BEAR CREEK CANYON SCALE HOUSE MODIFICATION

UMC 761.12 Procedures

There is a disagreement between Emery County and Co-Op Mining Company on the ownership of the road leading up Bear Canyon. This difference needs to be clarified.

CO-OP REPLY:

The disposition of the road leading to the permit area and that small portion of road within the permit area is presently under negotiation with Emery County Commissioner Bevin Wilson. The Co-Op anticipates this issue to be resolved during the Commisioners meeting on July 21st. In the event this course of action does not bring about a satisfactory solution, there is a suit presently filed against Emery County which ultimately will bring this area of controversy to a conclusion.

The Co-Op will keep the UDOGM abreast of this situation as it developes. In the interum, the Co-Op Mining Co. requests approval of the balance of the modifications so as to allow construction of the Scale area to proceed.

CAN ONLY BE GRANTED IF UNDER REQUIREMENTS OF 83-5-7-1

The Co-Op will abide by the decision of the negotiations and/or the court case. However, in order to minimize risk to the environment, and to maximize suitable construction conditions, the Co-Op requests this portion be tabled in the interum.

WHAT CASE?

TO HAUL COAL UNDER HAZARDOUS CONDITIONS

UMC 783.24 Maps: General Requirements

(b) The applicant failed to respond to this section when asked for an accurate map indicating the boundary between Beaver Creek Coal Company and Cop Coal Developments properties.

CO-OP REPLY:

In order to certify a map, the certifier must make corrections in the coordinate lines to allow for the altitude of the area shown on the map. Maps for general purchase and use that are not certified,

use sea level coordinates. This would explain what appeared to be a mistake in the certified map submitted to the Division by the applicant with the scalehouse modification submittal. - Bull

UMC 817.43 Hydrologic Balance: Diversions and Conveyance of Overland Flow, Shallow Ground Water Flow and Ephemeral Streams

As mentioned in the May 5th letter, sizing calculations should be submitted for the small culvert crossing under the road for the disturbed drainage east of the catch basin.

(b) Conservative calculations performed by the Division show that the peak runoff of a 10-year, 24-hour event in Bear Creek Canyon would be 197 cubic feet per second (cfs). The transmission of a 60 inch concrete culvert with a headwall of one is 130 cfs. Co-Op will be required to increase the headwall at the culvert entrance to 1 ½, i.e., the embankment above the top of the culvert should be at least 30 inches.

CO-OP REPLY:

(a) The firm of Horrocks & Carollo Engineers, have done a thorough review of the hydrology of the entire area. Their report is attached in appendix A. Sizing calculations are attached.

(b) The Co-Op is committed to 84 inches of fill above the 60 inch culvert.

UMC 817.45 Hydrologic Balance: Sediment Control Measures

(d) Designs and calculations should be submitted for the undisturbed drainage diversion east of the scalehouse area. Included in the calculations should be the size of the contributing area, the length and slope of the diversion and a typical cross-section.

CO-OP REPLY:

This material has been previously submitted relative to a violation abatement. However, the general text is included in appendix A.

UMC 817.46 Hyrologic Balance: Sedimentation Ponds

The following calculations show that Co-Op will beed to construct a catch basin which has a containment volume of 10,340 cubic feet. Plans should be submitted indicating volume size.

A sediment level marker should be placed in the catch basin indicating the three year clean out level. The decant pipe should be installed to stand just above the three year clean out level.

CO-OP REPLY:

Plate #1 is a plan of the catch basin. The basin is designed to contain 10,340 cubic feet. A sediment level marker will be placed in the catch basin indicating the three year clean out level (app. 60% of capacity). The decant pipe will be installed to stand just above this level.

UMC 817.44 Hydrologic Balance: Stream Channel Diversions

Co-Op states in their recent submittal that a concrete culvert will be installed in the main stream channel and that upon final reclamation, Co-Op requests that the culvert remain in place. - WHY?

Regulation UMC 817.44(b)(2) requires that permanent diversions be designed to pass safely the peak runoff of a 100-year, 24-hour precipitation event. Since the 60 inch culvert that Co-Op plans to install is designed to pass a 10-year, 24-hour event with a 1½ headwall, it is recommended that the 60 inch culvert be reclaimed unless Co-Op decides to utilize a larger culvert that will pass the 100-year, 24-hour event.

CO-OP REPLY:

On closer examination and consultation with our environmental staff, the Co-Op requests to alter this proceedure. The 60 inch culvert will be removed upon completion of mining, the stream channel will be restored to its original configuration with the addition of several small holding pond areas created by implementing native material. These small holding structures will alleviate sedimentation during reclamation and will act as a wildlife enhancement feature. The channel banks will be sloped at

ANY AFFECT ON EXISTING BOND

such an angle (40%) to enhance vegetation establishment. The area will be seeded with the approved seed mix and mulched. There will also be some bare root stocking of native riparian species to induce rapid establishment. - LAST PROVISO? M.O. for exp??

