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State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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September 22, 1992

TO: Daron R. Haddock, Permit Supervisor

FROM: Wayne Western, Reclamation Engineer

RE: Wellington Preparation Plant MidTerm, Castle Valley Resources, Wellington Preparation Plant, ACT/007/012, Folder #2, Carbon County, Utah

The bond calculation for the Wellington Preparation Plant has been determined to be $6,603,000.00.

Attached is a copy of the bond calculations. Please call me if you have any questions.

cc: W. Western
WELLPREP.BND

BONDING CALCULATIONS
WELLINGTON PREPARATION PLANT
CARBON COUNTY, UTAH
REVISED AUGUST, 1992 - WHW

BOND SUMMARY

I	SUBTOTAL DEMOLITION AND REMOVAL	1576117.75
II	SUBTOTAL BACKFILLING AND GRADING	3392053.56
III	SUBTOAL REVEGETATION	330064.00
IV	RECLAMATION COSTS	5298235.31
V	10% MAINTENANCE AND MONITORING COSTS	529823.53
VI	10% CONTINGENCY AND ENGINEERING COSTS	529823.53
VII	SUBTOTAL IN 1992 DOLLARS	6357882.37
VIII	SUBTOTAL WITH ESCALATION @ 1.27% / (1995 $)	6603207.10
IX	TOTAL BOND AMOUNT ROUNDED TO NEAREST $1,00	6603000.00

UNIT COST REFERENCE FOR BOND ESTIMATE:

I LABOR AND SUPERVISION COST (MEANS SITE WORK COST DATA - 1990)

TRADE
FOREMAN
EQUIPMENT OPERATOR
TRUCK DRIVER
LABORER
CRANE OPERATOR

II EQUIPMENT COSTS INCLUDING OPERATOR (BLUE BOOK AND MEANS)

EQUIPMENT	RATE MONTHLY	ADJ. RATE PER HOUR

III DEMOLITION AND REMOVAL COSTS (MEANS SITTE WORK COST DATA)

JOB	UNIT COST	UNIT	SOURCE
CONC1	216.00	CUBIC YARD	MEANS 90 020 750 0400
CONCDIS	9.95	CUBIC YARD	MEANS 90 020 754 4250
PAVEMENT1	5.60	SQUARE YARD	MEANS 90 020 554 1750
DEMO1	0.26	CUBIC FEET	MEANS 90 020 604 0050
DEMO2	0.20	CUBIC FEET	MEANS 90 020 604 0100
PIPE4	5.45	LINEAR FOOT	MEANS 90 020 550 3200
PIPE10	10.85	LINEAR FOOT	MEANS 90 020 550 3300
PIPE24C	7.25	LINEAR FOOT	MEANS 90 020 550 2960
FENCECH	1.67	LINEAR FOOT	MEANS 90 020 550 0760
M.H.	26.33	MAN HOURS	WELLINGTON MRP
TRACK	13.80	LINEAR FOOT	MEANS 90 020 550 3500
BALLAST	3.00	CUBIC YARD	MEANS 90 O2O 550 3600
POLES	70.15	EACH	WELLINGTON MRP
CONDUCT	1102.00	MILE	WELLINGTON MRP
D9L	41.20	HOUR	BLUE BOOK
D9LMAN	30.35	HOUR	

DETAILED COST ESTIMATE

DESCRIPTION	MATERIALS	UNIT COST	UNITS	QUANTITY	COST
DEMOLITION AND REMOVAL					
MAIN PLANT					
BUILDING	DEMO1	0.26	CUBIC FEET	1390160.00	361441.60
FOUNDATION	CONC1	216.00	CUBIC YARD	347.00	74952.00
CONCRETE DISPOSAL	CONCDIS	9.95	CUBIC YARD	347.00	3452.65
(SUBTOTAL)					439846.25
TRACK HOPPER AND RAW COAL CONVEYOR					
CONVEYOR	DEMO2	0.20	CUBIC FEET	68750.00	13750.00
BUILDING	DEMO1	0.26	CUBIC FEET	249700.00	64922.00
FOUNDATION	CONC1	216.00	CUBIC YARDS	959.00	207144.00
CONCRETE DISPOSAL	CONCDIS	9.95	CUBIC YARDS	959.00	9542.05
(SUBTOTAL)					295358.05
HEAT DRYER AND CONVEYOR					

CONVEYOR	DEMO2	0.20	CUBIC FEET	21824.00	4364.80
BUILDING	DEMO1	0.26	CUBIC FEET	110688.00	28778.88
SCRUBBER	DEMO1	0.26	CUBIC DEET	2267.00	589.42
FOUNDATION	CONC1	216.00	CUBIC YARDS	117.00	25272.00
CONCRETE DISPOSAL	CONCDIS	9.95	CUBIC YARDS	117.00	1164.15
(SUBTOTAL)					60169.25
REFUSE PILE					
STRUCTURE	DEMO1	0.26	CUBIC FEET	64230.00	16699.80
FOUNDATION	CONC1	216.00	CUBIC YARDS	62.00	13392.00
CONCRETE DISPOSAL	CONCDIS	9.95	CUBIC YARDS	62.00	616.90
10" PIPELINE	PIPE10	10.85	LINEAR FOOT	6800.00	73780.00
(SUBTOTAL)					104488.70
PUMPHOUSE					
BUILDING	DEMO1	0.26	CUBIC FEEET	9360.00	2433.60
FOUNDATION	CONC1	216.00	CUBIC YARDS	94.00	20304.00
CONCRETE DISPOSAL	CONCDIS	9.95	CUBIC YARDS	94.00	935.30
(SUBTOTAL)					23672.90
COARSE REFUSE BIN					
BUILDING	DEMO1	0.26	CUBIC FEET	5984.00	1555.84
FOUNDATION	CONC1	216.00	CUBIC YARDS	2.00	432.00
CONCRETE DISPOSAL	CONCDIS	9.95	CUBIC YARDS	2.00	19.90
(SUBTOTAL)					2007.74
OFFICE BUILDING					
BUILDING	DEMO1	0.26	CUBIC FEEET	28392.00	7381.92
FOUNDATION	CONC1	216.00	CUBIC YARDS	50.00	10800.00
CONCRETE DISPOSAL	CONCDIS	9.95	CUBIC YARDS	50.00	497.50
					18679.42
STOREHOUSE					
BUILDING	DEMO1	0.26	CUBIC FEEET	26352.00	6851.52
FOUNDATION	CONC1	216.00	CUBIC YARDS	41.00	8856.00
CONCRETE DISPOSAL	CONCDIS	9.95	CUBIC YARDS	41.00	407.95
(SUBTOTAL)					16115.47
SHOP					

BUILDING	DEMO1	0.26	CUBIC FEET	26352.00	6851.52
FOUNDATION	CONC1	216.00	CUBIC YARDS	41.00	8856.00
CONCRETE DISPOSAL	CONCDIS	9.95	CUBIC YARDS	41.00	407.95
(SUBTOTAL)					16115.47
COAL CARBONIZATION LAB					
BUILDING	DEMO1	0.26	CUBIC FEET	11712.00	3045.12
FOUNDATION	CONC1	216.00	CUBIC YARDS	18.00	3888.00
CONCRETE DISPOSAL	CONCDIS	9.95	CUBIC YARDS	18.00	179.10
(SUBTOTAL)					7112.22
FUEL STORAGE					
BUILDING	DEMO1	0.26	CUBIC FEET	32317.00	8402.42
FOUNDATION	CONC1	216.00	CUBIC YARDS	43.00	9288.00
CONCRETE DISPOSAL	CONCDIS	9.95	CUBIC YARDS	43.00	427.85
(SUBTOTAL)					18118.27
PLANT PUMPHOUSE					
BUILDING	DEMO1	0.26	CUBIC FEET	13820.00	3593.20
FOUNDATION	CONC1	216.00	CUBIC YARDS	22.00	4752.00
CONCRETE DISPOSAL	CONCDIS	9.95	CUBIC YARDS	22.00	218.90
(SUBTOTAL)					8564.10
SAND HOPPER					
FOUNDATION	CONC1	216.00	CUBIC YARDS	70.00	15120.00
CONCRETE DISPOSAL	CONCDIS	9.95	CUBIC YARDS	70.00	696.50
(SUBTOTAL)					15816.50
SUBSTATION					
FOUNDATION	CONC1	216.00	CUBIC YARDS	35.00	7560.00
CONSCRETE DISPOSAL	CONCDIS	9.95	CUBIC YARDS	35.00	348.25
CHAIN LINK FENCE	FENCECH	1.67	LINEAR FEET	122.00	203.74
EQUIPMENT AND STRUCTURES	M.H.	26.33	MAN HOURS	512.00	13480.96
(SUBTOTAL)					21592.95
PLANT RAILROAD					
TIES AND TRACKS	TRACK	13.80	LINEAR FOOT	19500.00	269100.00
BALLAST	BALLAST	3.00	CUBIC YARD	34000.00	102000.00
(SUBTOTAL)					371100.00

POWERLINE - WEST OF PRICE RIVER					
POWERPOLES	POLES	70.15	EACH	23.00	1613.45
CONDUCTORS	CONDUCT	1102.00	MILE	1.67	1840.34
(SUBTOTAL)					3453.79
NATURAL GAS PIPELINE					
BRANCH LINE TO TRACK HOPPER	PIPE4	5.45	LINEAR FOOT	150.00	817.50
BRANCH LINE TO OFFICE	PIPE4	5.45	LINEAR FOOT	50.00	272.50
BRACH LINE TO PLANT	PIPE4	5.45	LINEAR FOOT	50.00	272.50
CONCRETE METER STATITON	CONC1	216.00	CUBIC YARD	3.00	648.00
CONCRETE DISPOSAL	CONCDIS	9.95	CUBIC YARD	3.00	1552.20
(SUBTOTAL)					3562.70
POWERLINE - EAST OF PRICE					
POWERPOLES	POLES	70.15	EACH	25.00	1753.75
CONDUCTORS	CONDUCT	1102.00	MILE	3.50	3857.00
(SUBTOTAL)					5610.75
PAVEMENT					
BITUMINOUS PAVEMENT	PAVEMENT1	5.60	SQUARE YARD	13056.00	73113.60
	CONCDIS	9.95	CUBIC YARD	2176.00	21651.20
(SUBTOTAL)					94764.80
CLEAR WATER DAM FACILITIES					
WATER INTAKE TOWER	CONC1	216.00	CUBIC YARD	35.00	7560.00
WATER INTAKE TOWER DISPOSAL	CONCDIS	9.95	CUBIC YARD	35.00	348.25
FRESH WATER LINE 24"	PIPE24C	7.25	LINEAR FOOT	200.00	1450.00
SPILLWAY 24" CONCRETE	PIPE24C	7.25	LINEAR FOOT	200.00	1450.00
10" STEEL PIPE	PIPE10	10.85	LINEAR FOOT	3600.00	39060.00
BULLDOZER COSTS RENTAL/OPERATING	D9L	41.20	HOUR	1.40	57.68
BULLDOZER COSTS OPERATOR	D9LMAN	30.35	HOUR	1.40	42.49
(SUBTOTAL)					49968.42
SUBTOTAL DEMOLISION COSTS					1576117.75

II BACKFILLING AND GRADING

WEST OF PRICE RIVER SITE	
VOLUME OF MATERIAL TO BE GRADED (BCY)	75000.00
SWELL FACTOR	1.30
VOLUME OF MATERIAL TO BE GRADED (LCY)	97500.00
PRODUCTION FOOR CAT D8L BULLDOZER (LCY/HR)	675.00
PRODUCTION FACTORS	
AVERAGE OPERATOR	0.75
MATERIAL	0.80
JOB EFFICIENCY	0.84
ESTIMATED PRODUCTION (LCY/HR)	340.20
TOTAL GRADING TIME (HRS)	286.60
LABOR AND EQUIPMENT COSTS/HR	
CAT D8L DOZER	173.36
SHEEPS-FOOT ROLLERS	11.41
WATER TRUCK	172.18
FOREMAN	33.00
SUBTOTAL GRADING COSTS (WEST OF PRICE RIVE	111758.16
ROAD POND	
VOLUME OF MATERIAL TO BE GRADED (BCY)	2750.00
SWELL FACTOR	1.30
VOLUME OF MATERIAL TO BE GRADED (LCY)	3575.00
PRODUCTION FOR CAT D8L BULLDOZER (LCY/HR)	550.00
PRODUCTION FACTORS	
AVERAGE OPERATOR	0.75
MATERIAL	0.80
JOB EFFICIENCY	0.84
ESTIMATED PRODUCTION (LCY/HR)	277.20
TOTAL GRADING TIME (HRS)	12.90
LABOR AND EQUIPMENT COSTS	
CAT 8DL DOZER	173.36
SHEEPS-FOOT ROLLER	11.41
WATER TRUCK	172.18
FOREMAN	33.00
SUBTOTAL GRADING COST (ROAD POND)	5029.12
HEAT DRYER POND	
VOLUME OF MATERIAL TO BE GRADED (BCY)	350.00
SWELL FACTOR	1.30

VOLUME OF MATERIAL TO BE GRADED (LCY)	455.00
PRODUCTION FOR CAT D8L BULLDOZER (LCY/HR)	1500.00
WITH UNIVERSAL BLADE (LCY/HR)	
PRODUCTION FACTORS	
AVERAGE OPERATOR	0.75
MATERIAL	0.80
JOB EFFICIENCY	0.84
ESTIMATED PRODUCTION (LCY/HR)	756.00
TOTAL GRADING TIME (HRS)	0.60
LABOR AND EQUIPMENT COSTS	
CAT 8DL DOZER	173.36
SHEEPS-FOOT ROLLER	11.41
WATER TRUCK	172.18
FOREMAN	33.00
SUBTOTAL GRADING COST (HEAT DRYER POND)	234.69
REQUIRE TOPSOIL 1 FT. THICK (CY)	33000.00
AVAILABLE TOPSOIL (CY)	29100.00
from soil that was recovered during refuse pile expansion	
REQUIRED BORROW TOPSOIL (CY)	3900.00
PRODUCTION FACTORS	
AVERAGE OPERATOR	0.75
MATERIAL	0.80
JOB EFFICIENCY	0.84
TOTAL TIME TO MOVE TOPSOIL (HRS)	114.90
LABOR AND EQUIPMENT COSTS	
CAT 988 WHEEL LOADER	143.05
CAT 769 OFF-HIGHWAY TRUCK FIRST TRUCK	112.98
CAT 769 OFF-HIGHWAY TRUCK SECOND TRUCK	112.98
CAT 8DL DOZER	173.36
SHEEPS-FOOT ROLLER	11.41
WATER TRUCK	172.18
FOREMAN	33.00
TOTAL GRADING COST (REFUSE PILE TOPSOIL)	87204.50
COVER LOWER REFUSE POND WITH 48" OF COVER	
VOLUME OF MATERIAL	489333.00
SWELL FACTOR	1.30
VOLUME OF MATERIAL TO BE MOVED	636132.90

PRODUCTION FACTOR	
CAT 637D SCRAPER (LCY/HR)	192.00
CAT D8L BULLDOZER (LCY/HR)	1250.00
CAT D8L PRODUCTION FACTORS	
AVERAGE OPERATOR	0.75
JOB EFFICIENCY	0.84
MATERIAL	0.80
ESTIMATED EFFICIENCY OF CAT D8L	630.00
TOTAL HOURS TO MOVE AND SPREAD REFUSE	1104.00
EQUIPMENT AND LABOR COSTS/HR	
CAT D8L	173.36
CAT 637D SCRAPPER 1ST	158.92
CAT 637D SCRAPPER 2ND	158.92
CAT 637D SCRAPPER 3RD	158.92
SHEEPS-FOOT ROLLER	11.41
WATER TRUCK	172.18
FOREMAN	33.00
SUBTOTAL COSTS (REFUSE PILE COVER)	956847.84
SPREAD 6" OF TOPSOIL ON REFUSE DISPOSAL AREA	
VOLUME OF TOPSOIL REQUIRED	
ESTIMATED PRODUCTION (LCY/HR)	140.00
JOB EFFICIENCY	0.84
PRODUCTION (LCY/HR)	117.60
TIME REQUIRED	1436.00
EQUIPMENT COSTS	
28 CY TRACTOR TR. 1ST	84.19
28 CY TRACTOR TR. 2ND	84.19
28 CY TRACTOR TR. 3RD	84.19
28 CY TRACTOR TR. 4TH	84.19
28 CY TRACTOR TR. 5TH	84.19
CAT 988 WHEEL LOADER 1ST	143.05
CAT 988 WHEEL LOADER 2ND	143.05
CAT D8L DOZER	173.36
WATER TRUCK	172.18
FOREMAN	33.00
SUBTOTAL COSTS (TOPSOIL PLACEMENT)	1558907.24
GRADE OUT CLEAR WATER DIKE	

