July 21, 1986

TO: Technical File

FROM: Rick P. Summers, Reclamation Hydrologist

RE: Genwal Coal Company, Crandall Canyon Mine, Mid-term review, ACT/015/032

Summary: A series of submittals cumulating with the July 8,1986 submittal from Genwal Coal Co. were reviewed for technical adequacy. The submittals cannot be approved at this time due to discrepancies in the proposal and designs. The discrepancies involve the reclamation designs for channels RD-3 and RD-4. The discrepancies basically involve differences in peak flow values used for the designs and discrepancies in the plan concerning the final proposed configuration for both channels. Additionally, following conversations with Dave Cline (assigned to review diversions RD-1, 2, 5 and 6) it was found that he had similar concerns. As per supervisory direction to approve the plan with stipulations, the following stipulation will be necessary in order to insure compliance.

Stipulation 817.43 Hydrologic Balance: Diversions/RPS

The applicant must submit complete and technically adequate plans for the reclamation of channels RD-1 through RD-6 within 30 days of permit issuance. The applicant must obtain Division approval for these designs within 90 days of permit issuance.

Additional Stipulations required: It is suggested that the stipulations written for the partial approval of the sediment pond construction (July, 1986 approval letter) be incorporated in the final permit approval.

Body: The calculations used to make this recommendation are attached to this memo. It is recommended that a meeting between the applicant and the Division be held in order to clarify the defiencies with the applicant.

cc: Sue Linner
James Leatherwood
Dave Cline
Dave Lof

FILE COPY

6000R/44
rps

Project: Divisions RD-3, RD-4 channel design, Gannel / mid-term

Date: 7-21-86

Reviewer: R. Hummers, Hydrology

	RD-3		RD-4 no approval discrepancy @ bottom.	
	DOGM	Gannel	DOGM	Gannel
Q50-24	8.64 cfs	6.62	2.72	2.45
Slope, reach 1		↓	.33 max .01 min	0.33
Slope, reach 2		no further review discrepancy		
Slope, reach 3				
Slope, reach 4				
Bottom width			2	2
n-value			33 m chunt cobble, bottom .030	.033
Side slopes			0.5	0.5
Area				
Reach 1			0.345	.3619
2				
3				
4				
Wet Perimeter			2.37	2.69
reach 1				
2				
3				
4				
Velocity			7.891	DOGM using Gannel in eq. 6.771 fps
Reach 1				
2				
3				
4				
Riprap sizing				
Depth			.166	0.156'

note: discrepancy w/ RD side = 2 whole = 0.5

Project: General, Mid-term, Diversion RC-#4
(Reclaimed channel)

Date: 7-21-86

Reviewer: R Summers, Hydrology

Assumptions:

1) Design event - Post-mining land use is U.S.F.S forest Access Road
2) Discuss event w/ Brent Barney + Dennis Kelly @ Manti office on 7-9-86. They would require a 20 or 40 yr event DOGM will use 50 yr - 24 hr. they OK'd.
3) Area to Diversion = WS-3 + portion of site reclaimed.

Input	DOGM	General	Comment
Ppt. 50-24	3.25	3.25	verified NOAA Atlas #2
CN	71	71	w/'d reclaimed & undisturbed
Hydl. length	6.6 = 1320'	1540	Plate 7-3
% slope	67.88%	16.3%	(80'CI)(3,180.32') / (7.8)(43560)
Distribution	Type II	Type II	
Area	(8.733)+(0.21) = 8.94 Ac	(8.5)+(0.2) = 9.0 ac	Plate 7-3
Output			
Tc	0.1042	0.25 hr.	
Q_{50-24}	8.64	6.62	No Approx
Qdepth	.9026	.9053	