0008

ACT/015/032 #2 & 3

STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

March 9, 1987

Mr. Charles Gent
Genwal Coal Company
P. O. Box 1201
Huntington, Utah 84528

Dear Mr. Gent:

Re: Response to Mid-Permit Term Stipulation Review, Crandall Canyon Mine, Tract 1, ACT/015/032, Folder No. 2 and 3, Emery County, Utah

The Division has reviewed responses submitted December 30, 1986 and January 2, 1987 by Genwal to the November 10, 1986 Stipulation Response Review. The responses to stipulations UMC 817.46-(1)-RS, UMC 788.12-(1)-SCL, and UMC 817.71-(1)-JRH have been found to be adequate and are therefore not discussed further in the attached review document.

Further requirements for stipulations UMC 771.19-(1)-RPS, UMC 800-(1)-JRH and UMC 817.43-(1)-RPS/DC are as discussed in the attached review document. Also attached are technical review memos discussing all stipulations for further clarification. Required dates for submittal of the necessary information are included in the discussion of each outstanding stipulation.

Please contact me or Susan Linner if you require clarification.

Sincerely,

L. P. Braxton

L. P. Braxton
Administrator
Mineral Resource Development
and Reclamation Program

SCL:jvb
Attachments
cc: A. Klein
B Team

0028R-29

OUTSTANDING STIPULATIONS
Tract 1 Mid-Permit Term Review

Genwal Coal Company
Crandall Canyon Mine
ACT/015/032
Emery County, Utah

March 9, 1987

UMC 771.19-(1)-RS

1. The applicant must obtain approval for the proposed pond design from the Utah State Department of Health and the United States Forest Service prior to initiation of construction of the sediment pond.

Stipulation Status

To date Genwal has not provided approval from the U. S. Forest Service (USFS) for the pond or for the overall Mining and Reclamation Plan. This is a serious omission as approval was supposed to be obtained prior to construction of the sediment pond. Genwal must provide an approval letter from USFS by April 20, 1987 or enforcement action may result.

Stipulation UMC 800-(1)-JRH

1. Within 30 days from the date of approval of the mid-term review, the Operator shall submit to the Division a complete and detailed cost estimate for the reclamation of the site. The detailed cost estimate shall include the following information:

   a. Mass balance calculations for earthwork and topsoil distribution, quantities, equipment selection, and productivity and cost estimates for all phases and aspects of the work required for reclamation.

   b. Calculations for the reclamation work to be accomplished shall include references as to the source of the information used and the date or dollar year on which the estimates are based.

   c. A map(s) to be used as Exhibit "A" to the surety bond which shows the boundaries of all areas to be disturbed. This shall include the permanent waste disposal facilities, all road cuts and fills and the topsoil stockpile storage locations. The map(s) must be certified correct to serve as a legal description of the disturbed areas for the reclamation bond.

Stipulation Status

As discussed in the attached Memo to File by Randy Harden, the bond estimate provided by Genwal has been reviewed and $120,000 has been found to be adequate to insure performance of the required reclamation. By July 1, 1987 Genwal must submit either a new Exhibit "A" for the existing bond or a replacement bond and Exhibit "A". Bonding Information and forms are attached to this document.

Stipulation UMC 817.43-(1-2)-RPS/DC

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

Stipulation Status

The designs for all reclamation channels except RD-4 have been found to be adequate. Genwal must submit the information as required in the Technical File Memo by Dave Cline by April 20, 1987.

0028R-30

February 27, 1987

TO: Technical File

FROM: Dave Cline, Reclamation Hydrologist DJC

RE: Tract 1 Mid Permit Term Stipulation Review, Genwal Coal Company, Crandall Canyon Mine, ACT/015/032, #2 and #3, Carbon County, Utah

SUMMARY

On August 5, 1986, Genwal Coal Company was granted approval for the Mid-Permit Term Review by tne Division. As part of the approval, Genwal was required to provide written acceptance to several stipulations. Additionally, several of these stipulations required that more detailed design information be submitted and reviewed by the Division. Stipulation UMC 817.43-(1-2)-RPS/DC required that Genwal submit complete and technically adequate plans for the reclamation of channels RD-1 through RD-6. Genwal submitted these designs on July 11, 1986 and the Division has reviewed the material. It has been determined that the designs submitted are not complete and cannot be approved by the Division until additional design information is submitted.