VOLUME TO BE GRADED (BCY)	180900.00
SWELL FACTOR	1.30
VOLUME OF MATERIAL TO BE GRADED	235170.00
PRODUCTION OF CAT D9L DOZER	600.00
PRODUCTION FACTORS	
AVERAGE OPERATOR	0.75
MATERIAL	0.80
JOB EFFICIENCY	0.84
ESTIMATED PRODUCTION	302.40
TOTAL GRADING TIME	778.00
EQUIPMENT COSTS	
CAT D9L	192.58
SHEEPS-FOOT ROLLER	11.41
WATER TRUCK	172.18
FOREMAN	33.00
SUBTOTAL COSTS (GRADE OUTLEAR WATER DIKE)	318334.26

GRADE UPPER REFUSE DIKE TO 5:1	
VOLUME OF BE GRADED (BCY)	5600.00
SWELL FACTOR	1.30
VOLUME OF MATERIAL TO BE GRADED (LCY)	7280.00
PRODUCTION OF CAT D8L DOZER	600.00
PRODUCTION FACTORS	
AVERAGE OPERATOR	0.75
MATERIAL	0.80
JOB EFFICIENCY	0.84
ESTIMATED PRODUCTION	302.40
TOTAL GRADING TIME	24.07
EQUIPMENT COSTS	
CAT D8L	173.36
SHEEPS-FOOT ROLLER	11.41
WATER TRUCK	172.18
FOREMAN	33.00
SUBTOTAL COSTS (GRADE UPPER REFUSE DIKE)	9387.69

GRADE OFF CREST OF LOWER REFUSE DIKE	
VOLUME OF BE GRADED (BCY)	1200.00
SWELL FACTOR	1.30

VOLUME OF MATERIAL TO BE GRADED (LCY)	1560.00
PRODUCTION OF CAT D8L DOZER	1900.00
PRODUCTION FACTORS	
AVERAGE OPERATOR	0.75
MATERIAL	0.80
JOB EFFICIENCY	0.84
ESTIMATED PRODUCTION	957.60
TOTAL GRADING TIME	1.63
EQUIPMENT COSTS	
CAT D8L	173.36
SHEEPS-FOOT ROLLER	11.41
WATER TRUCK	172.18
FOREMAN	33.00
SUBTOTAL COSTS (GRADE OWER REFUSE DIKE)	635.26
GRADE DIVERSION DITCH - WEST OF PRICE RIVER	
VOLUME OF BE GRADED (BCY)	4050.00
SWELL FACTOR	1.30
VOLUME OF MATERIAL TO BE GRADED (LCY)	5265.00
PRODUCTION OF CAT D8L DOZER	1900.00
PRODUCTION FACTORS	
AVERAGE OPERATOR	0.75
MATERIAL	0.80
JOB EFFICIENCY	0.84
ESTIMATED PRODUCTION	957.60
TOTAL GRADING TIME	5.50
EQUIPMENT COSTS	
CAT D8L	173.36
SHEEPS-FOOT ROLLER	11.41
WATER TRUCK	172.18
FOREMAN	33.00
SUBTOTAL COSTS (DIVERSION DITCH)	2143.99
COVER MAIN PLANT AREA WITH 6" OF TOPSOIL	
VOLUME REQUIRED	36000.00
TOTAL TIME REQUIRED	255.10
EQUIPMENT AND LABOR COSTS	
CAT 988 WHEEL LOADER	143.05
CAT 769 OFF-HIGHWAY TRUCK 1ST	112.98

CAT 769 OFF-HIGHWAY TRUCK 2ND	112.98
CAT D8L DOZER	173.36
WATER TRUCK	172.18
FOREMAN	33.00
SUBTOTAL COSTS (TOPSOIL MAIN PLANT)	190700.01
COVER PUMP HOUSE & SLURRY PIPELINE 6" TOPSOIL	
VOLUME REQUIRED	3000.00
TOTAL TIME REQUIRED	25.40
EQUIPMENT AND LABOR COSTS	
28 CY TRACTOR TR.	143.05
28 CY TRACTOR TR.	143.05
28 CY TRACTOR TR.	143.05
28 CY TRACTOR TR.	143.05
28 CY TRACTOR TR.	143.05
CAT 988 WHEEL LOADER	143.05
CAT 988 WHEEL LOADER	143.05
CAT D8L DOZER	173.36
WATER TRUCK	172.18
FOREMAN	33.00
SUBTOTAL COSTS (TOPSOIL PUMP HOUSE)	35049.21
ADDITIONAL COST TO MIX SOILS AT TOPSOIL AREA	
VOLUME OF MATERIAL RIPPED	195500.00
RIPPING PRODUCTION (CY/HR)	3000.00
PRODUCTION FACTORS	
AVERAGE OPERATOR	0.75
JOB EFFICIENCY	0.84
MATERIAL	1.00
PRODUCTION (CY/HR)	1890.00
HOURS TO RIP	103.44
VOLUME OF MATERIAL PUSHED	98000.00
PUSHING TIME	410.00
TOTAL TIME	513.44
EQUIPMENT AND LABOR COSTS	
CAT D9D DOZER	192.58
FOREMAN	33.00
SUBTOTAL COSTS (TOPSOIL MIX)	115821.60

	SUBTOTAL FOR ALL GRADING COSTS	3392053.56
III	REVEGETATION COSTS	330064.00

MIDTERM REVIEW

Castle Valley Resources
Wellington Preparation Plant
ACT/007/012

R645-301-112.230. Person who will pay the abandoned mine land reclamation fee.

Proposal:

On page 1, Section 1.20, the Applicant and Operator are identified.

Analysis:

The submitted plan does not identify who will pay the abandoned mine land reclamation fee.

Deficiencies:

1. The Operator must address R645-112.230, if remining the fine refuse is pursued.

R645-301-112.330. The title of the person's position, date position was assumed, and when submitted under R645-300-147, date of departure from the position;

Proposal:

None

Analysis:

The Applicant has not addressed 112.330.

Deficiencies:

1. Include the date the position is assumed for each person who owns or controls the Applicant.

R645-301-112.400 Ownership and Control of other mine permits.

Proposal:

Page 4, Chapter 1.20, addresses 112.400.

Analysis:

The Operator has not identified the date of issuance of the MSHA permit. The regulatory authority for the two mining permits identified in this section is Utah. The percentage of ownership of the Crandall Canyon mine was not identified. Location in organizational structure was somewhat described in 112.320.

Deficiencies:

1. Identify the address and date of MSHA permit issuance and regulatory authority for other mining permits.

2. Identify the Crandall Mine ownership and percent owned.

R645-301-114. Right-of-Entry Information.

Proposal:

Page 10 of Chapter 1.20 addresses this regulation.

Analysis:

The Operator has not included information from the currently approved permit transfer pertaining to right of entry. Within the previously approved information the Operator removed the information that identifies in text the specific lands to which the Permit Area pertains. The identified lands only include the transferred operations area, not the full permit area.

Deficiencies:

1. Provide the previously submitted and approved information on the permit transfer. Provide 11 copies for other agency review.

2. Provide a description of the Permit area for which CVR agrees to operate.

R645-301-120. Permit Application Format and Contents.
Be clear and concise; and Current.

Proposal:

The Applicant submitted the PAP for review by the Division.

Analysis:

301-100's

1. In Page 1 and page 11, Chapter 1 and Chapter 2.10, the introduction. the Operator states the Operator for Genwal was Castle Valley Resources (CVR) since 1989. Appendix B indicates CVR/Genwal as the Applicant. The Operator was never identified as Castle Valley Resources while Genwal was the Permittee. At no time was there an amendment to the permit identifying CVR as the Operator until the

permit transfer which also changed the Permittee to CVR. The Permit Applicant and Operator is CVR not Genwal.

2. A current copy of the liability insurance is not submitted.

3. Currently the operator provides the transfer document between Kaiser Coal Company and Genwal. Information from the current transfer was not clear. Review of the previously submitted permit transfer documents was confusing. The Liability insurance document is not labeled Exhibit "C" as indicated in page 1 of the reclamation agreement. Exhibit "D" Stipulation to Change Bond could not be located. Page 1 of the Reclamation Agreement (in this document) no longer provides the description of the Surface Disturbance.

General

4. Exhibit 6 shows the screening plant that was moved to the Wellington site for load out operations in 1989. The photo submitted is not a legible picture.

5. The Operator is not consistent in identifying which portion of operations, screening, slurry or fine removal will apply during the upcoming 5 year term. Section 5.26 indicates the structures that are at the site but does not provide the current use of those items. Throughout the plan the Operator has not provided clear indications where references apply to the present, previous and proposed operations.

6. Section 4.12, page 1, states "Industrial use is a viable post mining land use. One such plan is to remove the slurry material from the site." The Operator also includes an approval to test fines removal. The Operator should be aware that removal of the fines is considered mining not a post mining land use.

7. Map G9-35-10, as well as others shows an incorrect permit area.

8. Volume II Hydrology Appendix contains illegible photocopies providing design information.

9. Diagram E9-3430 shows a diversion dam suspension bridge and sluice way to the pumphouse, the suspension bridge does not exist.

<u>Deficiencies</u>:

1. Correct the references indicating that the Operator for Genwal was CVR, and the Applicant is CVR/Genwal in Appendix B.

2. Provide a current copy of the liability insurance document.

3. Provide aplicable permit transfer information. Labeling and locations for

attachments and documents for the Bonding agreement and Liability insurance documents should be clairified.

4. Provide a legible picture of the screening plant.

5. Clearly state what operations are proposed for this 5 year term. Make all references to past, present, and future proposed operations clear and consistent throughout the plan.

6. Correct the sections indicating fines removal is a post mining land use.

7. The permit area should be correctly reflected on all maps.

8. Provide clear and legible design information photocopies in Volume II, Hydrology Appendix.

9. Indicate that the suspension bridge on Diagram E9-3430 does not exist.

Note: The Operator should respond to #3's deficiency from reviewing the missing permit transfer information on right of entry.

R645-301-121.100. Contain current information, as required by R645-200, R645-300,

Proposal:

The List of Tables includes Tables 2-1 through 2-10, soils analysis, found within Chapter 2.

Analysis:

Analysis of Local disturbed soils, refuse, coarse material and borrow soils are alluded to in Chapters 2 and 3. The location of some of these analyses is sited as Section 2.22. No analyses could be found in Chapter 2 or Chapter 3.

Deficiencies:

1. The MRP must provide Tables 2-1 through 2-10 in Chapter 2 and other analytical information alluded to in the MRP which will provide descriptive information on the native and disturbed soils, the coarse refuse and slurry characteristics; and which is crucial to the evaluation of the reclamation plan.

R645-301-122. If used in the permit application, referenced materials will either be provided to the Division by the Applicant or be readily available to the

Division.

Proposal:

Section 3.41, page 11 of the MRP refers to Donahue, et al. for gypsum treatment methodology. A full citation for this author was not found.

Analysis:

Castle Valley Resources should include a references cited section in the MRP.

Deficiencies:

1. References cited within the MRP should be reiterated with a full citation in a "Literature Cited" section of the MRP.

R645-301-140. Maps and Plans.

Proposal:

Map E9-3341 illustrates a permit area which is different than that shown on Maps E9-3343 and G9-3510 (and possibly other maps). Permit and disturbed area boundaries must be consistently illustrated on all maps submitted with the MRP.

Two soils maps are listed in the List of Drawings. The legend of Drawing G9-3510 specifies that it replaces Drawing E9-3339. However, Drawing E9-3339 shows more detail with regard to topsoil salvage and borrow sites, but these differ slightly from the topsoil borrow area (symbol NN) and the future topsoil stripping area (symbol OO) shown on Drawing E9-3341.

Analysis:

Castle Valley Resources (CVR) is not in compliance with regulation R645-301-142.

Deficiencies:

1. Permit and disturbed area boundaries must be consistently illustrated on all maps submitted with the MRP.

2. Drawing E9-3339 should be deleted from the List of Drawings in the MRP if it has been superseded or the reason for its inclusion in the MRP should be stated. If Map E9-3339 is kept within the MRP, it should be revised to clearly illustrate the permit and disturbed area boundaries.

R645-301-221. Prime Farmland Investigation.

Proposal:

The 1982 SCS letter of non-prime farmland determination cites saline soils and lack of irrigation water as the basis of conclusion. Page 2, Section 2.2, states that a land use for soils in the area is irrigated crops.

Analysis:

Castle Valley Resources is in compliance with this regulation.

The Division should note that Farmland of Statewide Importance and Prime Farmland have been designated immediately adjacent to the northern mine permit boundary (Utah Agricultural Experiment Station Research Report No. 76, "Important Farmlands of Parts of Carbon, Emery, Grand, and Sevier Counties").

R645-301-222. Soil Survey.

Proposal:

Soils information is derived from the SCS Carbon County Survey. Soils are fine-silty, mixed (calcareous), mixed Typic Torrifluvents (Billings series) and mesic Typic Torifluvents (Ravola series); fine-silty, mixed (calcareous), mesic Aquic Ustifluvents (Hunting series). Typical pedon descriptions provided are not located within the 392 acre disturbed area.

Map G9-3510 illustrates the following map units within the permit area: #35, Gerst-Badland-Stormitt complex; #41, Green River-Juva Variant Complex; #55, Hunting Loam; #58 Juva Variant, fine sandy loam; #80, Persayo-Chipeta Complex; #93, Ravola-Slickspots complex; #94, Riverwash. The text defines the dominant soils as Gerst (a topsoil borrow source), Juva Variant (a topsoil borrow source), and Ravola loam (also a topsoil borrow source).

Map E9-3339 identifies borrow sites and topsoil salvage sites.

Analysis:

Soils listed as lying within the permit area will change with the revision of the permit and disturbed area boundaries according to Deficiencies listed under R645-301-140.

Productivity information is summarized from work conducted in the summer of 1983 in Section 3.11, Tables 1 through 14.

R645-301-232.500. Subsoil Segregation.

Proposal:

The MRP states that this regulation is not applicable to the Wellington site.

Analysis:

R645-301-232.500 states:

> *The Division may require that the B horizon, C horizon, or other underlying strata, or portions thereof, be removed and segregated, stockpiled, and redistributed as subsoil in accordance with the requirements of R645-301-234* (topsoil storage) *and R645-301-242* (soil redistribution) *if it finds that such subsoil layers are necessary to comply with the revegetation requirements of R645-301-353* (Revegetaion: General Requirements) *through R645-301-357* (Revegetation; Extended Responsibility Period).

The Division should not exempt the Wellington Preparation Plant from the performance standard of this regulation by allowing this disclaimer to remain in the plan.

Deficiencies:

1. The disclaimer regarding the performance standard of R645-301-232.500 should be removed from the MRP.

R645-301-232.720. Fulfilling requirements of Substitute Soil materials.

Proposal:

The MRP contains a statement exempting Castle Valley Resources from this regulation.

Analysis:

R645-301-232.720 follows regulations which pertain to an exemption from the requirement to salvage topsoil and/or subsoil. This regulation also pertains to the importation of substitute soil material when the requirements of cover have not been met, as follows:

> *That the requirements of R645-301-233* (topsoil substitutes and supplements) *have been or will be fulfilled with regard to the use of substitute soil materials unless no available material can be made suitable for achieving the revegetation standards of R645-301-356* (Revegetation, Standards for Success), *in which event the Operator will, as a condition of the permit, be required to import soil material of the quality and quantity necessary to achieve such revegetation standards.*

The Division should not exempt Castle Valley Resources from this requirement, since there presently does not appear to be adequate cover available for reclamation of the site.

Deficiencies:

1. The statement in the MRP regarding exemption from R645-301-232.720 should be removed from the plan.

R645-301-233. Topsoil Substitutes and Supplements.

Proposal:

The addition of gypsum to localized areas of sodicity is discussed within the plan.

A description of reclamation treatment which included 2 Tons of hay amendment incorporated into the soil prior to seeding/fertilization/and mulching was found in the 1986 Annual Report. This treatment appeared to provide successful results in reclamation on some of the areas contemporaneously reclaimed in 1986 (see map attached to 1986 Annual Report).

In the 1989 Annual Report, chemical analysis of the native soils (locations shown on Drawing 4067-6-8B) indicate that below two feet, the soils are fine textured and sodic. The recommendation for topsoil salvage was 6 inches (0-15cm) along the access road and the screening facility.

Analysis:

A reclamation treatment which should be utilized at Wellington Preparation Plant is the incorporation of organic matter into the soil prior to seeding and fertilizing. The benefits of organic matter addition are well known: increased water holding capacity; improved structure; increased fertility (depending upon the type of OM); adsorption of soil salts; improvement or micro-organism population etc.

An organic amendment treatment was used on the slurry and refuse testplots. Information on the type of organic matter application, the depth of incorporation and the amount of fertilization is lacking. The Division is unable to reach a conclusion on the appropriateness of the organic matter treatment for the site. No advantage was apparent in the 1990 evaluation of these test plots, but the value of organic matter was assessed in terms of shrub establishment and not its other values such as lowering soil temperature, and increasing soil moisture and improving tilth.