UMC 817.47 Hydrologic Balance: Discharge Structures

Co-Op should submit calculations which show the size of riprap to be used at the culvert discharge points, the overflow on the catch basin and the embankment at the stream channel culvert inlet.

CO-OP REPLY:

Our Hydrologist recommends 2 feet + material. However, in order to comply with the U.S. Forest Service and U.S. highway standards, D-50 material may be utilized. (See appendix A)

Where is D-50 mat?

UMC 817.103 Covering Coal and Acid - and Toxic-forming Materials

The pH, acid-base potential, texture and electrical conductivity (EC) of these materials must be included in the data reported.

CO-OP REPLY:

The Co-Op has submitted a sample to CT&E testing for this data at the time this submittal was prepared. The results of this test are not available. (See appendix B).

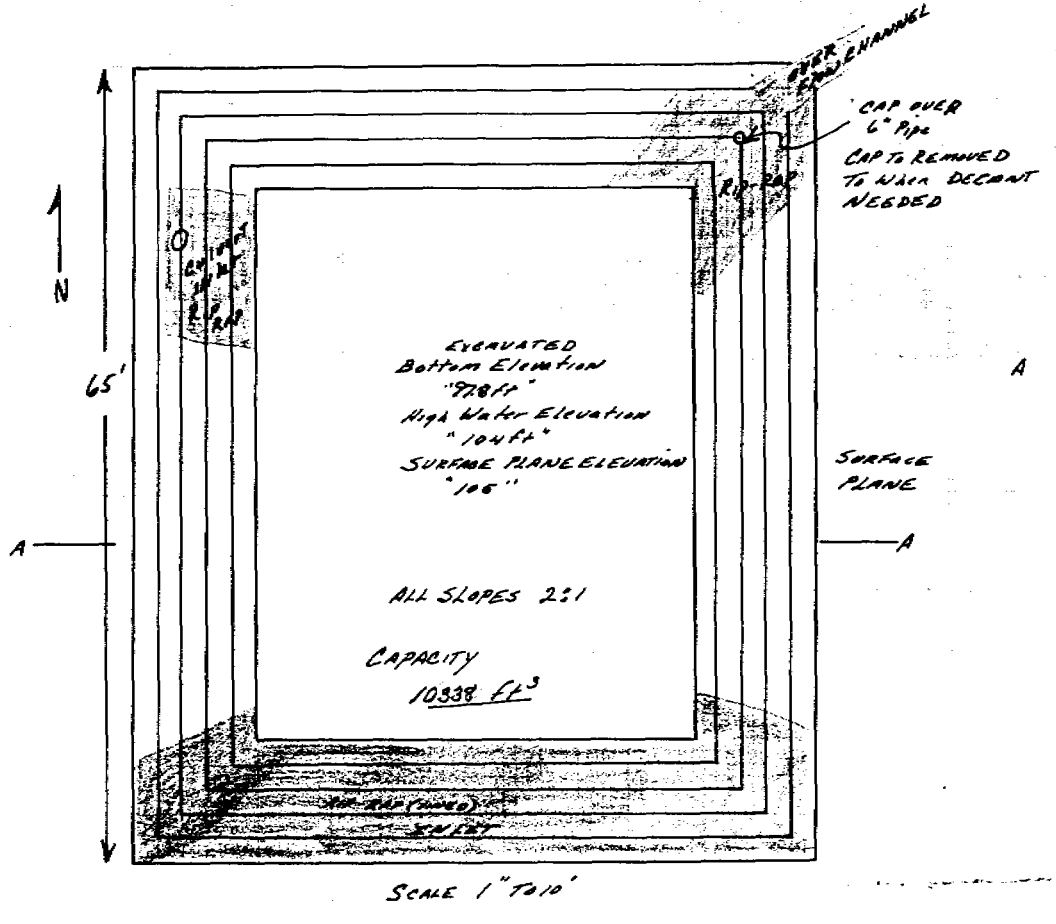
A copy of the report will be sent directly to the UDGOM upon receipt. In the interum, the Co-Op will commit to removing any and all such material should it be on the site. Also, the Co-Op does not feel this regulation is applicable, for the area in question is not to be utilized in a manner which will constitute the storage or stockpiling of coal and or refuse.

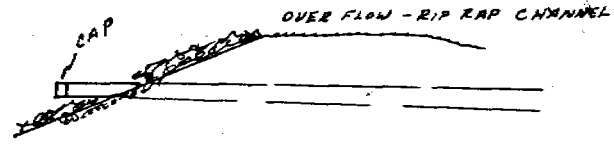
Plate 1

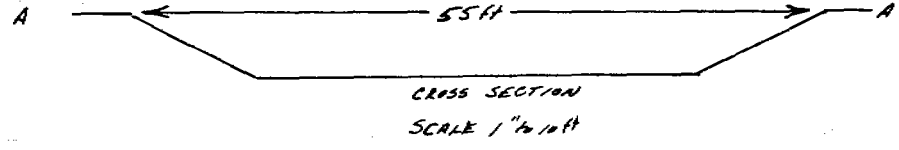
BY ..... DATE .....
CHKD. BY ..... DATE .....

