2.2.5 Resident Agent of the Applicant

Mr. Charles Reynolds
Co-Op Mining Co.
P. O. Box 1245
Huntington, Utah 84528
(801) 687-2450

2.2.6 Business Designation

Employer: C.W. Mining Company is a corporation in the state of Utah. C.W. Mining Company is the payor of the abandoned mine reclamation fee.

Federal Identification Number: 87-0399230

Officers and Directors of the Applicant

Name	Title	Address	Start Date
B. W. Stoddard	President	P.O. Box 300, Huntington, Ut 84528	01/01/76
C. W. Reynolds	Vice Pres.	P.O. Box 1245, Huntington, UT, 84528	07/01/04
D. J. Sanders	Sec./Treas.	53 West Angelo Ave., S.L.C., Ut 84115	06/17/93
C. W. Reynolds	Mine Manger	P.O. Box 1245, Huntington, UT, 84528	07/01/04

2.2.7 Current, Pending or Previous Coal Mining Permits in the U.S. Held By Applicant and Principal Shareholder Subsequent to 1970

C/015/021/Utah Division of Oil Gas and Mining
C/015/025 Utah Division of Oil Gas and Mining

2.2.8 Owners of Record of Surface and Sub-surface Areas Contiguous to the Proposed Permit Area

Plate 2-2 shows surface ownership and Plate 2-3 displays sub-surface ownership for the permit area and parcels of land contiguous to the permit boundaries.

Table 7.2-10 Summary of Diversion Ditch Calculations (cont)

DITCH	BOTTOM WIDTH (FT)	TOP WIDTH (FT)	DEPTH (FT)	TYP SIDE SLOPE H:V	AV. MEASURED SLOPE %	CONTRIBUTING WATERSHED	REQ'D AV. RIP-RAP SIZE (IN.)
D-17U	0	2	0.67	1.5:1	13 Av	AU-1A	Bedrock
D-18U	0	2	0.67	1.5:1	5 Min	AU-1	Soil
D-19U	0	2	0.67	1.5:1	6 Av	AU-2B	Soil
D-20U	0	1.33	0.67	1:1	16 Av	AU-42	Soil
D-21U	0	2	1.0	1:1	13 Av	AU-43	D_{50}=3"
D-22U	0	3	1.0	1.5:1	11 Av	AU-19, AU-25	D_{50}=6"
D-23U	0	1.16	0.58	1:1	19 Av	AU-36	Soil
D-24U	0	1.16	0.58	1:1	14 Av	AU-35	Soil
D-25U	0	1	0.5	1:1	16 Av	AD-17	Soil
D-26U	0	1	0.5	1:1	24 Av	AU-32	Soil
D-27U	0.50	2	0.5	1.5:1	13 Min, 30 Max	AU-31	Soil
D-28U	0	1	0.5	1:1	14 Av	AU-33	Soil
D-29U	0	1.33	0.67	1:1	8 Av	AU-34	Soil
D-30U	0	1.16	0.58	1:1	13 Av	AU-25	Soil
D-31U	0	3	1.0	1.5:1	12 Av	AU-20, AU-26	Bedrock
D-32U	0	1	0.5	1:1	17 Av	AU-30	Soil
D-33U	0	1.16	0.58	1:1	18 Av	AU-29	Soil
D-34U	1	2.74	.58	1.5:1	11 AV	AU-24	Soil
D-35U	0	2.0	1.0	1:1	10 Av	AU-29	Soil
D-36U	0	1.0	0.5	1:1	8 Av	AU-27	Soil
D-37U	0	~~1.0~~ 1.4	~~.5~~ .7	1:1	8 Av	AU-26, AU-21	Soil
D-38U	0	1.33	.67	1:1	12 Min, 20 Max	AU-21	D_{50}=3
D-39U	0	1.0	.5	1:1	10 Av	AU-28	Soil

Table 7.2-11 Culvert Characteristics

Culvert	Dia (in.)	Type	Contributing Watersheds	Slope (ft/ft)	Outlet Condition
C-21U	36	CMP	Right Fork Drainage	0.06	Bedrock
C-22U	20	CMP	AU-19, AU-25	0.06	Soil
C-23U	36	CMP	AU-36, AU-35, AU-34, AU-20, AU-26, C-24U	0.06	11" rip-rap
C-24U	32	CMP	AU-40,C-25U	0.06	10" rip-rap
C-25U	30	CMP	AD-17, C-26U	0.06	8" rip-rap
C-26U	30	CMP	AU-39, AU-32, AU-33, C-30U, C-34U	0.06	8" rip-rap
C-27U	15	CMP	AU-22, AU-28, AU-29A, AU-31	0.06	4" rip-rap
C-28U	15	CMP	AU-34, C-29U	0.06	4" rip-rap
C-29U	15	CMP	AU-20, AU-25, AU-26	0.06	3" rip-rap
C-30U	15	CMP	AU-21, AU-27, AU-30	0.06	Soil
C-31U	12	CMP	AU-29	0.06	Soil
C-32U	15	CMP	AU-22, AU-28, AU-29A	0.06	3" rip-rap
C-33U	24	CMP	AU-24, Au-28A , AU-37	0.06	8" rip-rap
C-34U	24	CMP	AD-19, AU-31, AU-37, AU-38, C-31U, C-32U	0.06	8" rip-rap
C-35U	84	CMP	BEAR CREEK	0.06	48" rip-rap
C-36U	15	CMP	AU-27, AU-21	0.11	3" rip-rap
C-37U	15	CMP	~~AU-21~~ Abandoned in place	~~0.31~~	~~6" rip-rap~~
C-38U	15	CMP	AU-28	0.08	Soil
C-39U	15	CMP	AU-22, AU-23A, C-40U	0.18	6" rip-rap
C-40U	12	CMP	AU-23	0.001	soil