Vegetation test plots at Wellington have revealed that water capturing strategies will aid plant establishment in this harsh environment. The Division strongly recommends that an organic amendment is incorporated into the soil prior to seeding. The Division would also support experimentation with dried, digested sewage sludge as a source of structure- building fertilization

for the refuse, slurry, and surface facilities area reclamation.

Native soils in the area are limited for their use as topsoil borrow material. The topsoil 6 inches has been salvaged in the areas of disturbance. If CVR were to attempt removal of 2' of topsoil/subsoil for cover, the remaining ground would be difficult to reclaim. The sampling conducted and reported in the 1989 Annual Report went down four feet. A deeper excavation may reveal a buried horizon which is not sodic which could be utilized for cover. The MRP should evaluate the available cover in terms of location, volumes and quality.

Deficiencies:

1. The incorporation of organic matter into the soil as an amendment to improve water holding capacity and fertility should be incorporated into the reclamation plan for the entire site.

2. Refer to Deficiency #2 under R645-301-240.

R645-301-240. Reclamation Plan.

Proposal:

The reclamation plan calls for the use of topsoil and substitute material. An estimated total of 5,553 yd^3 has been salvaged and stored on site (page 3, Section 2.31).

A topsoil borrow area has been identified on Drawing E9-3341. Further topsoil borrow areas are shown on Drawing E9-3339.

Twelve inches of coarse refuse slurry will be used on the fine slurry ponds, the coal screening area, and the coarse refuse pile as a subsoil treatment and covered with 6 inches of topsoil. The lower three inches of topsoil will be incorporated in to the coarse refuse slurry cover.

No topsoil will be placed on the regraded surface facilities site.

Analysis:

Total volumes of topsoil required are not stated. Total volumes of borrow material and depth of borrow is not stated. The quality of the borrow material is not provided.

The qualities of the coarse refuse slurry which will enhance the reclamation are not found within Chapter 2 or 3.

Deficiencies:

1. The MRP should state the total area requiring topsoil and the volume of topsoils and substitutes required to achieve the reclamation plan.

2. The MRP should also provide information on the depth of borrow disturbance, acreage of disturbance, quality of material obtained, as well as the ability of subsoils remaining to be reclaimed.

R645-301-242. Soil Redistribution.

Proposal:

The soil will be ripped in areas of high compaction such as the surface facilities areas and the roads across the coarse slurry and the top of the regraded coarse refuse pile (south of the Price River), and the coal screening area. The depth of ripping was not indicated.

Analysis:

A depth of 18-24 inches is recommended for obtaining adequate root penetration and water infiltration as well as providing a suitable surface for topsoil adherence. A depth of ripping should be indicated within the plan (Section 2.42) for adequate performance standard determination.

Deficiencies:

1. Please provide an estimated depth of ripping of the redistributed or regraded surface to be reclaimed (Section 2.42). The depth estimated will provide a performance standard during final reclamation.

R645-301-243. Soil Nutrients and Amendments.

Proposal:

The possibility of using gypsum as a soil amendment will depend upon the exchangeable sodium found within the soil.

After seedbed preparation, the soil will be sampled for fertility and toxicities (page 10, Section 3.41).

Analysis:

Exchangeable sodium and Cation Exchange Capacity should be added to the list of parameters tested during the final reclamation soil testing program described on page 4 of Section

2.31.

The MRP should outline final reclamation sampling for fertility and soil amendments as follows: frequency (number of tests and spacing of tests within each acre); depth of sampling; and type of sampling (composite or depth segregated).

Deficiencies:

1. Exchangeable sodium and Cation Exchange Capacity should be added to the list of parameters tested during the final reclamation soil testing program described on page 4 of Section 2.31.

2. The MRP should outline final reclamation sampling as follows: frequency (number of tests and spacing of tests within each acre); depth of sampling; and type of sampling (composite or depth segregated). The sampling outline will provide a performance standard during final reclamation.

R645-301-244. Soil Stabilization.

Proposal:

Section 2.44 calls for mulch on all topsoiled areas.

Analysis:

The plan should indicate that mulch will be used on all regraded areas.

Details are not provided, although a mulching step during the seeding process is described. However, seeding may follow soil redistribution by as much as four months (Revegetation Timetable, Section 3.41). The plan should state measures to control erosion in the interim.

The mulching recommended by the Division for this purpose is the incorporation of alfalfa hay during ripping of the regraded spoil or scarification of the topsoil. This step will provide some erosion control while also providing a source of nitrogen and microbial life in the spoil.

Deficiencies:

1. The plan must indicate that there will be mulching of the regraded spoils and topsoiled areas and provide an indication of the type of mulch and coverage which will be used for a soil stabilization performance standard.

R645-301-321 Vegetation Information

Proposal:

The facility has been in operation since 1958, so no baseline information was gathered from the actual areas that were disturbed. The primary vegetation communities in the area which were probably disturbed are shadscale-galleta, black sagebrush-galleta, and greasewood-alkali seepweed. Nearly pure stands of Indian ricegrass or mat saltbush are in the area, but they are fairly small, isolated patches. Tables in this section present woody species density, vegetative cover by species, and production.

Analysis:

The information in this section is well-presented. In a few places, the plan references a maximum sample size required by the Division. The "Vegetation Information Guidelines Appendix A" no longer contain a maximum sample size. This is not critical for the one parameter that did not achieve sample adequacy now since a relatively large sample was taken and since following Appendix A is only required for achieving final bond release, but minimum sample sizes will need to be achieved at the time of final reclamation. The causes of the high sample size requirement for this parameter should be evaluated so they can be avoided in the future.

Maps F9-178, F9-179, and E9-3430 show riparian areas that were disturbed near the river pumphouse, the elevated pipelines, and the access road. The plan does not contain descriptions of the vegetation in the riparian area, so there is no information on which to base a revegetation plan or standards for success for the riparian area.

Deficiencies:

1. The plan must contain vegetation information, including vegetative cover by species, woody species density, and productivity, for the riparian area.

R645-301-322 Fish and Wildlife

Proposal:

The Price River bisects the permit area, but the only fish that have viable populations in this area are channel catfish and speckled dace. Other fish species, including game fish, may occasionally be found in this portion of the Price River, but the populations do not reproduce here.

Numerous birds and mammals inhabit the general area of the plant. The area contains high, substantial, and limited value habitat for several species, but the only critical habitats are farmland and the riparian area along the Price River. There are no listed endangered or threatened species known to occur within the permit area, but some endangered or threatened fish are in the Colorado and Green Rivers.

Analysis:

The study presented is a fairly low level analysis, but it is adequate for this area. Publication 78-16, "Vertebrate Species of Southeastern Utah", has been replaced by more current data in publication 90-11, "Fauna of Southeastern Utah and Life Requisites Regarding their Ecosystems". Since this publication is available to the Division, it is not necessary to include it in the plan. It should be referenced,.however, such as on page 2 of the fish and wildlife section.

Deficiencies:

1. The plan must reference Division of Wildlife Resources publication 90-11, "Fauna of Southeastern Utah and Life Requisites Regarding their Ecosystems".

R645-301-323 Maps

Proposal:

Maps F9-178, F9-179, and E9-3345 show the vegetation communities in the area.

Analysis:

The plan does not specify a method for determining success of revegetation. If the reference area method is used, the reference areas must be included on a map.

Since the plan does not propose wildlife habitat as a postmining land use, maps showing the locations of monitoring stations and facilities that would be used to enhance or protect fish and wildlife habitat are not needed.

Map E9-3345 appears to have been replaced by F9-178 and F9-179. Although E9-3345 breaks down the classification of the plant communities more than the other maps, it conflicts with the text and with F9-178 and F9-179. The Operator needs to evaluate these maps to determine what information is most accurate. It may be possible to eliminate E9-3345 from the plan.

Deficiencies:

1. The Operator must evaluate Maps F9-178, F9-179, and E9-3345 to determine what data is most accurate and must correct or eliminate inconsistent or inaccurate information.

R645-301-330 Operation Plan

Proposal:

Disturbances are minimized through only using areas that have been previously disturbed. Interim revegetation is conducted using the final reclamation plan on areas that are no longer needed for efficient operations. They are reclaimed and seeded at the first appropriate opportunity.

The plan to protect wildlife includes having a wildlife education program for all employees associated with coal handling operations, reducing sediment in runoff, protecting riparian and wetland areas, precluding the use by wildlife of ponds or other areas that could have toxic materials, and reporting threatened or endangered species.

Analysis:

The Operator is in compliance with this section.

Deficiencies:

None.

R645-301-341.100 Revegetation Timetable

Proposal:

The plan states in Section 3.54 that seeding of the disturbed areas will be conducted during the first normal period for favorable planting conditions after replacement of the plant growth medium which is usually in the fall for this area. Some seeding and/or transplanting may be done in the early spring.

Analysis:

Although this section of the plan says that seedlings might be planted in the spring, the plan does not propose that seedlings would be planted in final reclamation. If the plan is ever revised to include seedling transplanting, the plan should propose a more specific time frame for planting depending on the types of materials that would be used.

Reestablished vegetation is required to have the same seasonal characteristics as the native vegetation. Warm season grasses were not present in the test plots even though they were seeded. This may be a result of improper timing of planting for these species. This problem needs to be evaluated, possibly in the further testing that is anticipated at the coarse refuse test plot.

Deficiencies:

None.

R645-301-341.210 Revegetation Species

Proposal:

The plan contains two seed mixes for use in greasewood-seepweed and shadscale-galleta communities.

The plan proposes in Section 3.42 that large areas of monocultural crops would be broken up with trees, hedges, and varied crops. If industrial areas are developed, reclaimed land will be interspersed with greenbelts that utilize grass, shrubs, and trees useful for wildlife habitat.

Analysis:

The seed mixes are generally diverse and contain adapted species of similar composition to the species found in the vegetation studies.

Since there are no maps of predisturbance vegetation, it is impossible to tell where the various plant communities existed before they were disturbed. Therefore, the plan needs to show where the Sarcobatus-Suaeda Community and Atriplex-Hilaria Community seed mixes will be planted. Section 3.11 gives general descriptions of where these communities exist in the area, but the plan still needs to delineate where the seed mixes will be used.

Mat saltbush is an important component of some vegetation communities in this area, especially on Mancos Shale, and it should be included in the shadscale-galleta community seed mix.

The greasewood-seepweed mix contains sunflower which is generally considered to be a weed. The surface facilities test plot which was reestablished in 1990 contains sunflowers and several other species both in mixtures and in single species plantings. If this species becomes overcompetitive in the test plot, it will need to be eliminated from this mixture.

Depending on the results from the surface facilities test plot and the reworked coarse refuse test plot, seed mixtures will probably need to be revised in the future.

The plan does not contain provisions for a different seed or planting mix to be used in the riparian area on the Price River. Vegetation information from riparian area sampling should be used to design a plan to restore vegetation in this critical wildlife habitat.

Even where species used in revegetation are the same as those in the immediate area, slight variations in genotypes and physiology can cause revegetation failure. This is especially true for shrubs. The Soil Conservation Service in "Plant Materials for Use on Surface-Mined Lands in Arid and Semiarid Regions" states, "Selection of the proper ecotype or cultivar of an improved plant is as important as species selection." In order to establish a diverse, permanent and effective vegetative cover as required by the regulations, adapted ecotypes and varieties need to be used.

The Utah Crop Improvement Association is beginning a program of verifying seed origin where seed collection locations are documented, especially for wildland shrubs. This program is not yet well established but should be soon and will become more established as demand for this type of seed increases. Other possibilities for obtaining this kind of seed include making special collections on site and only buying seed from a similar location as the mine and labelled with the county and elevation of collection as per Utah State law for tree and shrub seed. Most nurseries recognize the need for using adapted ecotypes in plantings, and source information is commonly available for nursery stock. Nurseries will also contract collectors to gather seed from a specific site and grow those plant materials to a transplant stage.

The plan does not contain a strategy for planting trees, shrubs, hedges, etc., in greenbelts and interspersed with croplands. These are good ideas and are encouraged, but the concepts need to be further detailed with species and at least general planting arrangements. Some of these plans are for the industrial postmining land use which is not officially proposed. The plan also needs to specify which areas will be reclaimed for cropland, which for pasture and grazing, and which for industrial. This is discussed in the postmining land use section.

Deficiencies:

1. The plan must show where the two seed mixes will be used.

2. Mat saltbush must be included in the shadscale-galleta community seed mix.

3. The Operator must commit to planting seed and nursery stock of adapted ecotypes or varieties where these materials are available.

4. The plan must contain a revegetation plan for riparian areas to restore critical wildlife habitat.

5. Plans for planting trees, shrubs, and hedges to provide wildlife habitat diversity as part of the crop management practices and industrial postmining land use must be detailed to include species and planting arrangements. It is recognized that it may not be possible to specify these plans at this time. Although the general concept of planting trees, shrubs, and hedges to provide wildlife habitat is approvable, the specific plans cannot be approved until they are received.

R645-301-341.220 Planting and Seeding Methods

Proposal:

Soil surface treatments to be used prior to seeding include ripping, gouging, and contour trenching.

Most areas will be drill seeded, but areas inaccessible to the drill will be broadcast seeded and the seed covered.

Analysis:

As the plan and results from the test plots indicate, gouging is a very important and successful treatment. Surface roughness needs to be preserved through seeding and mulching periods. Drill seeding was apparently used when the test plots were established, however, so it does not appear to destroy the roughening features.

Winterfat and rabbitbrush are normally broadcast seeded rather than being planted with a drill. Seed of these species is very chaffy and can often clog a drill, and surface seeding is usually more successful anyway. The plan needs to either justify the seeding method proposed for these species or propose to that they be broadcast seeded.

Drill seeding will probably be advantageous for the other species because it puts seed in good contact with the soil. The plan needs to discuss how broadcast seed will be covered. This discussion could include a list of possible methods that would be used.

Deficiencies:

1. The plan must either justify the seeding method proposed for winterfat and rabbitbrush or propose that these species be broadcast seeded.

2. The plan must discuss how broadcast seed will be covered.

R645-301-341.230 Mulching Techniques

Proposal:

Certified weed free straw mulch applied at the rate of 2000 pounds per acre and crimped with a straw crimper will be used in all areas.

Analysis:

As with drill seeding, there is concern about the effects of crimping straw after gouging and

trenching. Crimping was also apparently used in the test plots, however, with no adverse effects noted.

Certified weed free straw may not be available commercially. The statement may be meant to say that certified *noxious* weed free straw will be used.

A Forest Service guide and other publications recommend that straw or hay mulch be applied at the rate of 1.5 to 2 tons per acre both for erosion control and for seedling establishment. This rate should be used unless the Operator demonstrates that the use of less mulch is just as effective for erosion control and seedling establishment at this site.

Deficiencies:

1. Straw mulch must be applied at the rate of 1.5 to 2 tons per acre unless the Operator demonstrates that the use of less mulch is just as effective for erosion control and seedling establishment at this site.

R645-301-341.240 Irrigation and Pest and Disease Control

Proposal:

The plan does not contain plans to irrigate or control pests or diseases.

Analysis:

If transplanting is proposed some time in the future, it should be accompanied by a contingency irrigation plan. Noxious weeds will need to be controlled as part of the performance standards.

Deficiencies:

None.

R645-301-341.250 Success Determination Measures

Proposal:

The plan states on page 34 of Section 3.41 that monitoring will be according to the DOGM schedule. On page 35 of this section, the plan states that measures to determine revegetation success will comply with R645-301-356. Section 3.56 of the plan, which covers R645(614)-301-356, basically quotes the performance standards of the rules.

Analysis:

It is assumed that the monitoring schedule referred to in the plan is the one in the Division's "Vegetation Information and Monitoring Guidelines" that were never approved. The monitoring portion of these guidelines was deleted, so no "DOGM schedule" exists. Therefore, the plan needs to contain a monitoring schedule for determining success of final, including contemporaneous, reclamation.

The performance standards do not specify a certain standard for success. They simply say that reclaimed areas will be compared to a reference area or other approved standard. Postmining land uses will be cropland, pasture, grazing, and industrial. Standards for success need to be proposed for the different areas.

Deficiencies:

1. The plan must contain a monitoring schedule for determining success of final, including interim, revegetation.

2. The plan must propose standards for revegetation success. The Operator should work with the Division to coordinate field visit(s) to approve reference areas or range sites that might be used.

R645-301-341.300 Field Trials

Proposal:

There are three areas at the plant that have test plots. These are near the slurry ponds, on coarse refuse, and by the surface facilities. The plots were established in 1984, but the surface facilities plot was disturbed and reestablished in 1990.

