D. Gov/I. Mgmt
CLL/11
11/13/82

U. S. Department of Labor

Mine Safety and Health Administration
P O Box 25367
Denver, Colorado 80225

Coal Mine Safety and Health
District 9

November 9, 1982

Charles W. McGlothlin, Jr.
Operations Manager
Beaver Creek Coal Company
P.O. Box AU
Price, UT 84501

RE: Gordon Creek No.2, Gordon Creek No.3, and Huntington Canyon No. 4 Mine
ID Nos. 42-00125, 42-01254, 42-01270
Ventilation System and Methane and Dust Control Plan Amendment

Dear Mr. McGlothlin:

In accordance with the provisions of 75.316, 30 CFR 75, your amendment dated October 29, 1982 is hereby approved and will be incorporated into your currently approved plan dated September 30, 1981.

Sincerely yours,

John W. Barton
District Manager

GENERAL

1) Company Name -- Beaver Creek Coal Company
Mine Name -- Huntington Canyon #4
Post Office Address -- P.O. Box AU, 1109 South Carbon Avenue, Price, Utah 84501
Telephone Number -- (801) 637-5050
USBM I.D. Number -- 42-01270
Operator's Name -- James A. Herickhoff
Operator's Title -- President
Operator's Address -- 112 Stack Street, Helper, Utah 84526
Operator's Telephone Number -- (801) 472-5681

2) Life of mine is greater than one (1) year.

3) Number of Employees:

Surface	1
Underground	76
TOTAL	77

4) Only MSHA approved equipment will be used for face equipment.

John Deere tractors, Kubotas, and Eimco mantrips are diesel equipment used for men and material haulage. Also, Eimco diesel-powered scoops are used for rock work.

5) The mine will be operating in the Blind Canyon seam. The height of coal varies from 5 to 13 feet .

VENTILATION SYSTEM

A) MAIN FAN

1) a) The main fan shall be of fireproof construction and shall be set no less than 15 feet from the nearest side of the mine opening, and shall have explosion doors and/or weak walls with a cross-sectional area equal to or greater than the connecting entry. The fan shall be equipped with a pressure recording gauge and an automatic signal device designed to give alarm should the fan slow down or stop. The recording gauge and the automatic signal device shall be located near the side of the fan. The fan shall be driven by an electric motor operating on a separate power circuit independent of any other mine circuit. The area surrounding the fan shall be kept free of flammable material for at least 100 feet in all lateral directions with the exception of high walls. The fan shall be kept in continuous operations except for scheduled stoppages for maintenance or adjustment. During such stoppages all men will be withdrawn from the mine and the mine power shall be cut off.

b) If an unusual variance of the mine ventilation pressure is observed, or if an electrical or mechanical deficiency of a mine fan is detected, the mine superintendent or mine foreman shall be notified immediately and appropriate action or repairs shall be instituted promptly.

c) Airflow shall be maintained in all intake and return aircourses. Multiple fans are not anticipated at any time in the future.

d) The signal device can be heard by a responsible person.

2) Manufacturer - Jeffery

Type	-	9- Foot Diameter Aerovane
Horse Power	-	100
RPM	-	650
Water Gauge	-	1.0 Inches
Voltage	-	440

B) FACE MINING CYCLE

Ventilation for a typical face mining sequence is shown on Drawing #1.

C) SECTION MINING SEQUENCE

The complete section and face ventilation system for a typical five-entry system is shown on Drawing #2.

Line brattice used to ventilate the working face will be maintained to within 15 feet of the working face. The volume of air maintained at the working face shall be not less than 6000 cfm and the volume of air reaching the last open crosscut shall not be less than 12,000 cfm. The minimum quantity of air reaching the intake end of a pillar line will be 12,000 cfm. A minimum mean entry face velocity of 60 feet-per-minute shall be maintained at all working faces where coal is cut, mined or loaded.

Ventilation in belt haulage entries will be controlled by regulators and check curtains. Belt air will be regulated to the return.

All air returning from working sections will be taken into the main returns so that no air reversal can occur.

Coal shall not be permitted to accumulate at the outby end of the face equipment to the extent that ventilation of the working face is restricted.

Roof Bolting:

1) The minimum quantity of air over the roof bolter shall be maintained at 3000 cfm.

2) Dust control while drilling incorporate the use of a:

   a) Wethead operation, using water to suppress the dust from drill cuttings, or

   b) A dryhead operation which uses a vacuum pump to remove the drill cuttings before they reach the ventilating current.

   Both operations are in current use at this time.

Idle or abandoned working faces shall be ventilated in such a manner as to render harmless, all noxious gases. The quantity of air reaching such faces shall be adequate to maintain the above quality, with a minimum of 19.5% oxygen.