SUBJECT .....

SHEET NO. ..... OF .....
JOB NO. .....







SUBMITTAL -2

SCALE AREA CATCH BASIN

Appendix A

HORROCKS & CAROLLO ENGINEERS
A JOINT VENTURE
ONE WEST MAIN
P. O. BOX 377
AMERICAN FORK, UTAH 84003

July 8, 1983

Mr. Wendell Owen
Co-Op Mining Company
P.O. Box 1245
Huntington, Utah 84528

Subject: Bear Creek Canyon Mine Site
Hydrology Computations

Dear Mr. Owen:

As discussed with you in our meeting Monday, June 6, 1983, and subsequent discussions I have performed hydrologic calculations for sediment storage and runoff at the subject site and have the following results and conclusions:

1. The computed volume for sedimentation in Pond A (the larger pond) is 76,621 cubic feet. If the pond can be constructed 8' deep this would require a pond approximately 120 feet by 80 feet. If, however, the pond can only be constructed 6' deep it would require a pond of 140 feet by 91 feet. Pond B (the smaller pond) needs to have 9,309 cubic feet of storage and this pond could be 4' deep and approximately 50 feet by 50 feet.

2. Based on the calculations I would recommend that the downspout #1 (the upper downspout) be constructed to conform to the grade of the existing contours on the hillside and be constructed of 15" corragated metal pipe. Particular care should be paid to the construction of the inlet to this pipe as it will probably be subseptible to plugging from debris. The lower downspout should be constructed of 18" corragated metal pipe laid to conform to the existing ground contours.

3. The drainage berm or ditch to convey the water to the sediment pond for the "A" area could be constructed of a V-type ditch with one to one side slopes at least 1½ feet deep at a grade of 6%.

4. For the spillway needed on the sediment storage ponds, I would recommend an 18" riser pipe connected to an 18" CMP outlet pipe laid at a minimum of 6% slope.

5. The ditch to convey the water to the upper downspout could be constructed of a V-type ditch with one to one side slopes at least 1 foot deep at an average slope of 6%. A greater slope than 6% should be avoided to prevent errosion upstream of the downspout. If it is necessary to construct this channel at a greater slope, it should be riprapped or reinforced with Gabions to prevent errosion. The ditch to convey the water from the end of the upper downspout to the lower downspout can be constructed of V-type ditch with one to one side slopes at least 1½ feet deep. Again,this ditch will need to be riprapped if constructed at a greater slope than 6%. The area next to the 15" outlet from the 15" pipe will need to be riprapped to reduce the outlet velocity of 12.4 feet per second without creating errosion. This riprap should meet specifications for NCSA No. R-6 with an average partical size of 12", or by the use of Gabions.

6. The capacity of the 10" culverts on the upper access road is 3.76 cubic feet per second when flowing full, which is adequate.

7. The capacity of the 12" culverts on the upper access road is 6.12 cubic feet per second when full, which is adequate.

8. I have reviewed the calculations on the existing culverts which provided drainage for the undisturbed areas through the disturbed areas and find that the 18" culvert located near the middle of the plot plan on the north side of the stream is adequate to convey the flows with a minimum headwater over the top of pipe depth of 20". The existing 60" culvert in the mainstream channel is adequate to convey the flows with a minimum headwater depth of 84" over the top of the pipe.

I have attatched to this letter my engineering calculations and backup reference data for your files.

If you desire clarification or have additional questions or need additional information please contact me.

Very truly yours,

HORROCKS ENGINEERS

H. Lee Wimmer

H. Lee Wimmer, P.E.
Hydrologist

HLW:map

Enclosures

HORROCKS & CAROLLO ENGINEERS
A JOINT VENTURE
ONE WEST MAIN
P. O. BOX 377
AMERICAN FORK, UTAH 84003

June 30, 1983

CO-OP MINING COMPANY

BEAR CREEK CANYON SITE PLAN

HYDROLOGICAL CERTIFICATION

I, Harold Lee Wimmer, do certify that I am a registered professional engineer, and that I hold certificate No. 3535 as prescribed under the laws of the State of Utah. I further certify that I have a Bachelor of Engineering Science Degree in Civil Engineering from Brigham Young University and a Master of Science Degree in Civil Engineering from the University of Southern California, with an emphasis on Hydrology. I further certify that by authority of the owners I have reviewed or performed the attached hydrology computations for the existing Bear Creek Canyon Site Plan and that said calculation and computations have been correctly performed in accordance with professional standards of practice relating to hydrology and that the conclusions contained herein are true and correct and represent use of current hydrologic and climatological information.