Treatments tried at the plots include different seed mixtures, an organic matter amendment, different depths of topsoil, irrigation, gouging, and using coarse slurry material as a capillary barrier. The irrigation systems and records were not maintained for part of the period, so results from this treatment are not reliable. Section 7.27 states that irrigation water will be obtained from the Price River to irrigate the test plots in 1991.

There are some good results from the plots near the slurry ponds. Coarse slurry and gouging has had a significant positive effect on both perennial and total vegetative cover. The topsoil depth and organic matter amendment treatments have had mixed effects.

The 1991 annual report only contains qualitative results for the other two areas. Since the surface facilities plot was just established in 1990, plants are not yet well-established. The coarse refuse plots, however, have not done well for an unknown reason. Vegetative cover is very

sparse. The plan states that the coarse refuse plots will be reseeded with new treatments upon approval by DOGM.

Analysis:

According to Patrick Collins, the test plots were not irrigated in 1991 as the plan states. The statement in Section 7.27 about obtaining irrigation water from the Price River to irrigate the plots needs to be deleted.

The results from the slurry pond test plots are very useful in evaluating proposed reclamation techniques, but the results show questionable success comparing perennial vegetation established in the test plots compared to the vegetative cover information for the undisturbed shadscale-galleta community. A direct comparison may not be valid, however, since the original vegetation studies were performed in 1983, a relatively wet year, and the most recent test plot evaluations were done after about the fifth year of drought. To show reclaimability, the test plots and adjacent areas, preferably reference areas, should be evaluated in the same year. This should be done in 1994 which would be 10 years after the slurry pond test plots were established and would hopefully give perennial vegetation a better chance to become established.

The plan does not contain a schedule for monitoring the test plots. The plots should be monitored for at least the first five years after being established or renovated. Quantitative analysis does not need to be performed every year during that period, but the plots should be checked for vegetative cover and treatment effects at least twice. Qualitative analyses, such as those contained in the 1991 annual report for the surface facilities and coarse refuse plots, should be done the other years. At the end of five years, a determination needs to be made with the Division on what further testing is needed.

The coarse refuse test plots need to be reworked, preferably in 1992 but no later than 1993. The Operator needs to submit a proposal for further testing in this area. The plan suggests that contour trenching could be done. Minimally, the surface needs to be treated so that water will be retained, and the plots need to be reseeded. It is suggested that, in addition to the regular seed mix, a seed mix which includes desirable introduced species, such as crested wheatgrass, Russian wild rye, and forage kochia, be tried for comparison.

Deficiencies:

1. The statement in Section 7.27 that irrigation water from the Price River will be used to irrigate the test plots in 1991 must be deleted.

2. The plan must contain a schedule for monitoring the test plots. New or renovated plots must be evaluated for at least the first five years. To show site reclaimability, the slurry pond test plots must be compared with a reference area or other standard for success in 1994.

3. The Operator must submit a proposal to rework the test plots at the coarse refuse pile so that they can be reseeded by at least the fall of 1993, or preferably, 1992.

R645-301-342 Fish and Wildlife

Proposal:

No specific plan to enhance wildlife habitat is appropriate because the postmining land uses will be cropland, grazing, pasture, and industrial. Native plant species have been included in the final revegetation seed mixtures because wildlife will invariably be a component of these uses.

Large areas of monocultural crops will be broken up with trees, hedges, and varied crops and pastures to provide a diverse habitat. If industrial areas are developed, reclaimed lands will be interspersed with green belts that provide grass, shrubs, and trees useful to wildlife habitat.

Analysis:

The plans presented are adequate for this section. The proposed treatments should provide habitat enhancement compared to the premining conditions. Other deficiencies, such as the need to specify species and planting arrangements, are discussed in other sections of this review.

Deficiencies:

None.

R645-301-352. Contemporaneous Reclamation.

Proposal:

Section 3.31 The Operator states interim revegetation will be conducted when disturbed areas are no longer necessary for efficient operations.

Analysis:

Presently the Operator is not using the area below the slurry pipeline or the pump house near the clear water pond. A schedule should be presented to the Division for reclamation of these areas. If these areas are planned to be used, details of their intended uses and a schedule for expected time of use should be included in the plan.

Deficiencies:

1. Provide a schedule for reclamation of areas the Operator is not using or, a time

schedule for, and description of, the proposed use of the areas.

R645-301-410. Land Use

Proposal:

Farmland historically used as cropland lies immediately adjacent to north of the permit area. However, cropland use was not illustrated on Map E9-3343.

The Post-mining land use description includes cropland, controlled grazing, and industrial uses. The areas which will be devoted to each post-mining land use are not outlined in the narrative or on a map.

Analysis:

CVR is not in compliance with R645-301-411.110 which requires a map and narrative of present land uses within the permit area. The MRP should provide available information on the concurrent cropland use (within the permit area) to aid in determining the reference area selection and/or standards of success for the cropland post-mining land use (R645-301-356.220).

Deficiencies:

1. Map E9-3343 should be revised to illustrate adjacent cropland and the MRP should describe this pre-mining land use within the MRP. ie, What crops are grown and at what production level and intensity of management?

2. The achievement of the cropland post-mining land use should be clearly described within the plan as to the post-mining cropland location and the proposed standards for reclamation success for this land use.

R645-301-411 Land Use Environmental Description

Proposal:

Prior to construction of the preparation plant, land use in the area was primarily rangeland, wildlife habitat, and limited crop production. The area is zoned by Carbon County as M&G-1, and the plan contains summaries of the activities that are permitted in this zone.

There are no known cultural or historical resources eligible for listing in the National Register of Historic Places in the immediate area of the Wellington Plant. There are no public parks or cemeteries within 100 feet of the permit area, and there are no lands within the permit area that are within any units of the National System of Trails or the Wild and Scenic Rivers

system or study rivers.

The plant has been in operation since 1958, but there has been no mining.

Analysis:

The plan references Map E9-3343 for current land uses. Some of the information on this map, particularly the test plot locations, is not current. The map either needs to be updated or the plan needs to state what information on the map is not accurate.

Deficiencies:

1. Map E9-3343 either needs to be updated, or, if obsolete information is not critical for the purpose of the map, the plan could state what information is not current.

R645-301-412 Land Use Reclamation Plan

Proposal:

The postmining land use will be grazing, cropland, and industrial. The area is presently fenced and will allow controlled grazing when final reclamation conditions are met. There are croplands within the property boundaries. The industrial postmining land use is to accommodate a co-generation plant that would utilize the coal slurry fines.

Analysis:

The industrial postmining land use is presented conceptually, and Chapter 5 states that the reclamation plan, for the present, is based on a return to the pre-disturbance land use of undeveloped land. The requirements for an alternative postmining land use, such as those contained in R645-301-413.300, will need to be met before the industrial use can be approved.

The plan needs to discuss which areas will be reclaimed to a cropland postmining land use, how the land use is to be achieved, and the necessary support activities that may be needed to realize this use. For example, the plan should discuss who will manage the areas that are to be used for cropland. Some of these plans may be in early stages of development, but they cannot be approved without further detail.

Deficiencies:

1. The plan must discuss which areas will be reclaimed to a cropland postmining land use, how the land use is to be achieved, and the necessary support activities that may be needed to realize this use.

R645-301-412.200. Land Owner or Surface Manager Comments.

Proposal:

None.

Analysis:

The Operator states that most of the rail system is out side the permit area. The a portion of the rail system is utilized by CVR to load rail cars, and is directly related to coal mining operations. The rail system right-of-way shown on drawing E9-3343. Shows portions of the spur as belonging to the railroad. The Operator must submit a letter from the railroad clarifying the portions for which the rail road will take responsibility for post-mining land use.

Additionally the county must also provide a letter accepting responsibility for the Ridge Road and any other roads or utility to remain for post mining land use.

A discussion of the area north of the main road, previously used as the haul road to the site, and it's relationship to the post mining land use should also be included in the MRP.

Deficiencies:

1. Provide the Division with Surface Management Comments for the Roads, Rail Road spur, other utilities to remain for post mining land use.

R645-301-420 Air Quality

Proposal:

The Wellington Preparation Plant operates under an Approval Order from the Utah Division of Environmental Health, Bureau of Air Quality, issued December 29, 1989. The plan includes copies of this Approval Order and an Approval Order for the removal of fines. This section also contains narrative on facilities and methods used to control air pollution.

Analysis:

The Operator is in compliance with this section.

Deficiencies:

None.

R645-301-512 Certification
R645-301-512.100 Cross-section and Maps

Proposal:

The Applicant has stated that the surface facilities and operation of the Wellington Preparation Plant are shown on Drawing Numbers: E9-3339, E9-3341, E9-3341 (A), E9-3342 (1), and 4067-6-8B.

The Applicant has stated that the maps contain all the information required by R645-301-512.100 to R645-301-512.150.

Analysis:

Map E9-3341 "Permit Area and Facilities" has not been certified by a registered professional engineer.

Map E9-3341A "Surface Ownership Map" has not been certified by a registered professional engineer.

Map E9-3342 "Restoration of Affected Areas" is not properly marked as E9-3342 (1).

Map E9-3342 "Property Power Lines" has not been certified by a registered professional engineer and is not properly marked as E9-3342 (2).

Map E9-3343 "Current Land Use Map" has not been certified by a registered professional engineer and is not properly marked as E9-3343 (1); and Map E9-3343 (2) "Wellington Loadout Operations Plan (Fig. 2)" has not been certified by a registered professional engineer and much of the lettering is illegible.

Utah Code Unannotated Section 58-22-8 Seal - Documents to be Stamped - requires that "..all plans, maps, sketches, surveys, drawings, documents, specifications, plats, and reports prepared by a licensee under this chapter shall, when submitted to the licensee's client or file with public authorities while his license is in effect, be stamped with a seal of the design authorized by the board, bearing the licensee's name and the legend "registered professional engineer" or "registered land surveyor".

The Applicant should mention in the text that regulations addressing mine workings will not be addressed in this section because mining has not, nor is expected to occur on site.

Drawings A9-1464 "Dryer Pond As Constructed", C9-1285 "Auxiliary Pond", D5-0163 "Pipeline Sediment Pond - As Built", and E9-3460 "Lower Refuse Dike As Constructed" have not been certified by a registered professional engineer.

The Applicant has not mentioned in the text the certified maps and drawings that show the design of the refuse piles, impoundments and primary roads.

Deficiencies:

1. Map A9-1464, which is the dryer pond as constructed, must be properly certified by a registered professional engineer.

2. Map C9-1285, auxiliary pond, must be properly stamped by a registered professional engineer. The drawing was signed and dated by Carl W. Winters, but not properly stamped.

3. Map D5-0163, which is the pipeline sediment pond as built, must be properly certified by a registered professional engineer.

4. Map E9-3341, which shows the permit area and facilities, must be certified by a registered professional engineer.

5. Map E9-3341A, which shows the surface ownership, must be certified by a registered professional engineer.

6. Map E9-3342, which shows the restoration of affected areas, must be properly marked as E9-3342 (1).

7. Map E9-3342, which shows the property power lines, must be properly marked as E9-3342 (2).

8. Map E9-3343, which is the current land use map, must be certified by a registered professional engineer and be properly marked as E9-3343 (1).

9. Map E9-3343 (2), which is loadout operations plan, must be certified by a registered professional engineer and lettering must be legible.

10. Map E9-3460, which is the lower refuse dike as constructed, must be properly certified by a registered professional engineer.

The Applicant will state in the text those maps and drawings that show the design of the refuse piles, impoundments, and primary roads.

The Applicant should mention in the text that regulations addressing mine workings will not be addressed in this section, because mining has not, nor is expected to occur on site.

R645-301-513 Compliance with MSHA Regulations and MSHA Approvals

Proposal:

The Applicant stated that all structures that require MSHA approval have been designed to MSHA specifications. The Applicant has also stated that should a coal or coal waste fire occur he would extinguish the fire in accordance with MSHA and Division approved plans.

Analysis:

The Applicant has not supplied the design and as-built plans for those structures requiring MSHA approval. The Division does not have a copy of the coal or coal waste fire plan.

Deficiencies:

1. The Applicant will supply the Division with copies of the design and as-built plans of all structures that require MSHA approval. The Applicant will also supply the Division with a copy of the fire control plan.

R645-301-514 Inspections.

Proposal:

The Applicant states that all applicable engineering inspections will be conducted by a qualified registered professional engineer, or other qualified professional specialist under the direction of the professional engineer. Most of the inspections are done quarterly and reports are kept on site and submitted to the Division annually.

Analysis:

The Applicant did not state what structures would be inspected and the frequency of each inspection. This information must be stated in the Mining and Reclamation Plan.

The Applicant stated that the inspection reports would be stored on site. The Applicant has since changed that procedure and now stores the reports off-site. The Mining and Reclamation Plan needs to be modified because of the change.

Deficiencies:

1. The Applicant will submit to the Division a list of all structures that require inspection and an inspection schedule.

R645-301-515 Reporting and Emergency Procedures

Proposal:

The Applicant has not included in the Mining and Reclamation Plan any mention of reporting and emergency procedures.

Analysis:

The Applicant has failed to address these issues in the Mining and Reclamation Plan.

Deficiencies:

1. The Applicant needs to address issues covered section R645-301-515, which includes, but is not limited to, reporting of slides, impoundment hazards, and temporary cessation.

R645-301-516 Prevention of Slides in SURFACE COAL MINING AND RECLAMATION ACTIVITIES

Proposal:

The Applicant has not mentioned this section in the Mining and Reclamation Plan.

Analysis:

Mining has not occurred on site.

Deficiencies:

1. The Applicant should address this section by stating that no mining has occurred on site.

R645-301-521 Operation Plan General

Proposal:

Section R645-301-521.100 to 112 relates to previously mined, active or inactive areas in the permit area for which there are none on this site.

Section R645-301-521.120 to 125 relates to the existing surface facilities. Those features are shown in Maps E9-3341 and 4067-6-8B.

Section R645-301-521.130 to 132 relates to land boundaries in the permit area and the Operator's legal right to enter and begin operations are shown on Map 4067-6-1A.

Section R645-301-521.133 deals with public roads within 100 feet of the permit area. In 1989 Carbon County built a new public road (called Ridge Road) across the permit area with Genwal Coal Company's permission. (See Appendix G for details.)

R645-301-521.140 to 143 deals with mine maps. There are no coal mines in the permit area, nor will underground mine development waste or excess spoil be generated or stored on site.

R645-301-521.150 to 152 deals with surface mining. There has been no coal mining on the permit area.

R645-301-521.160 to 169 deals with maps and cross-sections of the proposed features for the proposed permit area. These features are shown on Map E9-3341, E9-3342 and 4067-6-8B. No waste is currently produced by coal processing operations nor are there any explosives on site.

R645-301-521.170 deals with the transportation facilities maps. The maps include Map 4067-6-9A (rev.), C9-1286, A9-1432 and E9-3341.

R645-301-521.180 deals with support facilities. The Applicant has not addressed this issue.

R645-301-521.200 to 270 deals with signs and markers. The Applicant states that all pertinent signs and markers have been posted and are maintained on the site.

Analysis:

The Applicant has supplied the Division with the above mentioned maps and cross-sections. The Division has not field checked these maps as part of this review. The Applicant has not addressed section R645-301-521.180 that deals with support facilities.

Deficiencies:

1. The Applicant needs to address R645-301-521.180 that deals with support facilities.

R645-301-522 Coal Recovery

Proposal:

The Applicant has not addressed this section. If the Applicant intends on recovering the coal fines from past coal processing then a description of those plans should be included in the Mining and Reclamation Plan.

Analysis:

The Applicant has not addressed this section. Recovery of coal fine from previous operations would be considered mining. If the Applicant intends on mining the coal fines then a coal recovery plan should be included in the text. If the Applicant does not intend on mining the coal fines then they should state their intention in the Mining and Reclamation Plan.

Deficiencies:

1. The Applicant should state if he intents on mining coal on the site at some future time. Recovery of coal fines would be considered coal mining by the Division.

R645-301-523 Mining Method(s)

Proposal:

The Applicant has not addressed this issue.

Analysis:

The recovery of coal fine from past operations will be considered mining by the Division. If the Applicant intends on mining the fines at some future time then he should address this section.

Deficiencies:

1. The Applicant needs to state whether or not he intends to mine the coal fines that are with in the permit area.

R645-301-524 Blasting and Explosives

Proposal:

The Applicant states that no blasting or explosives are used in the present operations plan. If blasting is required in the future, a plan will be submitted to the Division with standards that are in compliance with R645-301-524.

Analysis:

The Applicant does not currently use or store explosives on site. If the need arises the Applicant must obtain Division approval before hand.

Deficiencies:

None

R645-301-525 Subsidence

Proposal:

The Applicant has not addressed this issue.

Analysis:

There has been no underground mining activities on the site nor are any anticipated. Subsidence from underground mining activities is unlikely to occur on site.

Deficiencies:

1. The Applicant needs to address this section. If no subsidence will occur on site then the Applicant needs to state that in the Mining and Reclamation Plan.