D) AUXILIARY FAN VENTILATION

1) The use of auxiliary fans may be necessary in situations where it is difficult to ventilate with standard ventilating procedures. See Drawing #3. Only a permissible fan maintained in permissible condition will be used.

a) The fan shall be so located and operated as to avoid any recirculation of air and examined at least every four (4) hours when in use. The examiner will place his initials, date and time in a book provided on the fan. The examiner will be provided with appropriate equipment to check for recirculation and air quantity.

b) Fans operated exhausting shall be installed in the return air current from the place to be ventilated by the fan, and the volume of intake air delivered to the fan prior to the fan being started shall be greater than the free discharge capacity of the fan.

c) Fans operating blowing shall be installed in the intake air current of the place to be ventilated by the fan, and the volume of intake air delivered to the fan prior to the fan being started shall be greater than the free discharge capacity of the fan.

d) Auxiliary fans shall not be operated during stoppage of the main fan.

e) If the auxiliary fan is stopped or fails, the electrical equipm in the place shall be stopped and the power disconnected at the power source until ventilation in the working place is restored. During such stoppage and/or idle shifts, the ventilation shall be by means of the primary air current conducted into the place in a manner to prevent accumulations of methane.

f) Flame-resistant vent tubing may be used in lieu of, or in conjunction with a line brattice system to provide ventilation of the working face. Vent tubing or line brattice shall be maintained to within 15 feet of the face where coal is being cut, mined or loaded. Vent tubing used with exhausting fans shall be rigid or corrugated, flexible and reinforced strong enough to withstand the negative static pressure produced by the fan without collapsing. A maximum of 500 feet of vent tubing will be used.

2) Manufacturer -- Jeffrey
Model # -- 5274635005
Horsepower -- 40
RPM -- 3600
Blade Setting-- Fixed
Capacity -- 22,000 CFM
Fan Size/Type-- 6F 24
Vent Tubing -- 18" Minimum Diameter

(E) VENTILATION DEVICES

1) All ventilation devices, such as stoppings, overcasts and undercasts, shall be of substantial and incombustible construction installed in a workmanlike manner and maintained in a condition to serve the purpose for which they are intended.

2) Permanent stoppings will be maintained to and including the third connecting crosscut outby the working face.

   Temporary stoppings or brattice stoppings will be used to isolate the belt entry after a belt move while permanent stoppings are being constructed.

   Whenever the third connecting crosscut is broken through, work shall be started on building the stoppings as soon as possible.

3) Dry-stack, mortar-joint and metal stoppings will be used in the mine.

   a) Dry-stack stoppings will be sealed on both sides with an approved construction-type sealant (Inca 1000 or equivalent). In areas where entry life is less than two (2) years, Dry-stack stoppings between Returns and Belts, Belts and Intakes will be sealed on the pressure side with an approved construction-type sealant, or on both sides with an approved non-construction type sealant.

   b) In short-lived entries, metal stoppings between Returns and Belts, Belts and Intakes will be sealed on one side with an approved non-construction type sealant.

4) A description of the construction of stoppings, seals and overcasts is shown in Drawings #4(a), (b), (c), (d), #5 (a), (b), and #6. Stoppings will be used to separate return air course from belt entry and to separate belt entry from the intake air course.

5) When excessive squeeze is encountered, the use of a Dry-stack stopping with the top or middle row made up of styrofoam blocks will be used (Drawing #7). The stopping will be sealed with an approved construction-type sealant. MSHA-approved styrofoam blocks will be used.

MISCELLANEOUS

A) DIESEL EQUIPMENT

1) Any diesel equipment used inby the last open crosscut will comply with Title 30, Part 36 of the Code of Federal Regulations.

2) All diesel equipment will be operated and maintained in accordance with manufacturer's operating specifications and maintenance manual. These specifications and manuals will be made available.

3) a) Each diesel equipment unit will be inspected on a weekly basis to ensure that the engine and scrubber systems are operating properly to minimize exhaust gases.

b) Each diesel equipment unit will be tested at least once a week while the equipment is in operation, and if the analyses of these samples exceeds five parts per million NO_2 or 50 parts per million CO, or both, corrective measures shall be taken immediately.

c) A record of each examination, record of analysis, and maintenance check will be kept in a book maintained for that purpose. Date, time, examination or maintenance check results, and sampler's initials will be recorded.

d) If any unusual alteration of the exhaust occurs, the atmosphere returning from the diesel equipment will be tested immediately. If levels are detected approaching five parts per million NO_2 and 50 parts per million CO, samples will be taken every shift until such levels are reduced to normal operating levels.

e) If, for any reason, the levels exceed those specified in paragraph "d", corrective measures will be taken immediately. Samples will be taken every hour thereafter until the corrective measures are shown to be effective.

f) At least 100 CFM air movement per BHP will be maintained over all diesel equipment operated in the mine.