Harold Lee Wimmer, P.E.
Utah P.E. No. 3535

	C-O-P Mining Company	Lee Wimmer 6-25-93

Bear Canyon Site Plan

Sediment Storage from disturbed area

Design data

Size equation : 7/50 hood (U.S.G.S.)
Runoff Area : see 1"=50' map for individual areas
Average slope length : see table below
Average slope gradient : " " "
6 hour - 10 year storm : 1.4 inches
Soil characteristics : 12% silt, 24% fine sand, 36% sand, 0% organic matter, course graded soil, moderate permeability

Table

Area #	Area* (acres)	Average slope length (feet)	Average slope gradient (%)
A1	2.24	420	36
A2	4.96	560	14
A3	3.51	640	11
B	1.79	520	10

*By Planimeter

Determinations, OK IN TEXAS WHAT ABOUT UTAH? MAYBE MOD. SLEC WOULD BE MORE APPROPO.

Use (Uniform Soil Loss Equation) $A = RKLSPC$

R: From figure 1 "Universal Soil loss Equation", SCS, Jan. 82
use R = 40

K: From "A soil erodability nomograph ...", where % silt plus % fine sand = 36%, % sand = 36%
K = 0.32

LS: From Table 1, "Universal soil Loss Equation", SCS, Jan., 1976 (see table above) For A1, LS = 22.06
A2, LS = 5.42
A3, LS = 4.14
B, LS = 3.12

C: Assume bare ground, use C=1
P: Assume no erosion control, use P=1

$\Rightarrow A_{A1} = (40)(0.32)(22.06)(1)(1) = 282.9$ tons/acre/year
$A_{A2} = (40)(0.32)(5.42)(1)(1) = 69.4$ " " "
$A_{A3} = (40)(0.32)(4.14)(1)(1) = 53.0$ " " "
$A_{B} = (40)(0.32)(3.12)(1)(1) = 39.9$ " " "

Co-op Mining Company | Lee Wilmore | 6-25-83

Bear Canyon Site Plan

Sediment Storage from disturbed area with

For areas, 3 years (OSM regulations 817.46(b)(1)), Soil = 90 lbs/ft³

$V_{A1} = (282.4)(2.24)(3)\left(\frac{2000}{1}\right)\left(\frac{1}{90}\right) = 42,172\ ft^3$ *

$V_{A2} = (69.4)(4.96)(3)\left(\frac{2000}{1}\right)\left(\frac{1}{90}\right) = 22,948\ ft^3$

$V_{A3} = (53.0)(3.51)(3)\left(\frac{2000}{1}\right)\left(\frac{1}{90}\right) = 12,402\ ft^3$

$V_{B} = (39.9)(1.79)(3)\left(\frac{2000}{1}\right)\left(\frac{1}{90}\right) = 4,761\ ft^3$

* To High, this calculated figure is higher than will ever occur in practice because the soil type for this hillside would consist of large rocks and other particle sizes being larger also. I would recommend reducing this figure to the amount calculated for one (1) year, $14,057\ ft^3$

⇒ For $A_1+A_2+A_3$, Sediment storage volume = $14,057 + 22,948 + 12,402 = \underline{49,407\ ft^3}$

For B, Sediment storage = $\underline{4,761\ ft^3}$

	CO-01 Mining Company	Lee Wimmer 6-25-83

Bear Canyon Site Plan

Runoff Storage from disturbed area

Design Data

24 hour - 10 year storm : 2.25 inches

Determinations

CN = 80 ±, From Table 9.1, "SCS national Engineering Handbook", Section 4, "Hydrology"

Runoff from figure 10.1, reference as above = 0.7 inches

⇒ Volume of runoff in FT^3

$V_{A1} = (2.24)(43,560)(0.7)(1/12) = 5,692\ FT^3$

$V_{A2} = (4.96)(43,560)(0.7)(1/12) = 12,603\ FT^3$

$V_{A3} = (3.51)(43,560)(0.7)(1/12) = 8,919\ FT^3$

$V_B = (1.79)(43,560)(0.7)(1/12) = 4,548\ FT^3$

$\Big\rangle\ 27,214\ FT^3$

⇒ Total Volume in ponds required for sediment and runoff:

Pond A = 49,407 + 27,214 = 76,621 FT^3

Pond B = 4,761 + 4,548 = 9,309 FT^3

Bear Canyon Site Plan

Surface runoff from undisturbed hillsides

Design Data

Area : LA = 953 acres, LB = 21.4 acres
Average Elevation : (9,200 + 7,200)/2 = 8,200 feet (U.S. Q. S.)
Design Charts : Utah Department of Transportation (UDOT) Roadway Drainage Manual
Flood Frequency : 20 year return period (use 25)

Determinations

Use UDOT small area runoff method, $Q = (Q_c)(LF)(FF)$

1 hour - 25 year rainfall = 0.78 in/hr.
From Table 2-05, K = 0.13
From chart 2-07, Q_c = 202 cfs for LA
Q_c = 10 cfs for LB
From Table 2-08, LF = 1.2
FF = Idesign/I_{25} = 1 for 25 year return period

$\Rightarrow Q = (202)(1.2)(1) = 242$ cfs for LA (60" CMP)
$Q = (10)(1.2)(1) = 12$ cfs for LB (18" CMP)