R645-301-526 Mine Structures
R645-310-526.100 Mine Structures and Facilities

Proposal:

The Applicant has described the existing structures that are used in connection with the coal mining and reclamation operations. The Applicant did not state if any modifications or reconstruction of any building is scheduled. The Applicant did not mention what coal mining and reclamation activities would occur within 100 feet of the County road that is located near the slurry ponds.

Analysis:

The Applicant has described the existing structures. The Applicant has not addressed the issues involving modifications or reconstruction of existing building, nor what coal mining and reclamation activities would occur within 100 feet of any public road.

Deficiencies:

1. The Applicant will state what modifications or reconstruction of existing buildings will occur.

2. The Applicant will state what mining and reclamation activities will occur within 100 feet of a public road and what measures will be taken to ensure that the interests of the public are protected.

R645-301-526.200 Utility Installation and Support Facilities

Proposal:

The Applicant did not address this section.

Analysis:

The Applicant did not address this section.

Deficiencies:

1. The Applicant will address this section.

R645-301-527 Transportation Facilities

Proposal:

The Applicant has described the primary, secondary, rail haulage and conveyor systems on the site.

Analysis:

The Applicant has described the primary, secondary, rail haulage and conveyor systems on the site. The Applicant has not addressed Sections R645-301-527.210 to R645-301-537.250.

Deficiencies:

The Applicant will address Sections R645-310-527.210 to R645-301-537.250 in the Mining and Reclamation Plan.

R645-301-528 Handling and Disposal of Coal, Overburden, Excess Spoil and Coal Mine Waste.

R645-301-528.100 Coal Removal, Handling, Storage, Cleaning, and Transportation areas and Structures

Proposal:

Coal is shipped to the Wellington Loadout from the Genwal Mine by truck. The coal is dumped and then transported to the crushing and screening plant. The coal is then sized and loaded on railcar and trucks.

Analysis:

The Applicant states in the Mining and Reclamation Plan that the coal is crushed and screened. Division Staff have been informed, during on site inspections, that no crushing or screening takes place or is anticipated.

Deficiencies:

1. The Operator needs to clarify what crushing and screening operations are being conducted on site.

R645-301-528.200 Overburden

Proposal:

The Applicant states that overburden handling is not applicable with the present operations at the Wellington Preparation Plant.

Analysis:

Overburden handling is not applicable with the present operations.

Deficiencies:

None.

R645-301-528.300 Spoil, Coal Processing Waste, Mine Development Waste and Noncoal Waste Removal, Handling, Storage, Transportation, and Disposal Areas and Structures.

R645-301-528.310 Excess Spoil

Proposal:

The Applicant states that excess spoil is not applicable with the present operations.

Analysis:

The Applicant states that excess spoil is not applicable with the present operations.

Deficiencies:

None.

R645-301-528.320 Coal Mine Waste

Proposal:

The Applicant does not address this section.

Analysis:

The term coal mine waste is defined by the Division as "coal processing waste and underground development waste". This section has not been addressed.

Deficiencies:

1. The Applicant will address this section.

R645-301-528.321 Return of Coal Processing Waste to Abandoned Underground Workings.

Proposal:

The Applicant did not address this section.

Analysis:

This section is not applicable to the site because there are no underground mine workings.

Deficiencies:

None.

R645-301-528.322 Refuse Piles.

Proposal:

The Applicant states that there are two refuse piles on the site and that they are in compliance with MSHA and the Division's regulations.

Analysis:

The Applicant has stated that the refuse piles are in compliance with MSHA and the Division's regulations. With the exception of the information about the materials not being toxic or acid forming the Applicant has failed to provide any information about the refuse piles.

Deficiencies:

1. The Applicant will provide information or cross references that support his claims that the refuse piles are in compliance with MSHA and the Division's requirements.

R645-301-528.323 Burning and Burned Waste Utilization

Proposal:

If a fire begins it will be extinguished by the Operator in accordance with MSHA and the Division. Present plans contain provisions to ensure that only those persons authorized by the Operator would be involved in the extinguishing operations.

Analysis:

The Applicant has stated that all coal mine fires will be extinguished in accordance with MSHA and the Division's regulations. The Applicant has not provided the Division with a copy of the fire control plan.

Deficiencies:

1. The Applicant will include a copy of the fire fighting plan as an appendix to the Mining and Reclamation Plan.

R645-301-528.330 Noncoal Mine Waste

Proposal:

The Applicant has stated that there is little or no noncoal waste associated with the present activities.

Analysis:

Some noncoal waste will be generated. The Applicant needs to state how the noncoal waste will be stored on site and where it will be taken for final disposal.

Deficiencies:

1. The Applicant must state in the Mining and Reclamation Plan how the noncoal waste will be stored on site and where it will be taken for final disposal.

R645-301-530 Operational Design Criteria and Plans
R645-301-531 General

Proposal:

The Applicant has 6 sediment ponds/containment basins, 2 coal slurry impounding cells, and 2 refuse piles constructed on site, many associated with the previous coal washing activities of the Wellington site. Since no underground mining has occurred on site, none of those structures will be subjected to subsidence.

Analysis:

The Applicant has described each sediment pond or containment basin. Since there is no coal mine on site those structures will not be subjected to subsidence effects.

Deficiencies:

None.

R645-301-532 Sediment Control

Proposal:

The Applicant will use proper sediment control practices, including disturbing the smallest practicable area, at any one time, for the coal loading facility operations and prompt backfilling,

grading, and revegetation for areas that are no longer needed. Any backfilled material will be stabilized to promote a reduction in the rate and volume of runoff.

On-site sediment control facilities include sediment ponds, impoundments, diversion ditches, culverts, and berms. Strawbales and/or silt fences may be used in ditches, or in small areas that do not drain to a sediment pond, to control erosion.

Analysis:

The Applicant has committed to using proper sediment control methods.

Deficiencies:

None

R645-301-533 Impoundments
R645-301-533.100 An impoundment meeting the size or other criteria of 30 CFR 77.216 or located where failure would be expected to cause loss of life or serious property damage.

Proposal:

The Applicant states that there are no permanent impoundments.

Geotechnical and stability analysis of the refuse and slurry ponds are contained in Appendices C, D, and E.

Analysis:

The Applicant states that there are no permanent impoundments. This regulation covers both permanent and temporary impoundments therefore there is no need to differentiate between the two.

If the ponds were constructed pre-SMCRA then the Applicant needs to meet performance standards not design standards. The date of pond construction was not given.

Deficiencies:

1. The Applicant needs to specify the construction dates for all impoundments.

R645-301-533.200 Foundations for temporary and permanent impoundments.

Proposal:

The Applicant states that the foundations for all impoundments were designed so that foundations and abutments for the impounding structures are stable under all conditions of construction and operation of the impoundment.

All vegetative and organic materials were removed and foundations excavated and prepared to resist failure.

Analysis:

The Applicant has stated that the foundations for all impoundments were designed to meet performance standards.

Deficiencies:

None.

R645-301-533.300 Slope Protection

Proposal:

The Applicant states that slope protection will be provided as needed to protect against surface erosion at the site and protect against sudden drawdown.

Analysis:

The Applicant has committed to comply with the regulations.

Deficiencies:

None.

R645-301-533.400 Faces of embankments will be stabilized

Proposal:

The Applicant has committed to vegetate the faces of embankments and surrounding areas. Faces where water is impounded will be stabilized in accordance with standard practices, including rip-rap if necessary.

Analysis:

The Applicant has committed to comply with the regulations.

Deficiencies:

None.

R645-301-533.500 The vertical portion of any highwall

Proposal:

The Applicant states that there are no highwalls or steep cut slopes above the impoundments.

Analysis:

The Applicant has indicated that there are no highwalls or steep cut slopes above the impoundments.

Deficiencies:

None.

R645-301-533.600 Impoundments meeting the criteria of MSHA 30 CFR.

Proposal:

The Applicant states that the ponds have been approved by MSHA and has supplied the Division with geotechnical investigations, operational and maintenance requirements, and stability analyses.

Analysis:

The ponds have received MSHA approval.

Deficiencies:

None

R645-301-534 Roads

Proposal:

The Applicant has stated that the roads are designed to meet the requirements of R645-301-534

Analysis:

The Applicant has not committed to prevent or control damage to public or private property.

The Applicant has not presented a plan for the removal and final reclamation of all roads.

The Applicant has not adequately addressed the issues of erosion control, siltation and air pollution.

Deficiencies:

1. The Applicant will commit to prevent or control damage to public or private property.

2. The Applicant will present a plan for the removal and final reclamation of all roads.

3. The Applicant will address the issues of erosion control, siltation and air pollution.

R645-301-535 Spoil

Proposal:

The present operations at the Wellington Coal Preparation Plant do not produce excess spoil.

Analysis:

There are no excess spoils generated on site.

Deficiencies:

None.

R645-301-536 Coal Mine Waste

Proposal:

The Applicant has provided information to the Division on the construction of the facilities.

Analysis:

The facilities were constructed in 1958 and are pre-SMCRA. The facilities must meet the performance standards but not the design standards.

Deficiencies:

None.

R645-301-537 Regraded Slopes

Proposal:

The Applicant states that there are no steep cut slopes in the permit area and that no spoil or underground development waste will be disposed of on site.

Analysis:

There are no steep cut slopes in the permit area, nor does the Applicant plan on disposing of spoil or underground development waste on site.

Deficiencies:

None

R645-301-540 Reclamation Plan
R645-310-541 General

Proposal:

At such time that the coal preparation and loading activities are completed, all the affected areas at the Wellington Coal Preparation Plant will be closed, backfilled, or otherwise permanently reclaimed in accordance with the R645 Rules and the approved permit.

Analysis:

The Applicant has committed to close or backfill or otherwise permanently reclaim all affected areas.

Deficiencies:

None.

R645-301-542 Narratives, Maps and Plans

Proposal:

The reclamation plan for the area west of the Price River consists of dismantling and removing surface facilities, grading to final contours and preparation of seedbed, seeding area in fall or spring, monitoring revegetation success, removing sediment controls when adequate vegetation has been established, and finally regrading diversion ditches.

The reclamation plan for the area east of the Price River consists of dismantling and removing surface facilities, grading to final contours and preparing seedbeds, planting in the fall or spring, monitoring vegetation, and finally removing the clear water pond by grading the impounding structure against the lower refuse dike.

The three refuse dike structures will be left in place permanently. The North Dike will be used to help prevent untreated runoff from precipitation events from leaving the refuse disposal area. The top or the Upper Refuse Dike will be graded even with the final surface contours to preclude the impoundment of any water following reclamation. The top of the Lower Refuse Dike will be graded even with the final surface contours to preclude impounding any water.

At the time of final reclamation, 12 inches of coarse slurry refuse will be placed on top of the slurry in the Lower Refuse Pond. This layer of coarse slurry material will provide solid base on which to place a soil cover as well as helping to prevent an upward migration of salts from the fine slurry. A six inch soil cover will be placed over all refuse.

Analysis:

The volume of topsoil, borrow material and coarse refuse slurry were not provided. Final slope angles for the Coarse Refuse Pile were not stated.

R645-301-553.252 requires a minimum of four feet of cover over the spoils and refuse unless the Applicant can demonstrate to the Division that a lessor amount is justified. The Applicant has proposed to use less than four feet of cover. The Division has not approved any request for using less than four feet of cover nor has the Applicant provided any information that

would indicate that a lesser amount is justified.

Deficiencies:

1. The Applicant will provide volume estimates for the amount of topsoil, borrow materials and coarse refuse slurry available on site.

2. The Applicant will provided volume requirement for topsoil, borrow materials and coarse refuse slurry that are required for reclamation activities.

3. The Applicant will provide slope angles for the Coarse Refuse Pile.

4. The Applicant will commit to cover the spoils and refuse piles with a minimum of four feet of cover.

R645-301-553.250. Refuse Piles.

Proposal:

The Coarse Refuse Area will have "significant" (page 24, Section 3.41) side slopes at final reclamation. These slopes will be broken by trenches at 15' intervals which are 10 inches deep.

Analysis:

The slope is not specified, however, the angle must not exceed 2h:1v as per R645-301-553.251. The record of test plots at Wellington Prep Plant illustrates that a configuration which allows for maximum water retention would be the best scenario for reclamation purposes. Creating flatter slopes would be recommended and encouraged.

A discussion of testing of the coarse refuse pile in accordance with R645-301-553.252 has not been conducted. This regulation states that four feet of cover is required over the final grade of a refuse pile, unless the Division receives physical and chemical evidences that the reclamation can be achieved and erosion controlled with less cover.

An alternative to reclaiming the coarse refuse in its present location and configuration is removing the coarse refuse from the location on this pad and layering it on the fine slurry pond (s). There are two merits to this suggestion. First, it would consolidate the area of toxic material to be reclaimed. Second, it would provide a layer of coarse and fine mixture which would provide aeration of the fine slurry and a capillary barrier for the fine slurry which is high in boron and selenium. This technique has been utilized in the slurry plots with coarse slurry. The advantages of the coarse slurry would be similar to those of the coarse refuse.

Castle Valley Resource's present reclamation plan of 6 inches of topsoil cover over 12

inches of coarse slurry refuse on the coarse refuse pile and slurry piles is not well substantiated by the past five years of evaluations of test plots (see Annual Reports). Further evaluation of refuse characteristics, reclamation methods and treatments, and reclamation scenarios is needed. Deficiencies written below pertain to the reclamation plan as it is presently written.

Soil sampling submitted with the 1986 annual report indicates that the spoil pile (located in the surface facilities area) is high in pH (8.7), EC (16.8 mmhos), and SAR (41.5). In 1986, Kaiser and the Division agreed that contemporaneous reclamation of the spoil pile as planned would be unsuccessful. Reclamation of the spoil pile must be addressed within the surface facilities reclamation plan.

Deficiencies:

1. The final slope angle for the Coarse Refuse Pile should be stated within the plan for performance standard evaluation during final reclamation.

2. Castle Valley Resources must provide information to address the requirements for requesting less than four feet of cover over the spoil and refuse stored in the surface facilities area as per R645-301-553.252.

3. Information concerning the reclamation of the spoil pile located within the surface facilities area must be addressed within the MRP.

R645-301-553.260 Coal Processing Waste.

Proposal:

Fine slurry ponds will be covered with 12 inches of coarse slurry followed by 6 inches of topsoil or substitute material upon final reclamation. The Annual Reports from 1986 to 1991 track the progress of test plots on a simulated fine slurry site.

The 1991 Annual Report concludes that there were no treatment differences due to irrigation, topsoil depth or organic matter addition and that six inches of topsoil over coarse slurry is the recommended reclamation treatment.

Analysis:

The conclusions concerning the best reclamation methodology (1990 Annual Report and 1991) are stated too definitively, considering the high standard of deviation within treatments, the variation in topsoil quality between plots, irregularity of irrigation, the possible mislabeling of plots, and the simulated design of the fine-slurry plots (please refer to the 1986 through 1991 Annual Reports and the MRP for the basis of these comments). The test plots have provided a beginning for planning reclamation strategy for the fine-slurry plots. Further plots should follow.

Analysis of the soil materials from the fine slurry and coarse slurry test plots was found in the 1987 Annual Report. The analyses displayed very erratic SAR values within the test plots. The variability may result from salts accumulating on the surface from the variable content of the fine slurry below. The questions arise: why does the quality of the topsoil change so much across and within treatments? What were the original analyses of the borrowed topsoil? Did the original sampling indicate uniform soils were used?

Soil Analysis from the 1988 Annual Reports were not found, although the locations were diagrammed on Plate D4-0141 (2 of 2) in the Annual Report.

The fine slurry was sampled December 21, 1990 by Mt. Nebo Scientific. The results are not in the plan. However, my copy of the results indicates that Boron and Selenium levels found in the two drill holes exceed Division guidelines for overburden adequacy characteristics. The slurry may be considered toxic to vegetation and wildlife. (Erratic levels of boron in the fine slurry may have caused the variable success in the test plots, although boron was not sampled for the test plot characterization.) A comparison of boron concentration in the slurry with coarse refuse, coarse slurry, spoil or native soils is not possible, since no samples have been taken of any of the above. Tests of the native soils were conducted and submitted in the 1989 Annual Report, however, the boron and selenium analyses were to have been submitted at a later date. These were not found.

Regulation R645-301-553.260 requires covering coal mine waste with 4' of non-toxic/non-acidic material, by reference to R645-301-553.250. Regulation R645-301-528.350 requires that all toxic material is disposed of with four feet of cover, by reference to R645-301-553.250. Castle Valley Resources has not adequately demonstrated the ability of the reclaimed fine-slurry to meet a reference comparison standard for vegetative cover and diversity and to control erosion using less than four feet of cover.

Deficiencies:

1. Castle Valley Resources should provide information to address the requirements for requesting less than four feet of cover over the fine and coarse slurry as per R645-301-553.252.