METHANE CONTROL

A) Methane examinations shall be made at the working face at the last permanent support by certified or qualified men using an approved methaneometer.

B) 1) The methane content in any return air course other than an air course returning the split of air from a working section shall not exceed 2.0 volume per centum. The methane content in the air in active workings shall be less than 1.0 volume per centum. If, at any time, the air in any active working contains 1.0 volume per centum or more of methane, changes or adjustments should be made at once in the ventilation in the mine so that the air shall contain less than 1.0 volume per centum of methane.

2) No bleeder entries are anticipated at this time. Where physical conditions make bleeder entries impractical, panels will be sealed after extraction of pillars.

C) When an area is to be sealed the location, sequence of installation, and method of construction of the seals will be submitted on a six-month review of the ventilation system plan.

DUST CONTROL

1) Main roadways will be maintained in a damp well-compacted manner as to suppress dust. Moisture absorbing chemicals (Magnesium-Chloride and Calcium-Chloride) may be used to help maintain a damp condition.

2) Dust will be controlled at transfer points and loading points by rock dusting and manual clean-up practices. Also, water will be introduced on the return belt 1000 feet inby the mine portal, except in winter conditions when freezing presents a problem. Water sprays will be used at the belt conveyor feeder breaker under dry conditions. Under wet conditions, sprays will not be required. Four sprays will be located at the throat of the breaker operating at 60 PSI and delivering a total of one GPM.

3) Where used, continuous miners will be equipped with at least 27 water sprays operating at 100 PSI and delivering a minimum of 16 GPM. The above number of sprays and pumps on face loading and cutting equipment will be maintained in an operable condition.

4) At least 90% of the water sprays indicated for dust suppression in each area other than the feeder breaker shall be maintained and operated at the indicated volume and water pressure in the plan during mining operations. A minimum of two of the four sprays on the feeder breaker shall be maintained and operated during mining operations.

5) Rock dust will be applied to belt haulageways.

B) FACE AREAS

Each mechanized mining unit (MMU) will have its own Dust Control Plan. This plan will be in the form of a "Dust Control Practices in the Face Area" form. In addition, a sketch or schematic showing the water spray locations for the continuous miner will accompany each plan.

C) DESIGNATED AREAS (DA)

Forms entitled "Line Diagram of Mine" and "Selection Sheet for Designated Areas" will be completed and included in this plan. If changes in the (DA) are implemented, new forms will be submitted for approval.

D) RESPIRABLE DUST CITATION OR ORDERS

1) Any corrective actions taken to abate any citation or order will be incorporated in the Ventilation Plan; such as maintenance or ventilation system, roadways sprays and belt sprays.

2) A record shall be kept of all corrective actions taken in order to come within compliance and shall be made accessible to MSHA.

MINE MAP

A mine map showing the following is herewith submitted:

1) A legend;
2) Property lines;
3) No oil or gas wells are present;
4) All known underground workings adjacent, above, and below the mine;
5) Complete fan data;
6) Location of all surface openings with air direction and quantity;
7) Faults;
8) Projections for one year with ventilation controls;
9) Projections for each section;
10) All underground workings with active section delineated;
11) Location of stoppings, overcasts, regulators, seals, air-lock doors, and man doors;
12) Volume of air entering and leaving each split and the percentage of methane;
13) Location and average height, width, and air velocity in conveyor belt haulage entry;
14) Velocity of air at restricted conditions;
15) Areas which have been abandoned or pillared;
16) Location of proposed shafts, slopes, or drifts;
17) Dip of coal bed;
18) Elevation of coal seam;
19) Escapeways designated by symbols;
20) All drill holes that penetrate the coal bed being mined; and,
21) The location and description of at least two permanent base line points coordinated with the underground and surface mine traverses, and the location and description of at least two permanent elevation bench marks used in connection with establishing mine elevations.

Date 12/14/82

Mine Name: Huntington Canyon #4

Mine I.D. No: 42-01270

MMU I.D. NO.: 001-0

Designated Occupation (D.O.):

Type of Mining and Section Haulage Equipment: Joy 12-CM-11-10 Miner (30)
10SC Shuttle Car

The following parameters are hereby adopted as part of the ventilation system and methane and dust control plan as per Section 75.316, 30 CFR.

(Signature Company Official)

1. The minimum mean entry air velocity maintained in the working place or the minimum face velocity maintained across the longwall face shall be 60 feet per minute.