From computer print out
for 60" CMP full, Q_{max} = 261 cfs, OK

check headwater depth for 242 cfs
UDOT chart 2-53
$\rightarrow$ Hw = 144 inches or 84" over Dip of pipe

for 18" CMP full, Q_{max} = 22 cfs, OK

check headwater depth for 12 cfs
$\rightarrow$ Hw = 38 inches or 20" over Dip of pipe

UNIFORM FLOWS IN CIRCULAR CONDUITS PARTIALLY FULL HLW 7/8/83

DATA

n	SLOPE	Dia (in)	LIMIT
.024	.100000	10.0	.001000

DEPTH IS KNOWN; Velocity and flow are found

RESULTS Q (cfs)	Q (gpm)	Q (MGD)	DEPTH (in)	VELOCITY (fps)	R	AREA sq in	ITER
3.76	1,689	2.43	10.0	6.90	0.2083	79	1

DATA

n	SLOPE	Dia (in)	LIMIT
.024	.100000	12.0	.001000

DEPTH IS KNOWN; Velocity and flow are found

RESULTS Q (cfs)	Q (gpm)	Q (MGD)	DEPTH (in)	VELOCITY (fps)	R	AREA sq in	ITER
6.12	2,747	3.95	12.0	7.79	0.2500	113	1

DATA

n	SLOPE	Dia (in)	LIMIT
.024	.150000	18.0	.001000

DEPTH IS KNOWN; Velocity and flow are found

VELOCITY EXCEEDS RANGE OF MANNING'S EQUATION

RESULTS Q (cfs)	Q (gpm)	Q (MGD)	DEPTH (in)	VELOCITY (fps)	R	AREA sq in	ITER
22.10	9,918	14.28	18.0	12.50	0.3750	254	1