R645-301-600. Geology.
R645-301-621. Geology within the proposed permit and adjacent areas.

Proposal:

Thickness and nature of the alluvium and underlying Mancos Shale is discussed on pages 1 through 4 of Chapter 6. The Mancos is a marine shale with sandstone lentils near the base and top. The Blue Gate Member of the Mancos Shale is exposed on the surface over much of the permit area and dips roughly 4 degrees to the west. Ferron Sandstone Member of the Mancos

Shale crops out approximately 2000 feet east of the permit boundary and two drill holes within the permit area encountered sandstone beneath Blue Gate Shale. The Ferron Sandstone is an aquifer, providing water for the town of Emery located to the south.

Alluvium overlies the Mancos in the valley bottom along the Price River. The alluvium has variable thickness and consists of a base of sand and gravel overlain by clayey to sandy loams. Slope wash, at the base of hills that are eroded from the Mancos Shale, is derived from the Mancos and is transitional between the Mancos and the alluvium.

Analysis:

The description of the nature and thickness of the alluvium is given for 3 specific locations under General Requirements on page 1 and generalized for two areas under Alluvium on page 2. Presenting part of the information under General Requirements and part under Alluvium is confusing, and differences between the two areas described on page 2 are unclear. The description of the nature and thickness of the components of the alluvial section in the second paragraph on page 1 is puzzling.

Deficiencies:

1. The Permittee should clarify, and perhaps simplify, the descriptions of the nature, thickness and distribution of alluvium. The information is partially conveyed on cross-sections on E9-3428, but an isopach map would be very helpful.

R645-301-622. Elevations of Test Borings.

Proposal:

The MRP states elevations for test borings are on Drawings E9-3428 and E9-3343.

Analysis:

Elevations can be estimated from topographic contours on Drawing E9-3343, but quality of the print in the MRP is marginal to poor. Approximate elevations for boreholes can be scaled from Drawing E9-3428.

Deficiencies:

1. The Permittee should provide accurate borehole elevations in the MRP. If elevation information in the current MRP is the most accurate available, this should be discussed in the narrative. Otherwise, the elevation should be shown at each borehole location on Drawing E9-3343, other appropriate map or drawing, or tabulated in the MRP. Similar problems are noted under 722.300 below.

R645-301-623. Reclamation Feasibility.

Proposal:

The Permittee states that all structures and facilities will be reclaimed in compliance with R645-301 and R645-302.

Analysis:

The determination required by this section is whether or not there are geologic factors at the site, and for this particular facility in materials being brought onto the site, that might effect reclamation of the site and if these factors have been allowed for in the reclamation plan: the Permittee does not address this directly. Factors such as acid- and toxic-forming materials in the soil and wastes, adequate quality and quantity of top soil, and protection of aquifers are addressed in other sections of the MRP and should be considered in making this determination.

Deficiencies:

1. The Permittee should consider factors relating to the geology of the site and of the mines where coal and wastes originate, then make a determination of how these factors might effect reclamation of the loadout site and how the reclamation plan makes allowance for these possibilities. Most of the information is probably covered in other sections but at a minimum a summary should be given here and the other sections referenced.

R645-301-624. Minimum Geologic Information

Proposal:

The Permittee states that Wellington is a loading facility and has no possibility of underground or surface coal mining activities under the MRP. The Permittee requests a waiver to sections R645-301-624.200 and R645-301-624.300 based on R645-301-626.

The alluvial and shale materials that form the surface at the loadout site have been analyzed and the results given in Chapter 2 - Soils. Aquifers are described in Section 6.22 and ground water location and extent in Section 7.22.

No coal seams are present within the permit area; however coal is stockpiled and loaded to trucks and rail cars at the site and wastes from earlier operations are stored on site. Coal from many mines is planned to be brought to the Wellington site in the future. Castle Valley Resources feels results of analysis of those coals is proprietary and unavailable to them, but would be available to DOGM through required submittals from the individual mines

Analysis:

The Wellington Preparation Plant is or has been engaged in UNDERGROUND COAL MINING AND RECLAMATION ACTIVITIES by the definition given in R645-100-200:

> **"UNDERGROUND COAL MINING AND RECLAMATION ACTIVITIES"** means coal mining and reclamation operations incident to the extraction of coal by underground methods including a combination of (a) underground extraction of coal or in situ processing, construction use, maintenance, and reclamation of roads, above-ground repair areas, **storage areas, processing areas, shipping areas**, areas upon which are sited support facilities including hoist and ventilating ducts, **areas utilized for the disposal and storage of waste**, and areas on which materials incident to underground mining operations are placed; and (b) underground operations such as underground construction, operation, and reclamation of shafts, adits, underground support facilities, in situ processing, and underground mining, hauling, storage, and blasting(emphasis added).

Even though some of these operations are no longer active, there is still a responsibility to operate the site under a DOGM permit and an approved mine operation and reclamation plan

The waiver provision in R645-301-626 applies when DOGM determines that information of equal value or effect is available from other sources and that it is unnecessary for the Permittee to waste time and money by duplicating data collection and analysis.

Some sections of the Rules, such as R645-301-624.200 and R645-301-624.320 might not apply to operations at the Wellington plant. A short statement of why the specific section of the Rules does not apply, as has been done in several places, such as R645-301-622.300, should be included at each appropriate place in the MRP.

Information on aquifers, location and extent of ground water, lithologic characteristics of strata that may be impacted, and determination of acid-forming potential in waste rock at the site have been provided by the Permittee and results are in the MRP.

Coal is not to be mined in the permit area, but is brought from other mines to be stored temporarily and shipped. Wastes from clean-out of Genwal's sediment pond have been approved for temporary storage at the Wellington plant. Acid- or toxic-forming material might be included with coal or other materials brought to the plant for storage and shipment. Because coal normally resides at the plant for only a short time, there is limited potential to impact the environment, but Castle Valley Resources would probably be involved in any liability resulting from such impact. By R645-300-124.300 information on components of coal and waste that are potentially toxic to the environment, submitted to DOGM as part of the permitting and permit compliance process, is not confidential and will be made available to any person with an interest that is or may be adversely affected. It would be in Castle Valley Resources interests to obtain results of analyses for potentially acid- or toxic-forming materials from the mines shipping coal through the Wellington facility.

Deficiencies:

1. The Permittee should remove all language from the MRP that states or implies that

the Wellington Preparation Plant is not involved in regulated UNDERGROUND COAL MINING AND RECLAMATION ACTIVITIES.

2. The Permittee should omit the request that the requirements of R645-301-624.200 and R645-301-624.300 be waived.

3. The Permittee should assess possible problems and liabilities associated with storing and shipping potentially acid- and toxic-forming materials through the Wellington facility and establish procedures to obtain analysis results for materials brought to the site.

R645-301-700. Hydrology.
R645-301-712. Certification: Cross-sections, Plans, Maps

Proposal:

None:

Analysis:

All cross-sections plans and maps applicable to hydrology are not certified as required. For example drawings G9-3508, F9-177 etc.

Page 1 Section 15.13 indicates the Ponds and impoundments will be inspected quarterly. The Operator is required to inspect all MSHA impoundments weekly.

The Operator should note that MSHA ponds and impoundments and refuse piles have different requirements for inspections. It may behoove the Operator to identify the requirements of each of their impoundments, refuse piles and ponds.

The Operator has consistently indicated the Upper refuse pond and Clear water pond have unknown sediment and existing storage capacity in inspection reports. The Operator has new flight maps and has attempted to delineate the material in the upper refuse basin for the fines removal. This material should be utilized to determine the existing sediment volume and storage capacity.

Deficiencies:

1. Provide certification on all applicable maps plans and drawings.

2. Provide the sediment volume and existing storage capacity for the Upper Refuse Piles and Clear Water pond.

R645-301-713. Inspection. Impoundments will be inspected as described under R645-301-514.300.

Proposal:

The Upper and Lower Refuse Basin and Clearwater Basin will be inspected in accordance with 30 CFR 77.216. Most inspections are done quarterly, and submitted to the Division annually Section 5.14.

Analysis:

The Operator should be aware that all impoundments require quarterly inspections as well as the weekly requirements for the MSHA impoundments. In addition the Operator must submit annual reports for refuse piles, ponds and impoundments.

Deficiencies:

1. If the operator addresses the inspection requirements, a discussion of all applicable inspection requirements should be included to provide a clear and accurate document.

R645-301-721. General Requirements-Hydrologic Resources

Proposal:

The MRP identifies a sparse desert plant community and two irrigation ditches as the environmental resources of the permit area.

Analysis:

The Price River and the alluvial aquifer are important hydrologic resources in the permit area that may be affected or impacted by the coal mining and reclamation operation. These resources are discussed in other parts of the MRP.

Deficiencies:

1. The Permittee should include in Section 7.21 of the MRP a description of the Price River and of the alluvial aquifer as hydrologic resources. Information given elsewhere in the MRP may be summarized here and references given to sections where more detailed information is already included.

R645-301-722.300. Elevations and Locations of Monitoring Stations
R645-301-722.400. Location and Depth of Water Wells

Proposal:

The MRP shows locations of water monitoring stations on Drawing E9-3451. Additionally, elevations and locations of ground water monitoring wells are both shown and tabulated on Drawing G9-3509.

The MRP gives no information on water well locations and depths in Section 7.22.4.

Analysis:

Locations of ground water monitoring wells GW-1, GW-6, and GW-11 are different on Drawings E9-3451 and G9-3509.

Elevations of surface water monitoring stations cannot be determined from Drawing E9-3451 because topographic contours are not legible.

Some information on water wells is found in Section 7.24. Table 7.24-1 lists ground water rights, showing most ground water usage is from wells. Three rights to ground water are held by Genwal Coal Co. Locations of water rights are on Drawing G9-3507 but water well locations are hard to find. Depths of wells are not listed in Table 7.24-1.

Deficiencies:

1. The Permittee should determine accurate locations for ground water monitoring wells and correct drawings to show accurate locations.

2. The Permittee should provide elevations for surface water monitoring points either on a map or in a table.

3. The Permittee should give depths of water wells in the MRP. See the related deficiency under 724.100 - .200 below.

R645-301-724. Baseline Information.

Proposal:

Baseline information is discussed in Section 7.24.

Analysis:

The Applicant has duplicate points of water rights on the map. The map legend show

unapproved sources. What is the status of the unapproved sources indicated on the map? Are the unapproved sources proposed rights currently under review by the state water rights department? The Operator uses water for road watering from the track hopper. What is the water right correlating to the track hopper?

Deficiencies:

1. The Applicant should remove or clarify duplicate water rights points, and the status of rights for water users within the cumulative impact areas.

2. The Operator must identify which water right is specific to the track hopper.

R645-301-724.100. Ground Water Baseline Information
R645-301-724.200. Surface Water Baseline Information

Proposal:

Section 7.24 states that ground and surface water rights for a three mile radius around the plant are summarized in Table 7.24-1 and 7.24-4 respectively. Locations are on Drawing G9-3507. Tables 7.24-1 and 7.24-4 also show uses.

Ground water and surface water samples have been collected since 1985 following R645-301-724 and protocols outlined in Tables 7.24-2 and 7.24-5, which are based on DOGM's Guidelines for Establishment of Surface and Ground Water Monitoring Programs for Coal Mining and Reclamation Operations (1986). Several different owners and sampling firms have collected the samples and records about collection methods are not available. Anion/cation balance has been used to help identify some of the data suspected of being erroneous. Surface flow data are given for monitoring points S-1, S-2, and S-4.

Analysis results for total iron and manganese show considerable variability. Total iron and manganese levels do not correlate to TSS values, which indicates analysis of suspended sediment in unfiltered samples is not the cause of the inconsistent total iron and manganese results. A refinement of the water sampling and analysis procedures is recommended by the Permittee, including training of the designated sampler and review of the laboratory doing the analyses. This should result in more uniform and accurate data.

Analysis:

Table 7.24-1 and 7.24-4 list water rights. Because of other water diversion information on Drawing G9-3507, Water User Claim Numbers from Tables 7.24-1 and 7.24-4 are difficult to locate on Drawing G9-3507 and information cannot be readily correlated between the two sources.

Baseline hydrologic data for the Wellington site have been established, although there are

reasons to suspect some of the individual analysis results. Establishing consistency in sampling and analysis as operational water monitoring is done should lead to reduction of apparent errors. Training of the designated sampler is a major part of achieving the needed consistency and quality. The Permittee has committed in Section 7.23 that all water samples are to be collected and analyzed according to the methodology in the current edition of "Standard Methods for the Examination of Water and Wastewater" or the methodology in 40 CFR Parts 136 and 434.

Comments and commitments about the operational monitoring plan made by the Permittee in this section should be consistent with those in Section 7.31 and vice versa.

Deficiencies:

1. The Permittee should provide clear and concise information to allow correlation of water rights, especially water well locations, from Tables 7.24-1 and 7.24-4 to locations shown on Drawing G9-3507.

R645-301-724.700. Permit area or adjacent area that includes any stream will meet the requirements of R645-302-320.

Proposal:

Section 2.0 addresses the requirements of R645-302-320. Section 6.24 states the area contains an alluvial aquifer underlain by shale.

Analysis:

The Operator describes soils and vegetation types indicative of Alluvial valley floors (AVF's) in Section 2.0.

The previous permit states the Coal Processing Plants not located at or near the mine site or within the permit area for a mine are not required to investigate the presence of AVF's (UMC 785.19, UMC 827).

The current regulations R645-302-320 applies to any person who conducts or intends to conduct coal mining and reclamation operations on areas or adjacent to areas designated as alluvial valley floors. Coal mining and reclamation operations include preparation plants.

The Operator is located at pre-law site. However, the Operator must provide information from which the Division must make an AVF determination. Such a determination will not preclude the Operator from conducting mining activities. The Operator must compile information contained in each section of the permit pertinent to AVF's and compile a summary from which the AVF determination may be made. Mapping and documentation required in R645-302-320, as well as a discussion of sub-irrigation, ground water occurrence and current and historical flood irrigated

lands, should be included.

Deficiencies:

1. Summarize the AVF information located throughout the document. Provide mapping and documentation as required by R645-302-320.

R645-301-728. Probable Hydrologic Consequences (PHC) Determination.

Proposal:

The Operator has stated Water and Rights and uses are included in the hydrologic section of the permit.

On page 13, Section 7.28 in the discussion of underground storage tanks the Operator states if underground tanks existed the connection between ground water and surface water flow, would make it possible for ground water contamination.

Page 14, Section 7.28 indicates information related to surface facilities is located in Section 5.0. Section 5.26, page 8, states that item N, a Fuel Storage building housed the fuel oil tanks and lubricants.

Page 18, Section 7.28, states water that water quality impacts should be less than those currently experienced.

Analysis:

Water Use

The Operator does indicate that water rights belonging to the company include 10 cfs in the Price River. The Operator should provide an estimate of the water used in the operations annually (road watering) and that water that may be used in future proposed operations to determine quantity impacts.

Hydrocarbons

The Operator has not adequately addressed the potential contaminant sources. According to the permit, a direct connection between the surface water and ground water can occur with underground tanks. All oil storage areas except an un-bermed concrete pad, are located on soil with the potential for direct connection to the groundwater, therefore contamination could still reach ground water with the present above ground system. The Operator talks about bermed containment of the above ground tanks. These containment areas need to be sized with dimensions included in the plan. The Operator has not demonstrated adequate protection of the hydrologic resources at these storage sites.

The information on the surface facilities map only shows locations of Tanks and Oil Drum Storage Area FF. The area adjacent to the tank contains additional Oil Storage areas. The scale of the map for the area surrounding the main office should be changed to include detail of other operation areas such as: the truck wash down area and steam cleaning area where de-greasers are used, the oil changing area, and the oil and antifreeze storage area adjacent to the office. These areas have the potential for hydrocarbon contamination and must be addressed.

Section EE is in an alternate sediment control area and is not suited for all types of Non Coal Waste storage. Storage of obsolete equipment and scrap metals are better suited to this area than types of waste requiring protection provided by retention areas that prevent leakage to the ground or surface water.

Dust suppressant is identified as soap and water. The plant contains drums of antifreeze in the area adjacent to the office. This material is also used as dust suppressant but, is not included in the PHC.

The Operator indicates a new building, for oil storage, is proposed to be located near the coal storage piles. This proposal was not received at the Division.

Water Quality Impacts

The Operator states that Water Quality impacts for many parameters were reduced during the period of operations prior to 1985 as a result of ground water infiltration and dilution page 18. The Operator has identified some of these parameters in the operations portion and eludes to potential post mining conditions. What is the significance of the reduction/increase in these parameters as they relate to operations and climatic changes? How does this tie in to the assumption that water quality impacts will be less than that currently experienced. A summary of the impacts currently experienced would be appropriate here.