CULVERT CHARACTERISTICS

Culvert	Dia (in.)	Type	Contributing Watersheds	Peak Q(cfs)	Slope (ft/ft)	Outlet Condition
C-24U	32	CMP	AU-40, C-25U	35.81	0.06	10" rip-rap
C-25U	30	CMP	AD-17, C-26U	19.85	0.06	8" rip-rap
C-26U	30	CMP	AU-39, AU-32, AU-33, C-30U, C-34U	19.69	0.06	8" rip-rap
C-27U	15	CMP	AU-22, AU-28, AU-29A, AU-31	2.68	0.06	4" rip-rap
C-28U	15	CMP	AU-34, C-29U	3.04	0.06	4" rip-rap
C-29U	15	CMP	AU-20, AU-25, AU-26,	2.77	0.06	3: rip-rap
C-30U	15	CMP	AU-21, AU-27, AU-30	1.26	0.06	~~101~~
C-31U	12	CMP	AU-29	0.29	0.06	soil
C-32U	15	CMP	AU-22, AU-28, AU-29A	2.36	0.06	3" rip-rap
C-33U	24	CMP	AU-23, AU-37	14.42	0.06	8" rip-rap
C-34U	24	CMP	AD-19, AU-31, AU-37, AU-38, C-31U, C-32U	17.86	0.06	8" rip-rap
C-35U	84	CMP	BEAR CREEK	412.70	0.06	48" rip-rap
C-36U	15	CMP	AU-27, AU-21	1.18	0.11	3" rip-rap
C-37U	15	CMP	~~AU-21~~ Abandoned in place	~~1.15~~	~~0.31~~	~~6" rip-rap~~
C-38U	15	CMP	AU-28	0.09	0.08	soil
C-39U	15	CMP	AU-22, AU-23A, C-40U	2.27	0.18	6" rip-rap
C-40U	12	CMP	AU-23	0.64	0.001	soil

DITCH	CHANNEL SLOPE %	CONTRIBUTING WATERSHED	PEAK Q (cfs)	BANK AND BOTTOM DESC.	MANNING'S $\eta^{(a)}$
D-23U	19 Av	AU-36	.12	soil	0.03
D-24U	14 Av	AU-35	.13	soil	0.03
D-25U	16 Av	AD-17	.16	soil	0.03
D-26U	24 Av	AU-32	.28	soil	0.03
D-27U	13 Min, 30 Max	AU-31	.32	soil	0.03
D-28U	14 Av	AU-33	.11	soil	0.03
D-29U	8 Av	AU-34	.27	soil	0.03
D-30U	13 Av	AU-25	.30	soil	0.03
D-31U	12 Av	AU-20, AU-26	2.47	bedrock	0.03
D-32U	17 Av	AU-30	.08	soil	0.03
D-33U	18 Av	AU-29	.20	soil	0.03
D-34U	11 Av	AU-24	1.66	soil	0.03
D-35U	10 Av	AU-29	0.29	soil	0.03
D-36U	8 Av	AU-27	0.03	soil	0.03
D-37U	8 Av	AU-26, AU-21	~~0.10~~ 1.25	soil	0.03
D-38U	12 Min, 20 Max	AU-21	1.15	D_{50}=3"	0.03
D-39U	10 Av	AU-28	0.09	soil	0.03
D-40U	9 Av	AU-28A, C-39U	2.41	D_{50}=3"	0.03
D-41U	15 Av	AU-22, AU-23A, C-40U	2.27	D_{50}=4"	0.03
D-42U	36 Av, 63 Max	AU-23A	0.04	soil	0.03
D-43U	20 Min, 45 Max	AU-23	0.64	D_{50}=5"	0.03

(a) Based on tables from Barfield et al (1981) and the equation $\eta = .0395(D_{50})^{1/6}$;(D in ft)
(b) Peak Q for misc. road drainage assumed to be 1.0 cfs based on similar disturbed areas.
(c) See table 7.2-10 for summary of diversion ditch calculations.

Worksheet
Worksheet for Trapezoidal Channel

Project Description	
Worksheet	D-37U
Flow Element	Trapezoidal Cha
Method	Manning's Formi
Solve For	Channel Depth

Input Data		
Mannings Coeffic	0.030	
Slope	080000	ft/ft
Left Side Slope	1.00	V : H
Right Side Slope	1.00	V : H
Bottom Width	0.00	ft
Discharge	1.25	cfs

Results		
Depth	0.52	ft
Flow Area	0.3	ft²
Wetted Perimi	1.48	ft
Top Width	1.05	ft
Critical Depth	0.63	ft
Critical Slope	0.030641	ft/ft
Velocity	4.55	ft/s
Velocity Head	0.32	ft
Specific Energ	0.85	ft
Froude Numbi	1.57	
Flow Type	Supercritical	

Use Minimum Depth = 0.7 ft	⇒	Minimum Freeboard = 0.07 ft
Velocity < 5 fps	⇒	No rip-rap required