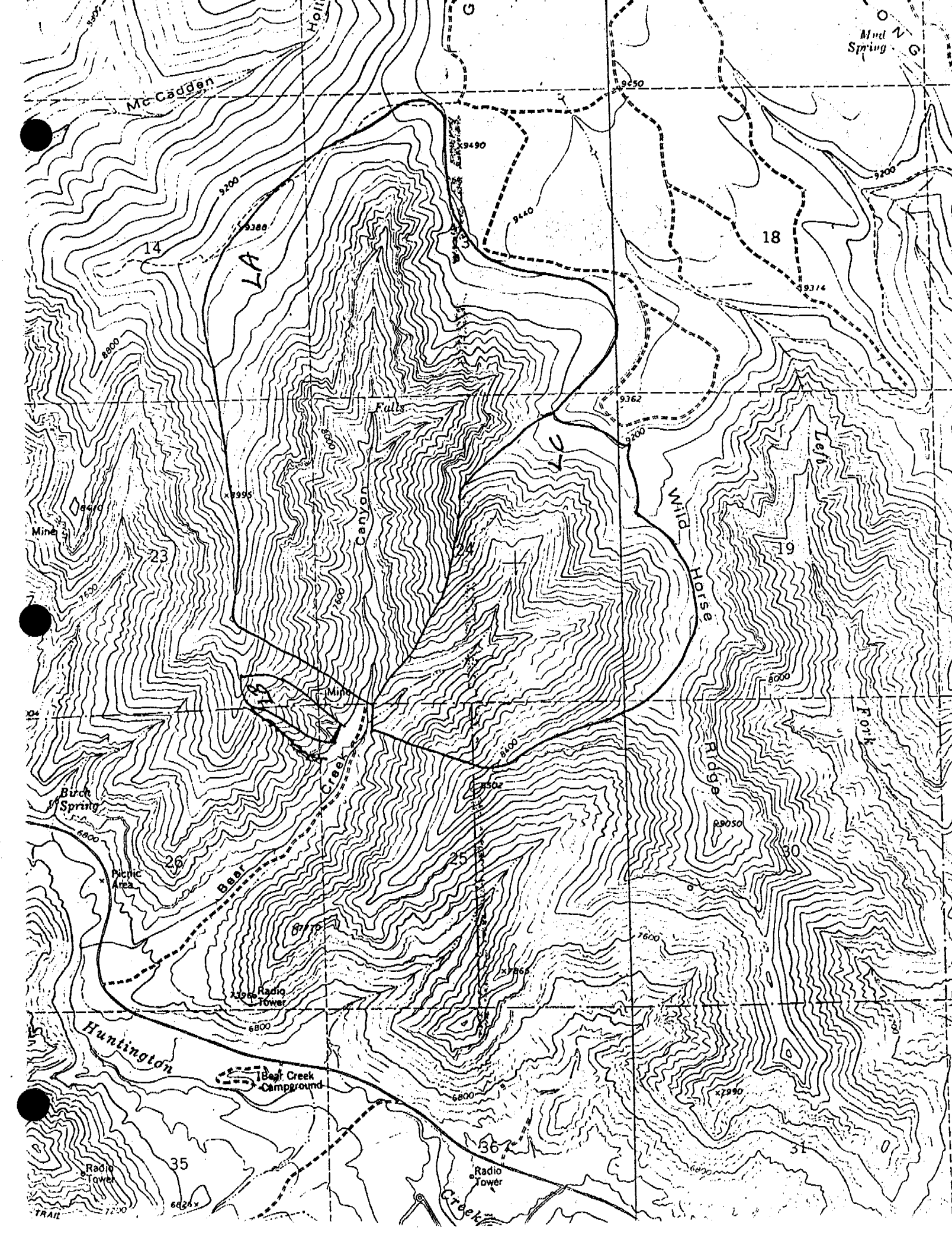
DATA

n	SLOPE	Dia (in)	LIMIT
.024	.034000	60.0	.001000

DEPTH IS KNOWN; Velocity and flow are found

VELOCITY EXCEEDS RANGE OF MANNING'S EQUATION

RESULTS Q (cfs)	Q (gpm)	Q (MGD)	DEPTH (in)	VELOCITY (fps)	R	AREA sq in	ITER
260.83	117,074	168.58	60.0	13.28	1.2500	2827	1


Mc Cadden
Mud Spring
Falls
Canyon
Wild Horse
Ridge
Left Fork
Creek
Bear
Birch Spring
Picnic Area
Radio Tower
Huntington
Beaf Creek Campground
Mine
Trail
14
23
24
25
26
35
36
18
19
30
31
9490
9440
9362
9314
9250
9200
9380
8800
8600
8400
8200
8000
7800
7600
7400
7200
6800
6600
6400
6200
6000

COOP MINE 7/6/83 KDB PLANIMETER AREAS OF RUNOFF

STANDARD

463
945 469.67 PER SQ. MILE
1409

AREA 1A

697
1390 699.33 $\frac{699.33}{X} = \frac{469.67}{27,878,400 \text{ S.F.}}$ = 41,510,425.34 S.F. =
2098

952.95 ACRES

AREA 1B

13
30 15.67 $\frac{15.67}{X} = \frac{469.67}{27,878,400 \text{ S.F.}}$ = 930,130.79 S.F. =
47

21.35 ACRES

AREA 1C

341
697 353.00 $\frac{353}{X} = \frac{469.67}{27,878,400 \text{ S.F.}}$ = 20,953,169.67 S.F. =
1059

481.02 ACRES

Bear Canyon Site Plan

Surface runoff into diversion around site

Design Data

Area : See previous Table
Slope : " " "
Maximum length : $A_1 = 480'$, $A_2 = 660'$, $A_3 = 1040'$, $B = 520'$
Runoff coefficient : 0.40
25 Yr-24 hr Storm : Hiawatha data by E. Arlo Richardson, State Climatologist

Determinations

Use Rational equation, $Q = CIA$
For Area A_1 Use $Tc = 5$ min $\Rightarrow I_{max} = 2.76$ in/hr
For other Areas Use $Tc = 10$ min $\Rightarrow I_{max} = 2.10$ in/hr

$Q_{A1} = (0.40)(2.76)(2.24) = 2.47$ cfs

$\longrightarrow$ Use 15" CMP for downspout #1

check Headwater depth - UDOT chart 2.53
need Hw of 12 inches ±, OK

$Q_{A2} = (0.40)(2.10)(4.96) = 4.17$ cfs

Total Q @ downspout # 2 = $Q_{A1} + Q_{A2} = 2.47 + 4.17 = 6.64$ cfs

$\longrightarrow$ Use 18" CMP for downspout #2

Hw = 20" or 2' over top of pipe, OK

$Q_{A3} = (0.40)(2.10)(3.51) = 2.95$ cfs

Total Q in ditch = $Q_{A1} + Q_{A2} + Q_{A3} = 9.6$ cfs

Bear Canyon site Plan

Surface runoff into diversions around site cont.

For required ditch cross section area, use Manning equation, $Q = \frac{1.486}{n} A R^{2/3} S^{1/2}$

For earth lined channel, $n = 0.035$

Try channel of 1:1 side slopes, 2' deep
Average slope of ditch - 6%+

For slope shown, $P = 2\sqrt{8}$, $A = 4\,ft^2 \Rightarrow R = 0.71$

$Q = \frac{1.486}{0.035}(4)(0.71)^{2/3}(0.06)^{1/2} = 33.0$ cfs

Try channel of 1:1 side slopes, 1½ feet deep, $P = 3$, $A = 2.25\,ft^2$
$\Rightarrow R = 0.75$

$Q = \frac{1.486}{0.035}(2.25)(0.75)^{2/3}(0.06)^{1/2} = 19.3$ cfs, ok

→ Use a ditch with 1:1 side slopes of least 1½ feet deep

- - - - -

For spillway on sediment storage pond,

Use an 18" riser and 18" cmp outlet pipe at 6% grade ±

$\Rightarrow Q = 13.97$ cfs ok
(see computer printout)

Bear Canyon Site Plan

Ditch Size to convey runoff to downspouts

Design Data

As before, $Q_1 = 2.47$ cfs, $Q_2 = 6.64$ cfs

Determinations

For ditch size to convey runoff to upper downspout use Manning Equation, $Q = \frac{1.486}{n} A R^{2/3} S^{1/2}$