BODY

The designs for reclamation channels RD-1 through RD-6 have been reviewed for technical adequacy. All reclamation channels have been found to be technically adequate except for channel RD-4. A discrepancy exists between Plate 3-5 and Appendix 7-7 pages 27o and 27s. Plate 3-5 shows that the rock face below the conveyor will be backfilled and Appendix 7-7 states that the channl will be blasted into rock. The design for the channel cannot be determined to be technically adequate until this discrepancy is clarified and a design submitted for which ever case is appropriate.

RECOMMENDATIONS

The operator should be notified that such a discrepancy exists and appropriate designs must be submitted to the Division.

cc: Sue Linner
James Leatherwood
Rick Summers

March 4, 1986

TO: Technical File

FROM: Rick P. Summers, Reclamation Hydrologist RPS

RE: Review of As-built Sedimentation Pond, Draft Copy (dated Decemeber 30, 1986), Genwal Coal Company, Crandall Canyon Mine, ACT/015/032, Carbon County, Utah

Summary:

Designs for the as-built sedimentation pond at Crandall Canyon Mine were reviewed to verify pond construction according to the previously approved proposal. The submittal was stamped as a draft copy and received by the Division on December 30, 1986. Although several intermediate values were in error, the overall design is within 5.8 percent of the Division's calculations. The pond is approvable.

Body:

The following table summarizes the review:

Item	DOGM	Genwal	Percent Difference
Pond area (AC)	0.157	0.17	+ 7.65
Undist. area (AC)	5.995	5.74	- 4.25
Reclam. area (AC)	2.42	2.15	-11.16
Disturbed area (AC)	2.487	2.45	- 1.49
Total runoff (AF)	0.692	0.67	- 3.18
Dist. Sed. Vol (AF)	0.2906	0.25	-13.97
Recl. Sed. Vol. (AF)[1]	0.003	0.01	+70.00
Undst. Sed. Vol. (AF)[1]	0.033	0.03	- 9.09
Total Pond Vol. (AF)	1.1019	0.96	- 5.75

1. Reclaimed and Undisturbed Sediment Volume for DOGM calculations were based upon a 3 year sediment volume (based upon UMC 817.46). Genwal values were based upon a 10 year sediment storage volume, but were found to be in error. This essentially means the applicant will likely encounter a more frequent pond cleanout operation, but will not hinder the function of the pond.

On August 12, 1986, the Division received a submittal from the applicant revising the spillway design. This was due to an error in the barrel diameter (12 inches vs. 18 inches) in the original proposal. A new stage-discharge curve was prepared based upon this new value (see attached). It was found that the primary spillway will adequately pass the 10 year -24 hour event (8.8 cfs) and the emergency spillway (in conjunction with the primary spillway) will adequately pass the 25 year - 24 hour event (11.91 cfs).

The primary spillway will discharge 9.35 cfs at the emergency spillway elevation of 7784.0 feet. Using the equation for weir controlled flow as presented by Chow (1964, p. 15-33): $Q=CL(g)^{1/2}(H)^{3/2}$), a bottom width of 4 ft., and 2:1 sideslopes, it was found that the excess discharge (2.56 cfs) will discharge at a depth of 0.10 feet ($H=(2.56\ cfs/(3.27x4\ ft\ x(\ 32.2)^{1/2})^{0.667}$ = 0.106 feet. This results in an elevation in the emergency discharge flowing at design depth of 7784.1 feet. UMC 817.46 (j) requires that the difference in this elevation and the elevation of the top of the embankment be 1.0 feet. Although this was not a rigorous examination of the spillway, it is adequate to demonstrate the depth of flow in the spillway will be minimal (one inch). Additionally, due to the conservative calculation of the peak flow value, it is felt a variance to this requirement can be given.

