
J. E. STOVER & ASSOCIATES, INC.

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MINE ENGINEERING
MINE RECLAMATION

CIVIL ENGINEERING
CONST. MANAGEMENT

January 28, 2021

Rob Zuber
Division of Reclamation, Mining & Safety
1313 Sherman St., Room 215
Denver, CO 80203

Re: Bowie No. 2 Mine, Permit C-1996-083,
Technical Revision Number 122 (TR-122),
Adequacy Response #2

Dear Mr. Zuber:

DRMS' letter dated January 28, 2021, transmitted its adequacy review for the referenced technical revision. On behalf of Bowie Resources, LLC following are its responses to the DRMS's comments and concerns.

Adequacy Items

DRMS: Please check the Table on Page App. B-2, comparing it to output from the SEDCAD model, and revise as necessary.

BRL: Please see revised **Volume XI, Page App. B-2.**

Please let me know if you have any questions.

Sincerely,

Tamme Bishop

Tamme Bishop, P.E.
Project Engineer

Enclosures:
Volume XI: Appendix B Pages App. B-2

Cc via email: Basil Bear, Bowie Resources, LLC

APPENDIX B - OPERATIONS									
Summary Coal Mine Waste Disposal Area Ditches and Culverts									
		DITCH	MAX	BOTTOM	DITCH	RIP	Design	Peak	Design
Ditch		TYPE	GRADE	WIDTH	DEPTH	RAP	Event	Flow	Flow
				(ft.)	(ft.)	(in.)		(cfs)	(cfs)
	i1	TRAP.	1.0%	1.0	0.5	-	10-Year	0.6	0.6
	i2	DELETED FROM DESIGN							
	J1	V-DITCH	1.2%	-	1.0	-	10-Year	1.8	1.8
	J2	DELETED FROM DESIGN (TR-91)							
	J3	TRAP.	0.6%	3.0	2.3	-	100-Year	60.9	60.9
	J4	V-DITCH	0.1%	-	3.4	-	10-Year	32.6	32.6
	J5	V-DITCH	0.1%	-	1.0	-	10-Year	0.7	0.7
	J6	V-DITCH	0.1%	-	1.0	-	10-Year	0.5	0.5
	J7	V-DITCH	33.0%	-	1.7	9.0	10-Year	32.6	32.6
	J8	TRAP.	0.7%	3.0	0.5		100-Year	1.3	1.3
	J9	TRAP.	11.0%	3.0	1.3	15.0	100-Year	15.5	15.5
	J10	TRAP.	1.0%	3.0	2.2	-	100-Year	27.2	27.2
	J11	TRAP.	8.0%	3.0	1.6	18.0	100-Year	34.4	34.4
	J11 Optional	1/2 Cluvert	8.0%		1.1		100-Year	11.0	11.0
	J12	V-DITCH	2.0%	-	0.7	-	100-Year	5.5	5.5
	J13	V-DITCH	2.0%	-	0.7	-	100-Year	5.6	5.6
	J14	V-DITCH	5.0%	-	0.8	-	10-Year	1.4	1.4
	J15	V-DITCH	10.0%	-	0.6	-	10-Year	0.8	0.8
	J16	V-DITCH	10.0%	-	0.5	-	10-Year	0.3	0.3
	J17	V-DITCH	10.0%	-	1.3	-	10-Year	0.4	0.4
	J18	V-DITCH	15.0%	-	1.1	9.0	10-Year	0.8	0.8
	J19	V-DITCH	30.0%	-	1.1	9.0	10-Year	0.5	0.5
	J20	DELETED FROM DESIGN (TR-122)							0.0
	J21	V-DITCH	1.0%		2.2	-	100-Year	7.3	7.3
	W. Div. Ditch #1	TRAP.	5.0%	15.0	0.5	-	100-Year	9.2	9.2
	Ditch-D1	TRAP.	8.0%	10.0	0.5		10-Year	7.9	7.9
	Ditch D-2	V-DITCH	3.0%	-	1.3	-	10-Year	9.6	9.6
	Ditch E-1	TRAP.	2.0%	3.0	0.5	-	10-Year	1.7	1.7
	Coverfill SAE to CW 1% Seg.	V-DITCH	1.0%		0.8		10-Year	0.9	0.9
*Culvert:									
	J1 24"						10-Year	21.4	31.4
	J2 24"						10-Year	30.9	30.9
	J3 12"						10-Year	1.2	1.2
	J4 30"						100-Year	34.4	34.4
	J5 12"						10-Year	0.3	0.3
	J6 12"						10-Year	0.4	0.4
	J7 12"						10-Year	0.8	0.8
	J8 24"						100-Year	7.2	7.2
	J9 Double barrel 24"						100-Year	25.2	25.2
	J10 24" (temporary)						100-Year	4.9	4.9
	J11 1/2 30" Optional						100-Year	11.0	11.0
	J12 12"						10-Year	0.8	0.8
	J13 12"						10-Year	2.4	2.4
	J14 12"						10-Year	2.4	2.4
	J15 30" Half Culvert						10-Year	2.4	2.4
	J16 18" (Temporary)						100-Year	11.0	11.0
	J17 Intentionally left blank						100-Year		
	J18 24"						100-Year	7.3	7.3
	J19 18"						100-Year	15.5	15.5
	J20 24"						10-Year	9.6	9.6
	D1 18"						10-Year	9.6	9.6
	D2 18"						10-Year	9.6	9.6
* Culvert size is minimum size									
Flow depth includes freeboard.									