINE
- ×5339.5 SPOT ELEVATION
- 5300 INDEX CONTOUR
- 5298 INTERMEDIATE CONTOUR
- 218 5422.45
- L-30 LEASE CORNER
- LEASE/PERMIT BOUNDARY



CERTIFICATION STATEMENT

I, Leonard Raymond, hereby certify that this drawing was reviewed by me and that the information shown is accurate and complete to the best of my knowledge.

LEONARD RAYMOND NEW MEXICO 8600 REGISTERED PROFESSIONAL ENGINEER 10-19-06

APPROVED FEB 2007

REV. No.	DATE	DRAFT BY	REVISION DESCRIPTION	ENG	E.P.	P.E.
C	10-17-06	PJF	REVISED TO REFLECT FSC REVISION AND SUBMITTED TO OSM FOR APPROVAL	LR	KJ	LR
B	3-17-03	PJF	REVISED TO REFLECT ARC REVISION AND SUBMITTED TO OSM FOR REVIEW	LR	MC	LR
A	5-10-01	PJF	SUBMITTED TO OSM FOR REVIEW AND APPROVAL	LR	MC	LR

APPROVALS

EXHIBIT 11-78C

BHP NAVAJO COAL COMPANY

NAVAJO MINE

P.O. BOX 155 FRUITLAND, NEW MEXICO 87416

AREA-III RECLAIMED CHANNELS
TYPICAL SECTIONS
AND DETAILS

PREPARED BY PJF	DRAWN BY PJF	SCALE: AS NOTED
APPROVED BY LR	DATE 5-05-2001	

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PJFester \Plot time: Wed Oct 18 10:44:04 2006