cc: Sue Linner
Dave Cline
Jim Leatherwood

rps
6000R-103

March 4, 1987

TO: FILE

FROM: R. HARDEN

RE: Genwal Stipulation Review, Crandall Canyon Mine, ACT/015/032, Emery County, Utah

Comments regarding the stipulations for the conditional approval of the Crandall Canyon Mine are as follows:

Stipulation UMC 800-(1)-JRH

1. Within 30 days from the date of approval of the mid-term review, the Operator shall submit to the Division a complete and detailed cost estimate for the reclamation of the site. The detailed cost estimate shall include the following information:

   a. Mass balance calculations for earthwork and topsoil distribution, quantities, equipment selection, and productivity and cost estimates for all phases and aspects of the work required for reclamation.

   b. Calculations for the reclamation work to be accomplished shall include references as to the source of the information used and the date or dollar year on which the estimates are based.

   c. A map(s) to be used as Exhibit "A" to the surety bond which shows the boundaries of all areas to be disturbed. This shall include the permanent waste disposal facilities, all road cuts and fills and the topsoil stockpile storage locations. The map(s) must be certified correct to serve as a legal description of the disturbed areas for the reclamation bond.

Stipulation Status

The conditions of this stipulation are now considered complete and the operator is in compliance with this section.

Bonding information was received October 1, 1986 and a determination of the final bond amount has been made by the Division. The Operator shall be required to provide bond in the amount of $120,000 in 1992 dollars. Refer to bonding cost estimate determined by the Division. Since the operator's current bond is in excess of the determined amount, the operator may wish to reduce the current bond with the Division. Suitable bonding forms are also attached for the replacement of the current bond.

A rider to the existing bond which must include a new Exhibit "A" - description of the disturbed area should be provided if the operator wishes to maintain the current bond. If the operator wishes to change the bond amount, a Stipulation to Change Bond Amount must be completed by the Operator, a replacement bond in a form as approved by the Division, and a new Exhibit "A" must be provided by the operator. Either one of the above options shall be completed and submitted to the Division on or before July 1, 1987.

Some changes in the bond estimate were made by the Division due to changes in the operator's mining and reclamation plan. The commitment by the operator to return all sediment pond waste and other noncoal waste to the underground workings allowed for the removal of the noncoal waste disposal facilities. The Division added costs for riprap and drainage construction to the cost estimate which had not been accounted for in the operator's cost estimate. Other changes in the cost estimate were made for consistency within the Division regarding reclamation costs. Escalation and contingencies were determined based on standard rates as determined by the Division.

Stipulation UMC 817.71-(1)-JRH

1. Within 30 days from the date of the approval of the mid-term review, the Operator shall submit to the Division a detailed set of plans for the location, installation, operation and reclamation of a non-coal waste disposal facility to be included within the mine permit area and disturbed area boundaries. The Operator shall promptly

review and respond to any deficiencies found by the Division in the plan. Upon completion of the 60 day public notice and review period required for a modification to the Mining and Reclamation Plan, the Operator shall have responded to all public and agency concerns regarding the plan and the modification shall be made complete and adequate within 30 days after the closing date of the public notice.

No permanent disposal of non-coal waste material, sediment pond waste, coal spoils, or coal processing waste shall be made by the Operator until such time as the above modifications are approved. The Operator shall store all such material within the temporary waste storage facilities as shown on Plate 3-1 of the MRP. This condition does not apply to trash and garbage or other such materials which are approved by the Division for disposal in the approved sanitary landfill.

Stipulation Status

The conditions of this stipulation are now considered complete and the operator is in compliance with this section.