2. The maximum distance the ventilating device is maintained from the area of deepest penetration of the working face shall be 15 feet. (Longwalls not applicable)

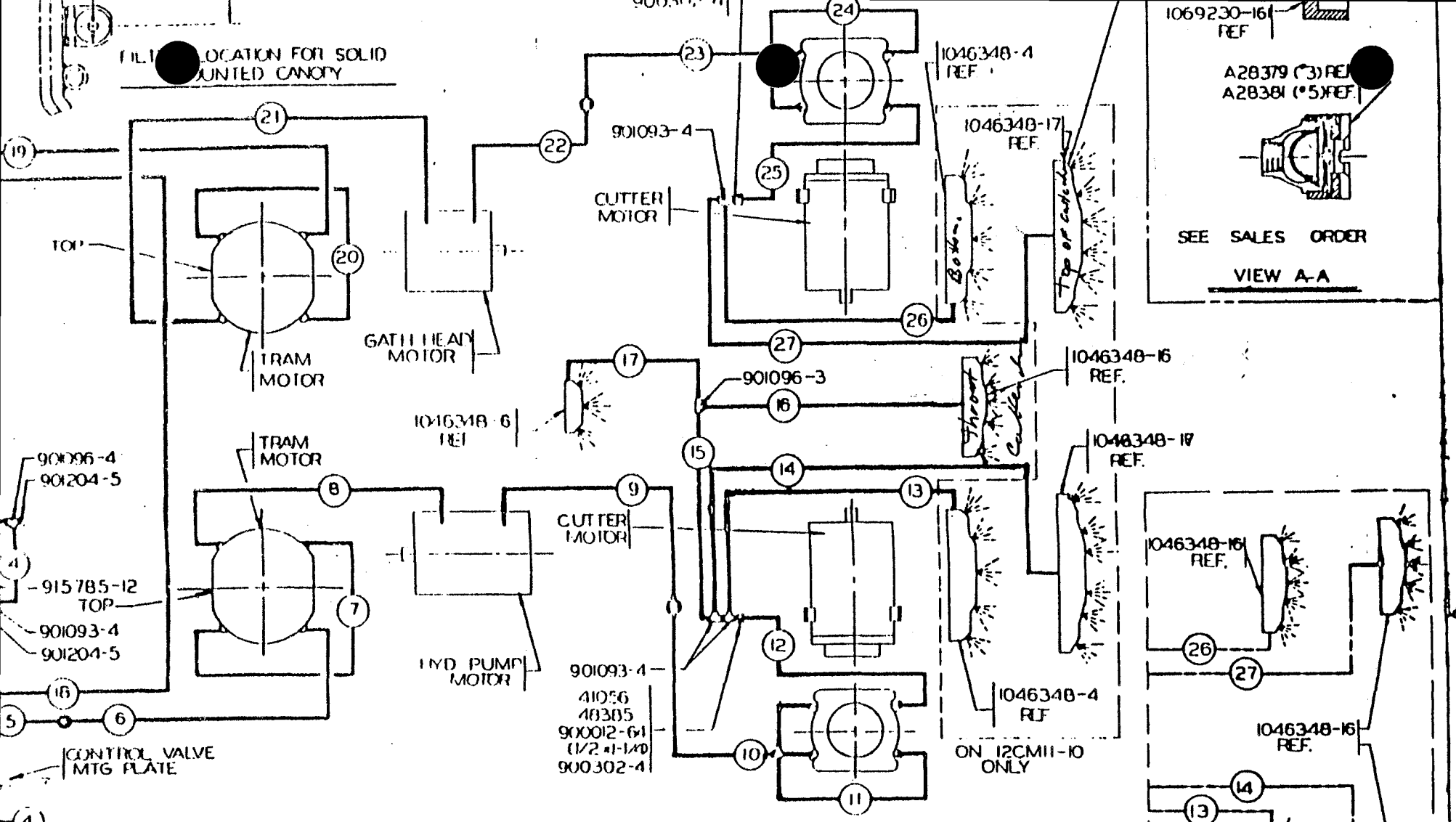
3. The minimum quantity of air reaching the working face or longwall face shall be 6,000 cubic feet a minute.

4. The following water suppression system shall be maintained and operated as follows:

Equipment Description	*Number of Sprays	Type of Sprays	Minimum Operating Pressure
Joy 12-CM11-10 Miner	30	Cone	100 PSI

5. Other controls or practices: (Identify additional sheets by MMU I.D. number).

* Include sketch or schematic showing locations



700080-6008 PARTS COMMON
PD2767-1 MPT FITTINGS
712022-6006 MPT ADAPTERS
712033-6005 MPT CRIMP HOSE FITTINGS
712034-6006 MPT REUSEABLE HOSE FITTINGS

PD2767-2 JIC FITTINGS
712021-6009 JIC ADAPTERS
712031-6008 JIC CRIMP HOSE FITTINGS
712032-6010 JIC REUSEABLE HOSE FITTINGS

PD2767-5 STECKO FITTINGS
712023-6006 STECKO ADAPTERS
712035-6006 STECKO CRIMP HOSE FITTINGS

JOY MANUFACTURING CO.