For earth lined channel, $n = 0.035$

Try channel of 1:1 side slopes, 1' deep
Try average slope of 6% ± (greater slope will probably cause erosion)

For slope shown, $P = 2\sqrt{2}$, $A = 1.5 ft^2 \Rightarrow R = A/P = 0.35$

$Q = \frac{1.486}{0.035}(1)(0.35)^{2/3}(0.06)^{1/2} = 5.16$ cfs, OK

→ Use a ditch with 1:1 side slopes at least 1 foot deep with slope of 6% to channel runoff to upper downspout

Check need for riprap below downspouts

outlet velocity = 12.4 ft/sec (see computer printout)

⇒ Need riprap NCSA No. R-6 (average particle size of 12 inches) or use Gabions

To convey runoff to lower downspout

→ Use a ditch with 1:1 side slopes at least 1½ feet deep with slope of 6%

Appendix B

COMMERCIAL TESTING & ENGINEERING CO.

GENERAL OFFICES: 1919 SOUTH HIGHLAND AVE., SUITE 210-B, LOMBARD, ILLINOIS 60148 • (312) 953-9300

AVE SELDON
MANAGER
SOUTHWEST DIVISION

SINCE 1908

PLEASE ADDRESS ALL CORRESPONDENCE TO:
224 S. CARBON AVE., PRICE, UT 84501
OFFICE TEL. (801) 637-7540

July 5, 1983

Mr. Wendell Owen
CO-OP MINING COMPANY
P. O. Box 300
Huntington, Utah 84528

Dear Mr. Owen,

This letter is to inform you of the status of the sample results for CT&E number 57-7609. The sample was originally reported to Co-op Mining in November, 1981 and all sample retains have been discarded. In reviewing analytical data from this sample, it was determined the pH equals 9.1. Mr. Mel Coonrod with Environmental Industial Supply will provide CT&E with another sample for the purposes of determining acid-base potential, texture, and electrical conductivity. Results will be available within two weeks of sample receipt.

Should you have any questions or comments please feel free to contact us.

Sincerely,
COMMERCIAL TESTING & ENGINEERING COMPANY

Jack D. Blair, Assistant Manager
Southwest Division

cc. Mel Coonrod

PLAN FOR MODIFICATION OF UPPER PAD - BEAR CANYON MINE

UMC 783.14 Geology Description

(a)(1) Modification narrative should include a general geologic description of the area involved in the new disturbance. This should also include data resulting from analysis of test borings, core samples or outcrop samples. Please provide.

CO-OP REPLY:

The area of the pad enlargement lies at an elevation of 7,425 at the sub station to an elevation of app. 7,434 feet at the existing pad area. The formation that will be involved is the Star Point Sandstone. This is the basal formation of the Mesa Verde group (Doelling, 1972). It is a light colored, fairly well-sorted marine sandstone of medium to fine grain, (Spieker, 1931). It varies from 460 feet to 600 feet in thickness near the central part of Huntington Canyon.

Due to the extensive development in these same formations with all of the surrounding properties, Plateau Mining Co., U.S Fuels property, Beaver Creek, etc., it is the Co-Op's contention that the pad area will have the necessary stability to support the intended use with no need for extensive drilling to varify this conclusion.

UMC 783.25 Cross-Sections, Maps and Plans

A map depicting the location of berms and diversion ditches that will control runoff from disturbed and undisturbed areas and the direction of runoff flow must be provided.

CO-OP REPLY:

See Plate B-1

UMC 784.16 Ponds

The applicant shall submit designs, certified by a qualified, registered professional engineer, for the collection basin to contain

the runoff of a 10-year, 24-hour precipitation event. The designs should include sizing calculations, a cross-section, a description of the maintenance procedures (cleaning out) and also describe the time table and plans for removal of the structure.

CO-OP REPLY:

Reference - Pond design previously submitted with scalehouse modification.

UMC 784.22 Diversions

The sizing of the culvert that extends under the loadout pad is shown in the mine plan to be an 18 inch diameter culvert. Sizing calculations from a recent modification show this culvert needs to be at least a 30 Inch diameter culvert.

The applicant will need to indicate what type of slope protection will be provided to control the undisturbed runoff that discharges from the upper storage pad culvert.

The cross-section of diversion and drainage ditches shown on Plate III-8-b must include dimensions. The applicant must provide sizing calculations to insure passage of the 10-year, 24-hour storm. A narrative must also be provided explaining the sediment control measures for the diversions (e.g., channel lining, revegetation, roughness structures).

CO-OP REPLY:

Item 1. Attached to Bear Canyon Scale Modification (Appendix 1), contains an hydrology report which addresses the culvert sizing. However, if DOGM requires a 30 inch culvert under the pad in question, the Co-Op has committed to this installation and will proceed.

Itam 2. Slope protection will be provided by culverting the undisturbed runoff into the existing channel which is established, and has cut to a stable configuration, (bedrock). Sizing calculations are addressed in Item 1.