Deficiencies related to this stipulation in the November 10, 1986 review of the Mid Permit Term Stipulation Review no longer apply. The operator has committed to the disposal of excess spoil, mine development waste, and sediment pond waste to underground workings in accordance with MSHA requirements. Temporary storage of such material shall be located along the west edge of the coal storage and loadout pad.

cc: S. Linner

1005R-108

CRANDALL CANYON MINE - ACT/015/032
BONDING COST ESTIMATE - 2/87 - JRH

BREAKDOWN OF RECLAMATION ACTIVITIES

JOB	MATERIAL	EQUIPMENT	ACRES	QUANTITY	UNITS	PROD.	UNITS	COST	/UNIT	TOTAL COST
DEMOLITION AND REMOVAL										
OFFICE DEMOLITION:										
FOUNDATIONS	CONC			532	FT2	1		$3.77	/FT2	$2,005.64
STRUCTURE	MIX			394	FT3	1		$4.59	/YD3	$1,808.80
BATHOUSE DEMOLITION:										
FOUNDATIONS	CONC			1044	FT2	1		$3.77	/FT2	$3,935.88
STRUCTURE	MIX			773	FT3	1		$4.59	/YD3	$3,549.60
GENERATOR/FUEL STORAGE:										
FOUNDATIONS	CONC			500	FT2	1		$3.77	/FT2	$1,885.00
STRUCTURE	MIX			56	FT3	1		$4.59	/YD3	$255.00
CONTROL BUILDING:										
FOUNDATIONS	CONC			96	FT2	1		$3.77	/FT2	$361.92
STRUCTURE	MIX			36	YD3	1		$4.59	/YD3	$163.20
SUBSTATION:										
STRUCTURE	STEEL			333	YD3	1		$4.59	/YD3	$1,530.00
CHAIN LINK FENCE				120	FT	1		$1.22	/FT	$146.40
WATER TANK:										
STEEL TANK (10,000 GAL)	STEEL			49	YD3	1		$4.59	/YD3	$226.10
FOUNDATION	CONC			225	FT2	1		$3.77	/FT2	$848.25
EXPLOSIVES MAGAZINES:	CONC			12	YD3	1		$5.94	/YD3	$70.40
PORTALS:				3	EACH	1		$2,700.00	/EA	$8,100.00
CULVERTS 42" CMP (UD-1):				295	FT	1		$1.75	/FT	$516.25
CULVERTS 24" CMP (C-2,C-3,C-4):				195	FT	1		$1.54	/FT	$300.30
CULVERTS 18" CMP (C-1,UD-3):				495	FT	1		$1.54	/FT	$762.30
CULVERTS 12" CMP (C-5, SED POND DECANT):				140	FT	1		$1.54	/FT	$215.60
VENTILATION FAN:										
FOUNDATIONS	CONC			600	FT2	1		$3.77	/FT2	$2,262.00
STRUCTURE	MIX			370	YD3	1		$4.59	/YD3	$1,700.00
GUARD RAIL REMOVAL:				150	FT	1		$4.45	/FT	$667.50
SURFACE CONVEYOR STRUCTURE:				44	YD3	1		$4.59	/YD3	$204.00
SEDIMENT TRAP REMOVAL:				1	LS	1		$200.00	/LS	$200.00
SEDIMENT POND RISER:				1	LS	1		$175.00	/LS	$175.00
TOTAL FOR DEMOLITION AND REMOVAL -										$31,889.14
EARTHWORK										
SUBSTATION PAD		D6 DOZER		1370	YD3	116	YD3/HR	$95.15	/HR	$1,123.75
ADMINISTRATIVE PAD		D6 DOZER		4800	YD3	120	YD3/HR	$95.15	/HR	$3,806.00
PORTAL PAD		D6 DOZER		7370	YD3	124	YD3/HR	$95.15	/HR	$5,655.29
SEDIMENT POND		D6 DOZER		2310	YD3	112	YD3/HR	$95.15	/HR	$1,962.47
TOTAL FOR EARTHWORK -										$12,547.51
TOPSOIL DISTRIBUTION										
LOADING AND HAULING		5YD LOADER/TRUCKS		7310	YD3	120	YD3/HR	$230.30	/HR	$14,029.11
SPREADING		D6 DOZER		7310	YD3	120	YD3/HR	$95.15	/HR	$5,796.22
SCARIFICATION		D6 DOZER	5.15	5.15	ACRES	0.3	AC/HR	$100.35	/HR	$1,722.68
SUBTOTAL TOPSOIL DISTRIBUTION -										$21,548.00
REVEGETATION										
SOIL TESTING				10	SAMPLES	1		$100.00	/SAMPLE	$1,000.00
FERTILIZER			5.15	5.15	ACRES	0.005	AC/LB	$0.35	/LB	$360.50
SEED MIX			5.15	5.15	ACRES	1		$550.00	/ACRE	$2,832.50
HAY MULCH			2.62	2.62	ACRES	0.67	AC/TON	$140.00	/TON	$550.20
HYDRO MULCH			2.53	2.53	ACRES	1.00	AC/TON	$225.00	/TON	$569.25
NETTING (LABOR INCL)			2.00	2.00	ACRES	1		$1,050.00	/ACRE	$2,100.00
STEM PLANTINGS (LABOR INCL)			0.45	0.45	ACRES	610.00	STEMS/AC	$1.50	/STEM	$411.75
DRILL SEEDING			2.62	2.62	ACRES	0.5	AC/HR	$550.00	/HR	$2,882.00
CRIMPING			2.62	2.62	ACRES	0.5	AC/HR	$50.00	/HR	$261.99
HYDRO SEEDING			2.53	2.53	ACRES	0.5	AC/HR	$105.65	/HR	$534.59
RE-PLANTING(20% OF ABOVE)										$2,300.56
SUBTOTAL REVEGETATION -										$13,803.34