WATER PIPING DIAGRAM

PD 2767

JOY 12-CM-11-10

Date 12/14/82

Mine Name: Huntington Canyon #4

Mine I.D. No: 42-01270

MMU I.D. NO.: 002-0

Designated Occupation (D.O.): _____

Type of Mining and Section Haulage Equipment: Lee Norse 455 Miner
2-10SC Joy Shuttle Cars

The following parameters are hereby adopted as part of the ventilation system and methane and dust control plan as per Section 75.316, 30 CFR.

C. K. M. [illegible]
(Signature Company Official)

1. The minimum mean entry air velocity maintained in the working place or the minimum face velocity maintained across the longwall face shall be 60 feet per minute.

2. The maximum distance the ventilating device is maintained from the area of deepest penetration of the working face shall be 15 feet. (Longwalls not applicable)

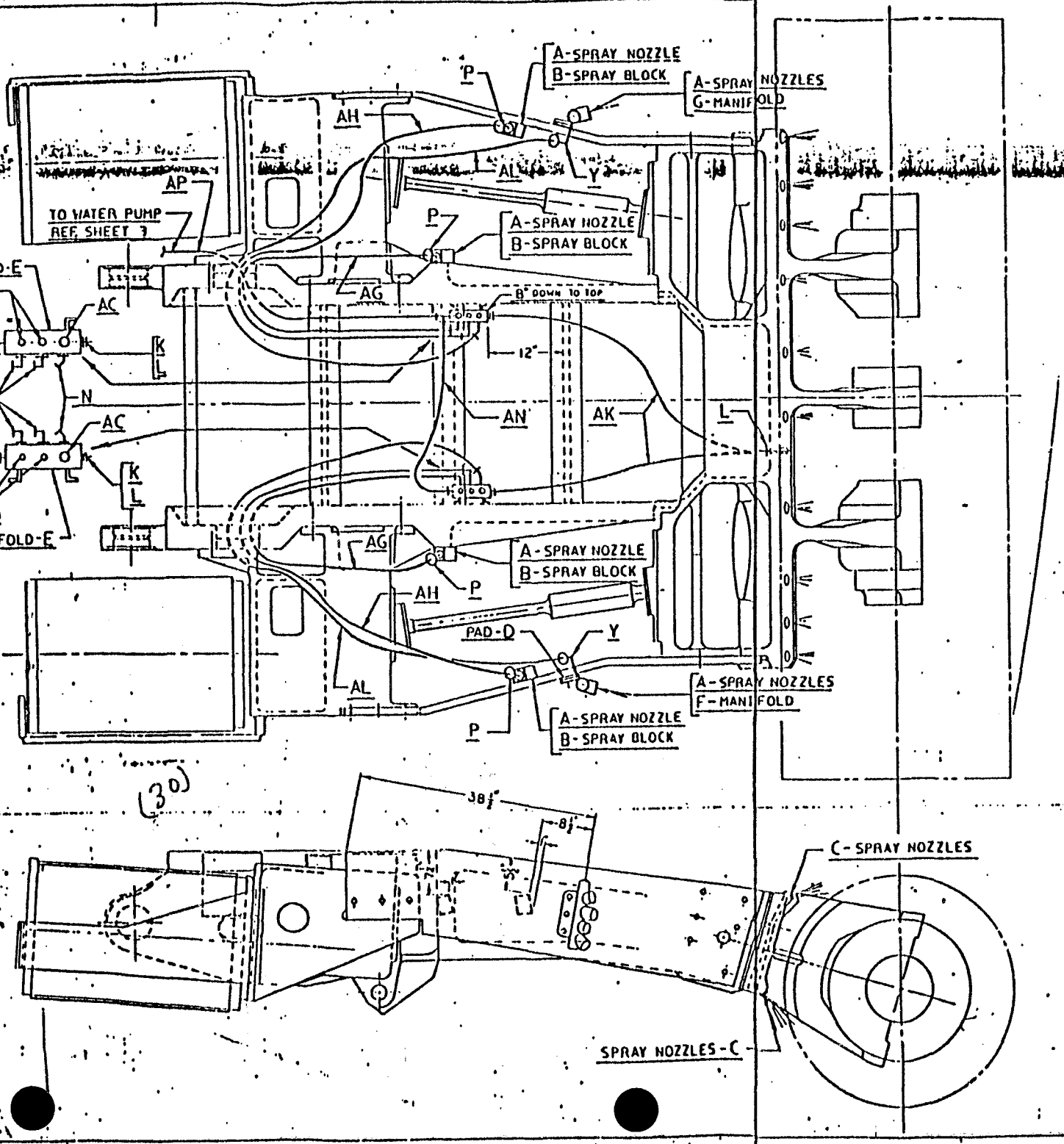
3. The minimum quantity of air reaching the working face or longwall face shall be 6,000 cubic feet a minute.