The Operator provides a dilution factor for groundwater TDS impacts to the surface water. What was the basis for the assumption of 10,000 mg/l in the load out area. What about the fine slurry cells? A maximum and minimum TDS estimate based on potential climatic conditions would be an appropriate measure for assessing post mining potential impacts. A relationship of TDS to other mineral occurrences would also be pertinent.

The Operator does not discuss the SAR, Sodium, Boron, Selenium (etc.) contents as a part of the toxic materials from the fine refuse basin.

The Operator should include information about the currently removed PCB containing transformers in the PHC.

Previously materials were found floating in the track hopper. The Operator did attempt to pump out the basement previously but, did not have a pumping capacity to empty the hopper. Presently no one knows if other materials exist in the hopper. How does the Operator propose to protect the water contamination potentials at this point? What are the potential contaminants here?

Deficiencies:

1. Provide an estimate of current and long term potential water use based on operational procedures.

2. Discuss how the present operations prevent hydrocarbons from entering the ground water. Provide sizing of containment berms for storage tanks areas.

3. Include mapping, using adequate scale, for all potential contamination sources including truck wash down areas, steam cleaning area where de-greaser are used, oil changing area, and the oil and antifreeze storage area adjacent to the office, any other potential storage areas with contamination sources.

4. Clarify suitability of the surface facilities map location EE for storage of Non-Coal waste, clarify types of noncoal waste storage at the area. Identify all other waste sites.

5. Identify all potential contaminates including antifreeze.

6. Expand the discussion of trends of water quality to operations as a result of dilution of water infiltration at the slurry ponds. Include discussion of potential post mining conditions related to water availability and climatic changes. Specify what parameters are expected to respond to those conditions.
7. Discuss potential impacts of high Sodium/SAR, Boron, Selenium etc. from the slurry sells on water quality.

8. Include a discussion of the previous locations and recent removal where PCB transformers were located.

9. Discuss potential impacts from the Track Hopper basement which is open to the water table. Provide measures to protect the water at this point.

R645-301-728.200 PHC Baseline Information.

Proposal:

On page 2 of Section 7.28 it is stated that the Ferron Sandstone is at a depth of approximately 75 to 100 feet below the surface, and based on water rights data, few wells are completed in the Ferron in the area around the Wellington loadout. On page 9 is the statement that no wells have penetrated to the Ferron Sandstone and the MRP therefore contains no information on its depth and characteristics. The Ferron is not mentioned in the section on aquifer characteristics on page 12, which is based on six wells near the loadout. The town of Emery, to the south, utilizes water from the Ferron Sandstone as part of its public water supply.

Manganese concentrations increased in monitoring wells GW-2 and GW-3 from 1985 to 1989 and have increased in GW-1 since 1989. Increases might also be occurring between GW-5 and GW-6. Manganese levels are inconsistent along the railroad siding, being highest near the main loadout facility. Ponding of water near GW-7 prior to 1985 is proposed as an explanation for these concentration changes. Changes in iron and TDS concentrations and in water levels also seem related to the cessation of water impoundment after 1984.

Analysis:

The MRP contains conflicting statements about the Ferron Sandstone at the Wellington site. Driller's logs from drilling of water wells and lithology or formation identification from water use claims are not included in the MRP. Two of the 1957 test borings, M and T shown on Drawing E9-3428, penetrated into the Ferron but no water sampling was done. Water monitoring well GW-14 bottomed in a sand but it is too shallow to be the Ferron.

If wells around the Wellington plant do produce water from the Ferron, analyses of the water are not in the MRP and there is no baseline against which to determine the PHC.

The cause of the surface ponding near GW-7 and the reason such ponding would effect ground water quality in wells several thousand feet away and upgradient are not clear from the discussion in the MRP; is GW-7 just a typographical error and one of the upgradient monitoring wells the one that is meant? Dilution of ground water from infiltration of water ponded in the Upper and Lower Refuse Basins is a possible explanation of the generally lower concentrations of dissolved solids prior to 1984-1985. Possible effects of inconsistent sampling and analysis procedures on determining the baseline parameters are covered in Section 7.24 but are not mentioned in this section.

Deficiencies:

1. The Permittee should resolve the conflicting statements about the Ferron Sandstone and the wells or borings that have penetrated to it on pages 2, 9, and 12 of Section 7.28. Aquifer identification from water user claims and driller's reports should be included when available, and if applicable, reasons the Permittee disagrees with the identification.

2. The Permittee should identify the cause of ponding near GW-7 and provide more explanation of how ponding at that location effects concentrations of dissolved solids in ground water from monitoring wells located several thousand feet upgradient.

3. Possible effects of inconsistent sample collection and analysis on the baseline data should be discussed or at least referenced to Section 7.24, and subsequent effects on determination of the PHC should be analyzed.

R645-301-728.300. PHC Findings of Impacts

Proposal:

Potential sources of contamination to the hydrologic resources are identified and discussed. Increased sediment loading of the Price River will result mainly from fugitive dust. Leakage from underground storage tanks is not anticipated to be a problem, but spillage or leakage from equipment or aboveground tanks is a possible contamination source; monitoring of GW-9B, GW-10, GW-11, and GW-12 will evaluate presence of hydrocarbons.

Analysis:

There is no mention of using GW-9B, GW-10, GW-11, and GW-12 to monitor for hydrocarbons in Section 7.31, Water Monitoring. This is an additional parameter to be considered as the operational sampling plan is refined, as discussed on page 4 in Section 7.24.

Deficiencies:

1. The Permittee should include a description of the field and laboratory procedures that will be used to monitor for hydrocarbons in GW-9B, GW-10, GW-11, and GW-12.

R645-301-728.310 Impacts to Hydrologic Balance.

Proposal:

The Wellington plant is no longer involved in cleaning and processing coal, so the operation is not water intensive and significant impacts to the surrounding water levels are not anticipated. Current declines in water levels are believed to be the result of climatic variations. If there is significant diminution of water in the wells or streams due to operation of the plant, Castle Valley Resources will replace the water from water monitoring wells on the property.

Analysis:

Replacing diminished surface and ground water with water from wells on the loadout property will shift water from one user to another but would not restore ground or surface water levels. It would probably just create further diminution and adverse impact to the hydrologic balance unless the operation causing the impact were stopped. The potential plant operation that might cause such an impact is not identified, but resumption of cleaning and processing is one possibility. Cessation of the operation causing the adverse impact would be an alternative abatement measure.

Conversion of monitoring wells to water production wells would require permits from the

Division of Water Rights.

Deficiencies:

1. If there are any anticipated or foreseeable operations, such as resumption of cleaning and processing, that could cause diminution of surface or ground water levels, the Permittee should identify them.

2. The Permittee should reference the conversion of monitoring wells to water production wells, as discussed in Section 7.28, to the commitments made in Section 7.48.

R645-301-731. General Requirements.

MONITORING

Proposal:

On Page 4 of Section 7.31 the Operator shows the full parameter list for ground water and surface water, copied from the Division Guideline 1986, for quarterly monitoring parameters.

Page 5, of Section 7.31 the Operator states that surface water is monitored quarterly at one site and semi-annually at seven other sites, as Based on the PHC as described in Appendix I and Section 7.28.

In recent data acquisition the Operator has provided the Division with flows using a > sign. The Operator has provided the Division with a sheet summarizing dry conditions or seepage from NPDES monitoring points. The data sheet for the depth to water in wells measured do not indicate whether the measurement is from the top of the casing or from the ground surface.

The coarse slurry and fine slurry did not show analysis for Boron and Selenium within Section 7.28, page 16. However, information included in the coal fine slurry recovery proposal shows samples with high Boron and Selenium.

Although the Operator reports the anions and cations in the water quality lab report the Cation - Anion balance is not part of the report. The MRP PHC analysis does include the cation anion balance.

Analysis:

The PHC identifies the seven surface water sites as flowing at SW4-SW7, during periods of precipitation events. The Operator indicates these sites are measured at a semi-annual frequency. This semi-annual frequency was initiated at the time of cessation of operations. The requirements of the regulation specifically include quarterly monitoring. The Operator should also commit to

sample these sites during precipitation events.

The Operators UPDES pond monitoring points have not discharged for a long time. Although the Operator has submitted a the information on a data sheet indicating dry or little seepage at all the sites, the Operator should include copies of NPDES discharge monitoring reports (DMRs) with the quarterly reports.

The R645-301-130 regulations requires technical data reporting to include descriptions of collection and analysis, and methodology. The data collection methods need further clarification to meet these requirements. The Operator should identify the surface water flow methodology to be used. Measurements using a current meter, flow, weir, stage recorder or other method giving a reliable flow estimate may be used. Methodology for flow measurements should be included on the data sheet.

Values of measurable flow can not be reported using the (>) symbol, an accurate measurements should be used whenever possible. Units should remain the same for a parameter at all sampling locations. If one monitoring measurement is to be used on the Price River for surface sites SW1 and SW2, the measured site should be referenced. When the Operator proposes to begin slurry operations or increase water use at the site the surface water flow monitoring program will require amending.

The Operator must identify on data sheets and tables if the depth reported is the depth from the top of the casing to the water level or the depth from the ground elevation. Adequate information should be available to determine the distance to the water elevation from the ground surface.

The Operator does include the cation and anion accounting as parameters on the data analysis sheet but should include the Cation - Anion balance as a parameter in the water monitoring program.

Because Boron and Selenium are potential contaminants at the fine slurry cells the Operator should include these sites in the quarterly water monitoring program.

The basement to the Track Hopper identified as letter D of exhibit E9-3341, intercepts the ground water table of the Price River. Because this water source is a large uncontrolled opening the potential for contaminants to enter the aquifer at this point is high. Additionally, the Operator uses a pump in to extract water increasing the potential for the contaminants to enter the water. The Operator must provide a monitoring schedule for the water in the hopper. The Operator must sample for extended parameter list "baseline" and include hydrocarbon sampling at the track hopper.

Deficiencies:

1. Include quarterly monitoring for all surface water sites. Commit to sample

collection during storm precipitation events for ephemeral drainages and include copies of the UPDES DMR in quarterly reports.

2. Provide a discussion of pertinent operation methodologies, such as flow and water table depth measurements, used to gather data that have significant bearing on the data analysis.

3. Identify pertinent methodologies/information on the data sheet, for the depth to water in wells and surface flow.

4. Include the Cation - Anion balance, Boron and Selenium on the quarterly water quality monitoring parameter list.

5. Include the track hopper in the water monitoring plan. Sample for a complete extended parameter list including hydrocarbon sampling to aid in assessing necessary quarterly parameters for the monitoring plan. Discuss results.

R645-301-731.200. Water Monitoring

Proposal:

Parameters for quarterly ground water and quarterly and semi-annual surface water analysis are given in Section 731.200.

The Permittee recognizes that results of iron and manganese measurements are not consistent. It is suggested in Section 7.24 that this is due to analyzing for "total' rather then "dissolved" forms, but there is no correlation between the iron and manganese and the TDS measurements to confirm this explanation.

Results of ground water and surface water analysis for 1985 through Sept. 1991 are in Tables 7.24-3 and 7.24-6 respectively.

Analysis:

As currently written, the MRP commits the Permittee to quarterly measurement of all parameters on the extended or "baseline" lists from the Guidelines for Establishment of Surface and Ground Water Monitoring Programs for Coal Mining and Reclamation Operations (1986). The entire extended list of parameters was measured and reported in the 1988 and 1989 Annual Reports. The 1990 Annual Report gives analysis results for a shorter set of parameters, similar to the operational monitoring list from the Guidelines. The shorter parameter list was also used for 1991 and 1992 reports.

R645-301-731 requires that total iron and manganese be measured as part of the water

monitoring. DOGM's Guidelines recommend sampling for these two metals in the dissolved form. It might be useful to measure both total and dissolved iron and manganese to find if measurements of dissolved concentrations are more consistent from quarter to quarter, if they track TDS concentrations, or if they have inconsistencies similar to those in measurements of total concentrations. If measurements of dissolved iron and manganese prove to be more consistent or reliable than measurements of total concentrations, then discontinuing measurement of total iron and manganese could probably be justified.

Deficiencies:

1. If the Permittee is actually following an operational sampling program similar to that outlined in DOGM's Guidelines for Establishment of Surface and Ground Water Monitoring Programs for Coal Mining and Reclamation Operations (1986) rather than measuring for the entire extended or "baseline" list of parameters on pages 6-7 of Section 731.200, then the Permittee should submit for DOGM's approval an amended Section 7.31 that clarifies and updates the water monitoring program. The Permittee should make note that the Guidelines recommend measurement of all parameters on the extended list during the year preceding repermitting.

2. The Permittee should consider adding measurement for dissolved iron and manganese to the water monitoring parameters. This addition should be included in the amendment of Section 7.31.

3. The Permittee should make reference in Section 7.31 to parts of Section 7.24 that pertain to the operational monitoring program, specifically the proposals to improve the sampling program, or incorporate that information directly into this section.

R645-301-731.300. Acid- and Toxic-forming Materials.

Proposal:

The MRP states that no acid- or toxic-forming materials have been identified at the Wellington plant.

Analysis:

Analyses presented in Table 7.28.5, Table 7.28.6, and on page E-3 of Appendix E show no acid-forming potential. Analyses for boron and selenium also found on page E-3 indicate no toxic-forming material. Data in Appendix E are from the early 1980's. The age of the analyses in Tables 7.28.5 and 7.28.6 isn't given. Data presented appear to be summaries or averages, and sampling locations and other information on the samples and analyses are not sufficient in the MRP.

Deficiencies:

1. The Permittee should identify dates, sampling locations, laboratories, and methods of analysis. Reference can be made to original data if they are in the Appendices, but enough information should be included within this section to confirm the applicability of the summaries, averages, etc. to the requirements of the MRP.

R645-301-731.300. Acid- and Toxic-Forming Materials.

Proposal:

No acid-or toxic-forming materials have been identified in the permit area. Pg 7, Section 731. The Coarse refuse material analysis presented in the plan Section 2.22 . Section 2.24 indicates coarse slurry will be placed in some areas to be reclaimed.

Analysis:

Section 2.24 indicates coarse slurry will be placed in some areas to be reclaimed. These areas must be identified to provide information should the potential of toxic and acid forming materials be presented.

The Operator states indications of high boron, selenium, salinity and other detrimental conditions possibly exist in the fines page 2 of Appendix B, this information should be included in the plan.

Deficiencies:

1. Include information on toxic materials in the fine refuse materials. Discuss how the Operator will avoid drainage of toxics into surface water and groundwater.

R645-301-731.600. Stream Buffer Zones.

Proposal:

Facilities were constructed within 100 ft of the Price River prior to the Enactment of SMCRA. Buffer Zone Signs have been erected to prevent additional disturbance.

Analysis:

The Operator should have signs along the area previously disturbed by the slurry pipeline. The Operator should be aware that the signs are required for intermittent streams.

Deficiencies:

See R645-301-731.612

R645-301-731.612. Permanent stream channel diversion.

Proposal:

The Operator states no temporary or permanent stream channel diversions are planned page 8 Section 731-600. However, Section 7.42, page 6, describes the so-called permanent diversion draining 680 acres. On page 6 the Siaperas ditch is described to have 1266 acres plus the 680 acres form the Permanent Diversion.

Analysis:

This regulation refers to both perennial and intermittent streams. Intermittent streams include a reach draining a watershed greater than one square mile and a reach that is below the local water table for at least some part of the year and obtains flow from surface and groundwater discharge. The Operator needs to clarify the nature of the proposed permanent drainages and the description under this section.

Deficiencies:

1. The Operator should recognize the "so-called" Permanent diversion as well as the Siaperas ditch as permanent intermittent stream channel diversions and address and applicable portions of this regulation.

R645-301-731.710. A map showing the locations of water supply intakes

Proposal:

Water supply intakes are shown on Drawing E9-3430.

Analysis:

The basement of the Track Hopper identified as letter D of exhibit E9-3341 intercepts the groundwater table of the Price River. The Operator has not identified this water source used for road watering. The Operator must identify the track hopper as a water supply intake.

Deficiencies:

1. Identify the Track Hopper as a water supply intake on an applicable map.

R645-301-731.720. Locations of each water diversion, collection, conveyance, treatment, storage and discharge facility to be used.

Proposal:

Locations are shown on Drawing E9-3341.

Analysis:

According to the PHC, Section 7.28 page 1, the Operator has a sewage treatment plant constructed at the north west corner of the property in 1986.

Drawing E9-3341 should include all points of conveyance including underground pipelines. Although some of the other water facilities to be used such as water pipes connected to the main office may be located on other maps, the maps are not referenced in this section.

Deficiencies:

1. Include the sewage plant and maps or references to maps showing all underground pipe lines and water conveyances used.

R645-301-731.750. Cross-sections.

Proposal:

Cross-sections are on Drawing C9-1285, E9-3453, A9-1464, 4067-6-21, E9-3460, E9-3427, D5-0164,

Analysis:

Many of the cross-sections are not certified. Sheet (map) 712A shows the minimum elevation on the lower refuse basin dike at an elevation of 53 ft.