JOB	MATERIAL	EQUIPMENT	ACRES	QUANTITY	UNITS	PROD.	UNITS	COST /UNIT	TOTAL COST
DRAINAGE RESTORATION									
DITCH/CHANNEL CONSTRUCTION		TRACTOR		1600	FT	100	FT/HR	$47.00 /HR	$751.98
RIPRAP MATERIAL				350	YD3	1		$22.00 /YD3	$7,700.00
FILTER BED MATERIAL				120	YD3	1		$12.00 /YD3	$1,440.00
DRAINAGE RESTORATION -									$9,891.98
SUBTOTAL FOR ALL ACTIVITIES -									$89,680
10% MAINTENANCE AND MONITORING COSTS									$8,968
10% CONTINGENCY AND ENGINEERING COSTS									$9,865
SUBTOTAL IN 1987 DOLLARS									$108,513
SUBTOTAL WITH ESCALATION @ 1.97% /YR FOR 5 YEARS (1992 DOLLARS) -									$119,631
TOTAL BOND AMOUNT ESTIMATED TO THE NEAREST $1,000 IN 1992$ -									$120,000

LABOR UNIT COSTS(INCL. O&P)	UNIT COST	LABEL
LABORER	$23.65	LABORER
LIGHT EQUIPMENT OPERATOR	$28.65	LT OPERATOR
MEDIUM EQUIPMENT OPERATOR	$30.35	MD OPERATOR
FOREMAN (OUTSIDE)	$33.65	FOREMAN
TRUCK DRIVER	$24.60	TRUCK DR
CRANE OPERATOR	$31.00	CRANE OPER