4. The following water suppression system shall be maintained and operated as follows:

Equipment Description	*Number of Sprays	Type of Sprays	Minimum Operating Pressure
Lee Norse 455 Miner	34	Cone	100 PSI

5. Other controls or practices: (Identify additional sheets by MMU I.D. number).

* Include sketch or schematic showing locations



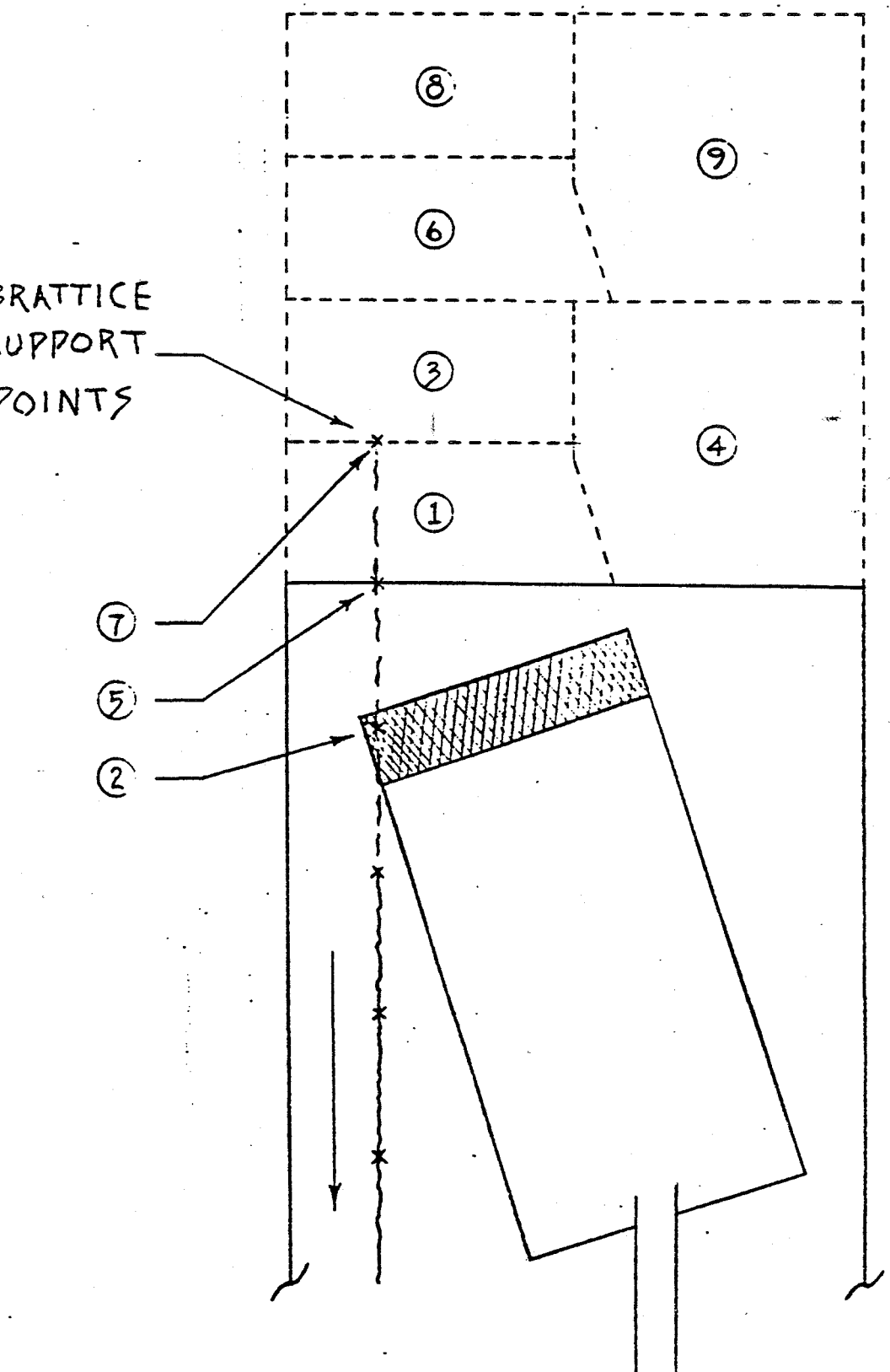
ITEM	QTY.	DESCRIPT.
A	12	0-006714-
B	4	0-010190-
C	20	0-011965-
D	6	0-014833-
E	2	1-612441-
F	1	1-613486-
G	1	1-613486
H		
J		
K	2	9-008075
L	3	9-054006
M	1	9-054012
N	2	9-058006
P	4	9-058009
R		
S	4	9-060004
T		
V	1	9-066012
W		
Y	2	9-071008
AA		
AB	8	9-114320
AC	4	9-114320
AD		
AE		
AF		
AG	2	9-116460
AH	2	9-116460
AJ		
AK	2	9-116810
AL	2	9-116810
AM		
AN	1	9-116120-
AP	1	9-116120