UMC 817.22 Topsoil Removal

The applicant is reminded that in areas where topsoil will not be removed, a written variance from the Division is required. If no such request is made and approved, then removal of topsoil from all areas of disturbance is required.

CO-OP REPLY:

The Co-Op has recently submitted to the Division, a top-soil handling plan which addresses this concern.

It is important to note that a large portion of the present area which is developed was inundated with old mine spoils and no top soil was removed, also, the area of the pad was of such a rocky nature that it was impossible to salvage any material that could be construed as topsoil or even growth media.

The Co-Op is anxious to implement the necessary drainage safeguards and would like the Division's immediate approval to the following interum activity:

To install the necessary clear water diversion, the Co-Op Mining Company wishes to proceed with the construction of the pad and installation of the diversion ditches and culvert.

The existing pad is approximately 250 feet by 70 feet at its widest point. It is approximately 8 to 10 feet higher in elevation than its proposed final elevation. It is necessary to cut this surplus material down so that the drainage can be implemented. The material which is cut will be side cast as previously approved by the Division. The end result of this work will alter the configuration of the existing pad and change the dimensions at its widest measurements to approximately 110' by 250'. This is the desired final configuration, and will facilitate a truck turnaround and a materials storage area. (See plate B-1), with corresponding drainage design.

ADDENDUM TO CO-OP MINING CO. TOP SOIL HANDLING PLAN

The Co-Op in their original plan indicated the methodology incorporated in the removal of topsoil from disturbed areas; there appears to be some misunderstanding as to the actual area where topsoil was removed. Due to previous mining activity in Bear Canyon, a large portion of the area which is being utilized by the Co-Op Mining Company is on the site of the old abandoned mine and there was no usable soil available for storage.

This explanation will account for the lack of soil which the Co-Op has in fact, placed into storage.

Evaporation Area

Berm

24'

N

ed Drainage

Undisturbed Drainage

REGISTERED LAND SURVEYOR

STATE OF

SUB STATION

SEC 25

SEC 24

FAN

DISTURBED DRAINAGE

7500

7475

7450

7425

7400

7375

7350

7325

7300

7275

7250

7225

7200

7175

COAL SPRAY

FANS & BERM

~~117.30~~ 84.30
7 3
117.24

Please ~~don't~~ document the claim that your plan to create "sediment pools" in a perenial stream will inhance wildlife habitat

What "native riparian species" will be used to induce rapid establishment and at what stocking rate will they be planted? Be "clumping" or other spatial arrangements Planned?

It is assumed ~~that~~ the approved seed ~~mix~~ that will be used is the mix that was recommended by the Division for Bear Creek Canyon. Please verify. Also, please discuss mulching techniques, including type and rate of application (or cite specific page(s)(volume) if this information has been submitted previously.

NOV NUMBER		ISSUE DATE	DEADLINE FOR ABATEMENT	NATURE OF NOV	EXTENSION DAYS POSSIBLE	
83-5-2-2	(1)	2-04-83	7-08-83	Permitting on septic system	3	Complete and adequate plans
	(2)	2-04-83	7-08-83	Drainage ditch adjacent to crusher pad	3	Complete and adequate plans
83-5-5-3	(1)	3-10-83	7-13-83	Topsoil protection	35	Complete and adequate plans
	(2)	3-10-83	7-13-83	Drainage on scale area	35	Complete and adequate plans
	(3)	3-10-83	7-13-83	Rocks and soil in creek above scales	35	Plans to mitigate or remove
83-5-7-1	(1)	5-02-83	7-15-83	Permit on scale area	26	Obtain permit (FTA 7-15-83)
83-5-8-3	(1)	5-16-83	7-20-83	Mod to interim MRP	30	Obtain approved mod
	(2)	5-16-83	7-20-83	Sediment pond	30	Bring pond into compliance
	(3)	5-16-83	7-20-83	Drainage, portal, substation fan	30	Obtain mod for drainage and implement plans
83-1-2-3	(1)	7-08-83		Safety on road intersection	81	
	(2)	7-08-83		Operating without a permit	81	
	(3)	7-08-83		Class I stds on haul road	81	

Co-OP. Nov. Status
10:25 am Mel. J.W.

83-5-2-2 (1) - waiting for any response — design and operation addressed — need bonding and reclamation info
(2) plans feasible but not well supported
→ for part 2 of 2 by S. Nadeau Can we accept 7-18-83 sub. by Mel.

83-5-5-3 #(1) new sub. 7-18-83 by Mel. div own response urgent response
#(2) being reviewed + 7-18 submittal
#(3) should terminate

83-5-7-1 - submission recd. 7-18-83 would like to implement drainage controls however road seems to be a problem.

83-5-8-3 (1) existing blanket bond map showing poles, lookout etc. J.W. hasn't seen any plans. need cover letter or memo
(2) slopes - at corner + sides sloughing (weak embankment) cover and spillway upgrade. capacity ??? last days #1 disch. 4" won't get.
→ letter plans.
Mel would like to fix right away
(3) - in sub. of 7-18-83 - urgent response in any case.

83-5-9-1 what is status