ADJUSTED HOURLY RATES FOR EQUIPMENT INCLUING OPERATOR

EQUIPMENT DESCRIPTION	MONTHLY RATE $/HOUR	LABEL NAME	WEEKLY RATE $/HOUR	LABEL NAME	HOURLY RATE $/HOUR	LABEL NAME	MONTHLY COST	WEEKLY COST	HOURLY COST	MAINT. COST/HR
CAT D4E	$52.61	MCATD4	$60.40	WCATD4	$80.65	HCATD4	$2,765.00	$940.00	$43.75	$6.55
RIPPER D4	$1.49	MRIPPERD4	$2.11	WRIPPERD4	$3.85	HRIPPERD4	$210.00	$72.25	$3.55	$0.30
CAT D5B	$65.34	MCATD5	$77.75	WCATD5	$110.00	HCATD5	$4,415.00	$1,500.00	$69.75	$9.90
RIPPER D5	$2.85	MRIPPERD5	$4.05	WRIPPERD5	$6.95	HRIPPERD5	$405.00	$140.00	$6.40	$0.55
CAT D6D	$78.27	MCATD6	$95.15	WCATD6	$139.15	HCATD6	$6,005.00	$2,040.00	$95.00	$13.80
RIPPER D6	$3.68	MRIPPERD6	$5.20	WRIPPERD6	$8.95	HRIPPERD6	$525.00	$180.00	$8.25	$0.70
CAT D7G	$100.19	MCATD7	$124.48	WCATD7	$188.60	HCATD7	$8,640.00	$2,935.00	$137.50	$20.75
RIPPER D7	$15.10	MRIPPERD7	$16.98	WRIPPERD7	$11.35	HRIPPERD7	$660.00	$225.00	$10.40	$0.95
CAT D8K	$114.80	MCATD8K	$142.45	WCATD8K	$213.95	HCATD8K	$9,830.00	$3,340.00	$155.00	$28.60
RIPPER D8	$11.00	MRIPPERD8	$15.38	WRIPPERD8	$26.55	HRIPPERD8	$1,540.00	$525.00	$24.30	$2.25
CAT D8L	$135.12	MCATD8L	$171.20	WCATD8L	$264.95	HCATD8L	$12,790.00	$4,350.00	$202.50	$32.10
CAT D9L	$167.59	MCATD9	$213.98	WCATD9	$334.10	HCATD9	$16,455.00	$5,595.00	$260.00	$43.75
RIPPER D9	$14.79	MRIPPERD9	$20.63	WRIPPERD9	$35.75	HRIPPERD9	$2,075.00	$705.00	$32.75	$3.00
CAT D10 (STRAIGHT)	$658.20	MCATD10	$735.25	WCATD10	$533.10	HCATD10	$27,360.00	$9,300.00	$432.50	$70.25
RIPPER D10	$20.79	MRIPPERD10	$29.08	WRIPPERD10	$50.45	HRIPPERD10	$2,920.00	$995.00	$46.25	$4.20
BROADCAST SEEDER/FERTILIZER	$35.88	MBROADCAST	$37.95	WBROADCAST	$43.45	HBROADCAST	$735.00	$250.00	$11.75	$3.05
LOADER CAT. 950B	$80.32	MCAT950B	$97.33	WCAT950B	$141.50	HCAT950B	$6,005.00	$2,045.00	$95.30	$15.85
LOADER CAT. 955L	$69.84	MCAT955L	$83.70	WCAT955L	$119.45	HCAT955L	$4,865.00	$1,660.00	$77.25	$11.85
LOADER CAT. 953	$68.76	MCAT953	$82.13	WCAT953	$116.75	HCAT953	$4,710.00	$1,605.00	$74.75	$11.65
10YD TRUCK	$63.25	MTRUCK10YD	$73.30	WTRUCK10YD	$99.55	HTRUCK10YD	$3,555.00	$1,210.00	$56.50	$14.40
FARM TRACTOR DEERE 301A	$37.37	MDEERE301A	$40.13	WDEERE301A	$47.00	HDEERE301A	$945.00	$325.00	$15.00	$3.35
DISC ATTACHMENT	$1.71	MDISK	$2.06	WDISK	$3.00	HDISK	$125.00	$42.50	$2.00	$1.00
DRILL ATTACHMENT	$1.71	MDRILL	$2.06	WDRILL	$3.00	HDRILL	$125.00	$42.50	$2.00	$1.00
CRIMPER ATTACHMENT	$1.71	MCRIMP	$2.06	WCRIMP	$3.00	HCRIMP	$125.00	$42.50	$2.00	$1.00
LOADER BACKHOE DEERE 410B	$49.13	MDEERE401B	$55.98	WDEERE401B	$73.85	HDEERE401B	$2,425.00	$825.00	$38.50	$6.70
EXCAVATOR LINK-BELT LS-3400	$88.50	MLINKLS3400	$109.53	WLINKLS3400	$163.40	HLINKLS3400	$7,410.00	$2,525.00	$117.00	$16.05
GROVE MODEL 68 CRANE	$73.47	MGROVE68	$88.38	WGROVE68	$126.75	HGROVE68	$5,230.00	$1,785.00	$83.00	$12.75
TRACTOR-TRAILER 40TON CAP.	$65.03	MTRACK-TRAIL	$77.73	WTRACK-TRAIL	$110.60	HTRACK-TRAIL	$4,475.00	$1,525.00	$71.00	$15.00
MULCH BLOWER (W/3 LABORERS)	$109.41	MMULCHER	$111.55	WMULCHER	$117.15	HMULCHER	$750.00	$256.00	$12.00	$5.55
HYDRO SEEDER W/1LABORER	$83.12	MHYDROSEED	$89.40	WHYDROSEED	$105.65	HHYDROSEED	$2,195.00	$750.00	$35.00	$18.35