SHEET 4 CO

WATER CUTTER

HH 5

FACE VENTILATION
BEAVER CREEK COAL CO.



BRATTICE SUPPORT POINTS

INTAKE →

RETURN →

SCALE: 1" = 6'

BRATTICE WILL BE KEPT WITHIN 15' OF FACE AT ALL TIMES.

BRATTICE EXTENDED TO 10' PRIOR TO FIRST CUT.

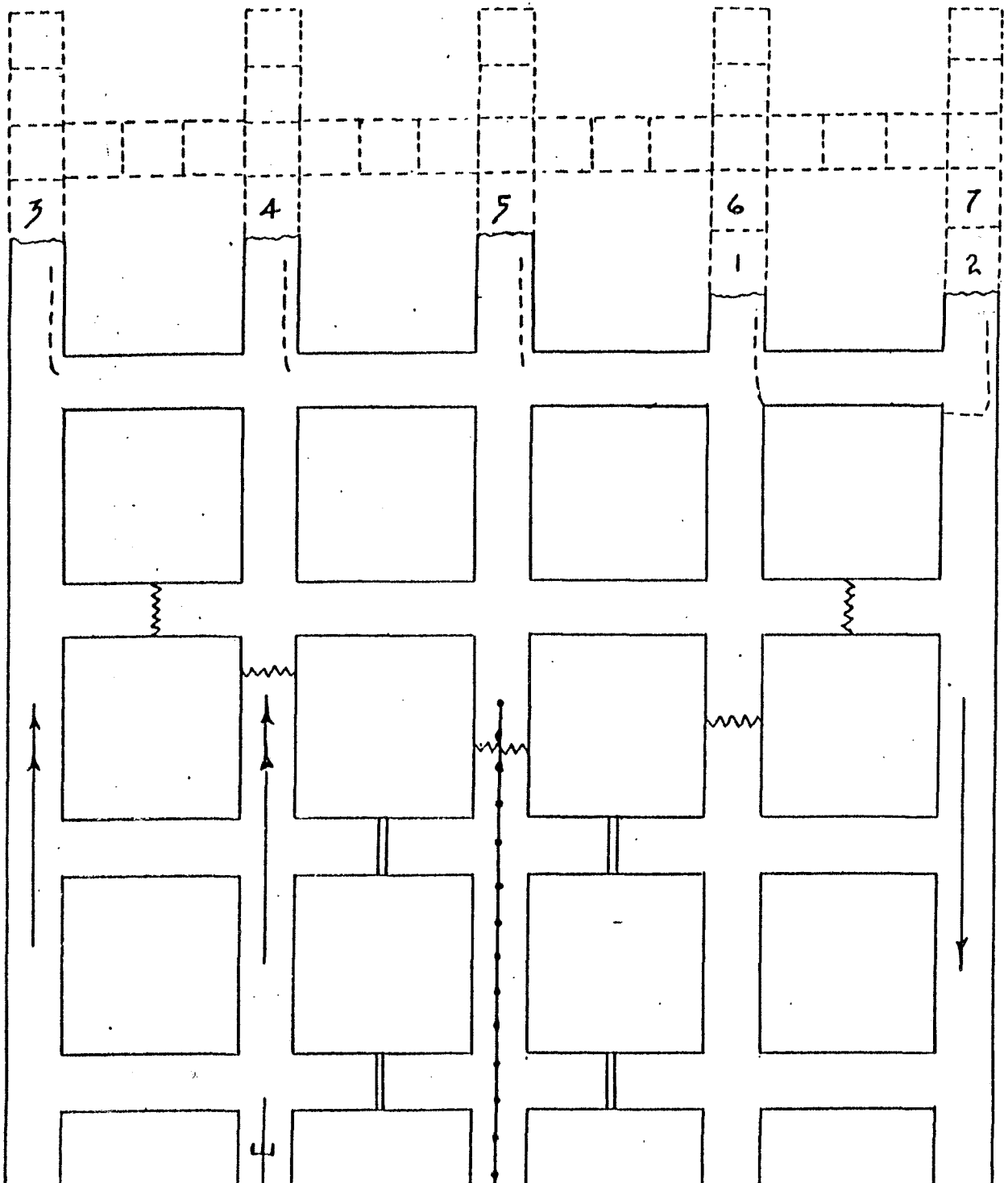
(#) SEQUENCE OF OPERATION

DRAWING 1

TYPICAL MINING SEQUENCE 5 ENTRIES

BEAVER CREEK COAL CO.