Drawing C9-1285 states no cross-section is available. The Operator must provide a cross-section for this pond.

Drawing E9-3453, is out dated because it does not match current elevations indicated on Sheet 712e.

Drawing E9-3460 only provides a cross-section of the lower refuse pond dike and does not provide cross-sections of the clear water pond.

No typical cross-section is provided in the identified maps for the refuse dike between the

upper and lower basin. E9-3427 provides information on the refuse pond diversion ditch only.

Deficiencies:

1. For impoundments without current cross-sections matching the existing conditions at the site the Operator will provide new cross-sections using current information and estimate the sediment retained in the ponds from earlier pond design information.

2. Provide certified maps for E9-3460, D5-0163, A9-1464.

R645-301-733. Impoundments.

Proposal:

Page 2 Section 7.33 states the upper and lower basins actually form one impoundment. The pond is normally dry. The Operator proposes that one of the spillways be modified to serve as a valved decant with a skimmer. The Operator presently plans to utilize the impoundments for sedimentation basins.

With the exception of the proposed new dryer pond the impoundments are already constructed page 3. Impoundments will be maintained as required by the referenced sections in R645-301-733.210 with the exception of the Road Pond and Auxiliary Pond Page 4 of Section 5.22 states that no impoundments will be retained on site.

Analysis:

During inspection conversations with a staff member the water elevation for the impoundment containing the slurry is at 18-20 feet from the surface of the slurry. Although the Operator indicates the pond is dry at the surface, the depth to water is water impounded by the structure. This information should be noted in text it would also be useful in analyzing potential water quality impacts.

The Operator intends to provide secondary mining of the fine slurry at some point in the future.

The Operator should identify the schedule for any design changes to be submitted to the Division. Plans are required to be submitted to the District Manager of MSHA under 30 CFR 77.216 and a copy is to be submitted to the Division as part of the permit application package. Although, the plans for the impoundment were submitted and approved previously, the proposed changes should be submitted to MSHA and copied to the Division.

The Operator is required to meet applicable requirements of the Road and Auxiliary Ponds regardless of the below grade construction.

Deficiencies:

1. Provide the MSHA with proposed design changes and submitted copies to the Division.

2. Correct text to indicate all impoundments will be maintained as required by R645-301-733.210.

R645-301-738. Temporary Casing and Sealing of Wells.

Proposal:

The Operator indicates they are meeting the requirement of the regulation. In Section 631.100 no drill holes were preserved for water return or monitoring purposes.

Analysis:

It is not indicated how the Operator is providing temporary seals and providing protective devices to meet this requirement. Does the Operator provide for locked closures on the wells? How does the Operator prevent acid or toxic drainage from entering the groundwater, especially at the track hopper?

Deficiencies:

1. Provide a description on how the Operator is meeting this requirement.

R645-301-742. Sediment Control Measures.

Proposal:

Section 742.240 the Operator indicates seven areas are identified as Alternative Sediment Control Areas (ASCA's).

Analysis:

The Operator has placed the information for alternate sediment control areas under the regulation for exemptions. The regulation for exempt areas does not apply to alternate sediment control areas.

The Operator indicates runoff from the alternate sediment control areas will be sampled when feasible to determine the effectiveness of the ASCA measures. The past two years of inspection has noted problems of piping under the silt fence along the Siaperas drainage ditch at

ASCA #7. The Operator must provide for another alternate sediment control measure at this area as the present silt fences are known to be unsuccessful at this location.

The Operator does not provide a standard for installation procedures for the silt fence and straw bales. The Operator has not summarized the total area and the percentage of total disturbed areas included as ASCA's.

Deficiencies:

1. The discussion of ASCA's should be moved to a section on Sediment Control measures.

2. Address the known problems with sediment control measures along the Siaperas ditch in ASCA #7. Provide a new alternative measure for sediment control at ASCA #7.

3. Provide a design diagram for standard installation procedure for silt fences and straw bales.

4. Summarize the total Alternate Sediment Control areas and the ASCA as a percentage of the total disturbed areas.

R645-301-742.300. Diversions.

Proposal:

The Operator indicates the Permanent Diversion ditch is designed for the 100 year 6-hour flow event but uses the 10 year 6-hour for erosive velocities. Ditch UD-1 is an upstream extension to UD-1A. UD-1 is sized for a 10-year 6-hour event. UD-1A is sized for a 100-Year 6-hour event. UD- 1A has a spreader at the downstream end of the ditch.

Analysis:

The Operator must provide the erosional design velocity for the design event for the ditch; not, some lesser event unless the event provides for greater protection of the channel than the design event.

UD-1A has a spreader at the downstream end of the ditch. Designs for the spreader could not be located.

No discussion of ditches designs surrounding the Pipeline Slurry Sediment Pond could be

found. These ditches are not sized for their previously intended purpose which was to divert slurry that may occur with a pipe failure. Therefore the Operator will not be able to operate the slurry line until an amendment is received. The Operator indicates the north ditch at the site revealed no erosion or overtopping during his inspection. However, it should be noted that previous inspections have shown signs of piping and silting and a potential to overtop at the west corner of the ditch.

Deficiencies:

1. Provide the erosion control design according to the required design event, and provide protection according to that design.

2. Provide designs for the spreader at the downstream end of UD-1A.

3. Provide a discussion in the text of the MRP for Ditches located at the Slurry Pipeline Sediment Pond.

R645-301-744. Discharge Structures.

Proposal:

In the event that the road pond would spill, the south side of the pond would act as an emergency spillway. The auxiliary pond would spill to the surrounding area without jeopardizing the safety of the impoundment. Therefore, the top of the pond would act as the emergency embankment.

Analysis:

The Operator has not provided a designed spillway but instead indicates water would spill over the low point in the embankment. If the Operator wishes to provide for a single drop inlet he must meet the requirements of R645-301-742.225.

Deficiencies:

1. Provide emergency spillway designs including cross-sections of the emergency spillway, discharge to a water conveyance and erosion control measures or demonstrate the requirements of R645-301-742.225 can be met.

R645-301-745. Excess Spoil.

Proposal:

The Operator indicates no excess spoil is disposed of on site in Section 7.35. In Section 5.21 page 1 states; no spoil or coal development waste is stored. No underground mine development waste or excess spoil will be generated or stored on site. Section 5.21 page 3, no waste is currently produced by coal processing operations.

Analysis:

The Operator identifies spoil piles on Map E9-3341 (rev.1).

Deficiencies:

1. Clarify the discrepancy between the map and text descriptions.

R645-301-746. Coal Mine Waste.

Proposal:

In Section 7.36 the Operator indicates coal mine waste has been placed in a controlled manner. In Section 5.13, page 1, the Operator states underground development waste, coal processing waste and excess spoil are not developed at the site. Section 5.28 page 5, the Operator includes the Temporary Rock and Coal Waste Storage area as one time 600 cys. Borrow area Soil and fractured rock. On page 6, The Operator says CVR has a proposed site for Genwal sediment pond waste material as a permanent storage for life of mine 10,000 cys.

Analysis:

In Section 5.13, page 1, the Operator states underground development waste, coal processing waste and excess spoil are not developed at the site. However, the Operator does retain coal processing waste at the site from the Genwal mine. The Operator needs to clarify the discussion of Coal Mine Waste at the site. The Operator has recently received an estimated total of 1,100 cubic yards from Genwal mine according to the inspection on 8/19/92.

Deficiencies:

1. Correctly reflect activities of handling Coal Mine Waste at the Wellington site.

2. Clarify the handling procedures acid and toxic testing and location for storage of this waste.

R645-301-746.200. Refuse Piles.

Proposal:

Page 2 Section 7.28 facilities consist of a coarse refuse pile. Surface drainage is not diverted over the out slope of any refuse pile. There are no runoff drains beneath either refuse pile. Surface erosion is minimized through construction techniques (slopes < 2:1). No permanent impoundment will be created on the refuse pile.

Section 5.28 page 5, the Operator includes the Temporary Rock and Coal Waste Storage area as one time 600 cys. Borrow area Soil and fractured rock. On page 6, The Operator says CVR has a proposed site for Genwal sediment pond waste material as a permanent storage for life of mine 10,000 cys. The Operator has received some of this material recently. The Operator has received approval for a specific quantity of material to be received at the refuse pile. A commitment to include volume and dates of receipt of these materials in the Quarterly reports should be included. A discussion of handling should be addressed as required by R645-301-528.

Analysis:

The Operator has not acknowledged that there are 2 refuse piles on page 2 of Section 7.28. The Operator has not included information on the maps outlining the area of the Pond Refuse Pile. The previous MRP Map E9-3341 included the existing and proposed extent of the refuse pile.

The Operator states that surface drainage is not diverted over the out slope of any refuse pile. But the regulations read "Uncontrolled surface drainage may not be diverted over the outslope of the refuse pile." Therefore the Operator must provide designs to control water that flows over the refuse pile. The design criteria is the 100 yr. 6hr. event. The regulation also requires that "Runoff from areas above the refuse pile and runoff from the surface of the refuse pile will be diverted into stabilized diversion channels...". The Operator must provide for drainage controls from areas draining above the coarse refuse piles.

The Operator indicates the surface erosion is minimized by retaining 2:1 slopes yet, Map F9-177 and field visits indicate some slopes are greater than 2:1.

The Operator states that no impoundments will be created on the refuse pile yet, Map F9-177 shows a large depression on the surface of the pond refuse pile.

Deficiencies:

1. The Operator should acknowledged that there are 2 refuse piles on page 2, of Section 7.28.

2. Map the extent of the coarse refuse pile.

3. Provide drainage of run off from the refuse pile and drainage surrounding the refuse pile. Detailed drainage ditch designs must be based on the runoff calculation for a 100-year 6-hour event per R645-301-746-212.

4. Provide construction and engineering details. Address ponding and grading on the surface of the refuse pile.

5. Submit information gathered from MSHA, which is pertinent to the construction of the Pond Refuse Pile, to the Division.

6. Provide a commitment to include a discussion of dates waste materials are received and volumes received to be included in the inspection report. Address R645-301-528 for handling the waste approved to be received from Genwal.

R645-301-746.311. Coal Mine Waste impounding structure

Proposal:

The three refuse dikes will be left in place permanently. The upper refuse dike will be graded even with the final surface contours to preclude impounding any water. Section 5.40, page 3.

Map E9-3460 shows the lower refuse dike is constructed of coarse slurry.

Analysis:

R645-301-746.311 specifically states "Such structures may not be retained permanently as part of the approved postmining land use." The Operator states that the dikes will be left in place permanently.

The reclamation Map E9-3342 (rev) shows the lower dike elevation at 5380 and the upper dike elevation at 5390. The final reclamation map legend states it shows the 5' contour elevations. No indication of surface drainage across the lower refuse pond is evident thus allowing potential of ponding in the lower impoundment. In order to meet this regulation requirement the Operator must have a free draining structure.

The Operator gives no indication that the road pond and heat dryer pond will be removed.

Deficiencies:

1. Provide design information that addresses R645-301-746.311 for the fine slurry cells.

2. If the Operator is intending to retain the road and heat dryer pond as permanent structures address R645-301-733.220 and other applicable regulations or provide clarification of pond removal in the text of the MRP.

R645-301-747. Noncoal Mine Waste.

Proposal:

There is little noncoal waste at the site that which is generated is taken to a county land fill.

Analysis:

Noncoal waste is in compliance with R645-301-747, Section 7.37. Page 8 of Section 5.26, and Map E9-3341, shows that item EE, was used for noncoal waste storage. Section 7.31, page 1, states Hazardous materials will be stored and disposed of so as to prevent degradation of soils or water.

Section 5.28, page 3, states noncoal waste is temporarily stored then hauled to an appropriate land fill. Section 5.26, page 10, states noncoal waste was held at site EE on facilities map.

Section 5.4, page 1, states that demolished concrete from surface facilities will be disposed in the track hopper, office basement and other areas below the reclaimed surface elevation.

The Operator identifies numerous potential non coal waste disposal sites that are not referenced here. Hazard and toxic waste may not be accepted at the county landfill. The Operator should identify the area where waste is stored prior to removal to the waste site expand the discussion and include references to other discussions of non coal waste.

Deficiencies:

1. Provide a description of areas where all types of waste are stored prior to removal to the appropriate disposal facility.

2. Expand discussion to include all Non-coal waste storage sites, and reference text where noncoal waste is discussed further.

R645-301-760. Reclamation.

Proposal:

Section 5.4, page 1, If preparation of the seed bed is not timely for fall seeding the area

will be seeded the following March-April.

Long range plans for the coarse refuse pile encroach upon the outlet basin for the diversion ditch west of the plant area. Section 7.60 page 1. It is estimated over the remaining life of the plant the coarse slurry will completely cover the Upper Refuse Dike.

Structures excluding the road pond and heat dryer pond will be removed and surface graded to the configurations shown on E9-3342.

Section 5.40 of page 1 state the Operator will fill and level gullies and rills exceeding nine inches in depth. The time table item 3)Remove sedimentation controls when adequate revegetation has been established. and 4) regrade diversion ditch. Revegetate with plan for miscellaneous areas.

East of Price River the Operator proposes to remove the clear water pond by grading against the lower refuse dike. Two permanent diversion ditches will protect the refuse basins. The plan states that the upper refuse basin will be covered with course slurry by the time of reclamation. The upper coarse slurry will be graded, and the three refuse Dikes will be left in place permanently, page 3.

Analysis:

The Operator has not developed the plan for reclamation of existing facilities. The plans for the refuse pile and slurry ponds are based on situations that will not occur within this permit term. Detail and specifics of sediment control measures are not adequate.

The scale of the reclamation map does not allow adequate detail to determine grading and drainage detail across the reclaimed areas.

The Operator must control and prevent erosion as required by the performance standards. Therefore the Operator must remove the statement limiting rill and gully repair to areas greater than 9".

The present alternate sediment control area #2,and #1 will not be adequate for reclamation following grading and removal of the railroad. Although alternate sediment controls may be used a plan for areas exposing soils from reclamation activities will require specific reclamation plans. The final stages of grading require sediment control measures.

Deficiencies:

1. The Operator must submit a plan for reclamation with information based on currently approved actions, and current conditions at the site.

2. The Operator must further address the R645-301-760 with complete drainage plans

and sediment treatment for the site and all phased reclamation including final grading.

3. Provide a map of adequate scale to determine the details of grading and reclamation drainage.

4. Remove the reference limiting rill and gully repair to anything greater than 9".

R645-301-738. Temporary Casing and Sealing of Wells.
R645-301-748. Casing and Sealing of Wells.
R645-301-765. Permanent Casing and Sealing of Wells.

Proposal:

The Permittee commits in 7.38 and 7.48 that monitoring and water wells will be temporarily or permanently sealed in compliance with R645-301-748. Section 7.65 is blank. Section 731.400 states that exploratory and monitoring wells will be sealed in accordance with requirements of the State Engineer and DOGM. In Section 7.28.3.1 it is stated that monitoring wells will be used to replace a "significant diminution" of surface or ground water caused by operation of the plant. Section 5.40 states the well casing will be removed at 2 feet below final grade and filled with soil from the pump house.

Analysis:

Water wells and ground water monitoring wells are permitted by the State Engineer through the Utah Division of Water Rights. Water and monitoring wells must be installed, operated, and closed in accordance with Utah Code Section 73-3-25 and Utah Rules for Water Well Drillers. The Permittee does not state whether or not the Division of Water Rights permitted the monitoring wells and if that Division's standards were followed.

If any future groundwater monitoring wells are anticipated then methods of installation, management, and closure should be approved and permitted by the Division of Water Rights and the information included in the MRP.

Deficiencies:

1. The Permittee needs to make a commitment on permanent casing and sealing of wells in Section 7.65, and correct the description for closure of the pump house well.

cc: S. Falvey
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June 2, 1992

Mr. Jay Marshall, Chief Engineer
Genwal Coal Company, Inc.
Castle Valley Resources
P. O. Box 1201
Huntington, Utah 84528

Dear Mr. Marshall:

Re: Mid-Term Review Corrected Schedule, Castle Valley Resources Inc., Wellington Prep Plant, ACT/007/012, Folder #3, Carbon County, Utah

On May 28, 1992 the Division sent you a letter regarding the requirement to submit 7 additional copies of your Operation and Reclamation Plan in conjunction with the Mid-Term Review. The date for submission of those copies was incorrectly given as June 5, 1992. The purpose of this letter is to inform you that the correct deadline for submittal of copies of your plan is July 17, 1992. This date has already been discussed and agreed to with Patrick Collins of Mt. Nebo Scientific.

I hope this mistake has not caused too much problem. Thank you for your cooperation.

Sincerely,

Daron R. Haddock
Permit Supervisor

cc: P. Collins, Mt. Nebo
J. Passic, Castle Valley Resources
S. Falvey
CASTVALL.MID