UNIT COST REFERENCE FOR BOND ESTIMATE:

JOB	RANGE NAM	COST	/UNIT	MEANS # OR REF.
MISC. DEMOLITION & REMOVAL	MISC	$4.59	/YD3	2.20400100
CONCRETE	CONC	$5.94	/YD3	2.20400050
FOUNDATIONS/PADS (6" THK)	SLAB	$3.77	/FT2	2.21800440
PAVEMENT	PAVEMENT	$1.48	/YD2	2.14501700
POWERLINES	POWERLINE	$3.62	/FT	[OSM EST.]
FENCE REMOVAL	FENCE	$1.22	/FT	2.14500700
GUARDRAIL REMOVAL	GUARDRAIL	$4.45	/FT	2.14500800
OFF-SITE DISPOSAL	DISPOSAL	$8.80	/YD3	2.14505600
ON-SITE DISPOSAL	ON SITE	$5.10	/YD3	2.14505500
BROADCAST SEED COST	SEED	$550.00	/ACRE	[DOGM EST.]
HAY MULCH	HAY	$140.00	/TON	[DOGM EST.]
HYDRO MULCH	HYDRO	$225.00	/TON	[DOGM EST.]
FERTILIZER	FERTILIZE	$0.35	/LB	[DOGM EST.]
MULCH NETTING(INCL. LABOR)	NETTING	$1,050.00	/ACRE	[DOGM EST.]
SEEDLINGS INCL. LABOR	SEEDLINGS	$2.25	/STEM	[DOGM EST.]
CUTTINGS INCL. LABOR	CUTTINGS	$1.50	/STEM	[DOGM EST.]
SOIL ANALYSIS	SOIL SAMP	$100.00	/SAMPLE	[DOGM EST.]
WATER ANALYSIS	WATER SAM	$100.00	/SAMPLE	[DOGM EST.]
RIPRAP MATERIALS	RIPRAP	$22.00	/YD3	2.33600100
FILTER BED GRAVEL	FILTER	$12.00	/YD3	[DOGM EST.]
PORTALS	PORTAL	$2,700.00	/EACH	[DOGM EST.]
SHAFTS - SMALL VENTILATION	VENT SHAF	$3,200.00	/EACH	[DOGM EST.]
SHAFTS - LARGE SERVICE	SERVICE S	$4,500.00	/EACH	[DOGM EST.]