SCALE: 1" = 60'



INTAKE

RETURN

E ESCAPEWAY

CHECK CURTAIN

STOPPING

CONVEYOR BELT

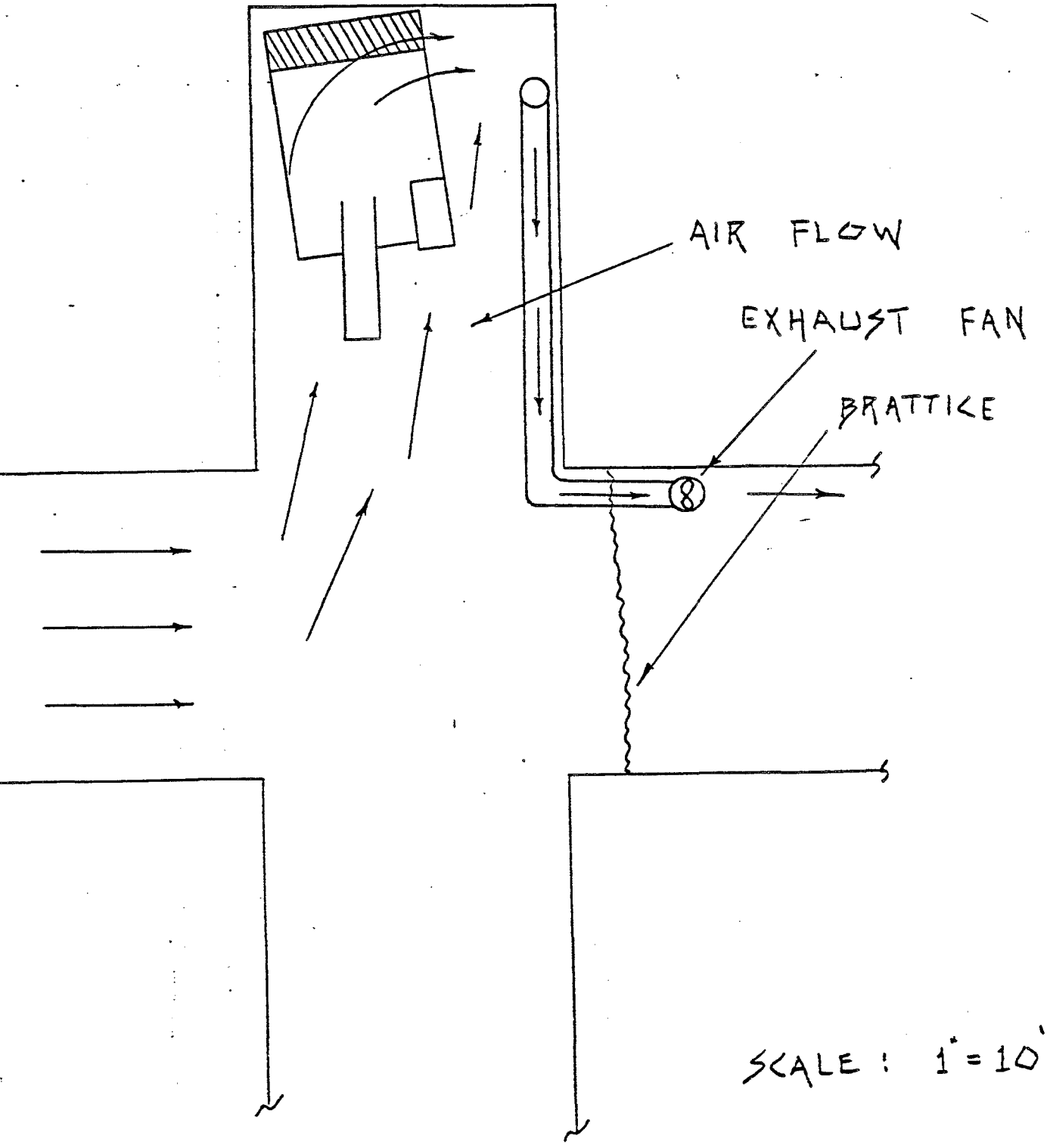
BRATTICE CURTAIN

TYPICAL MINING SEQUENCE IS SHOWN, SEQUENCE MAY VARY WITH CONDITION

DRAWING 2

BEAVER CREEK COAL CO

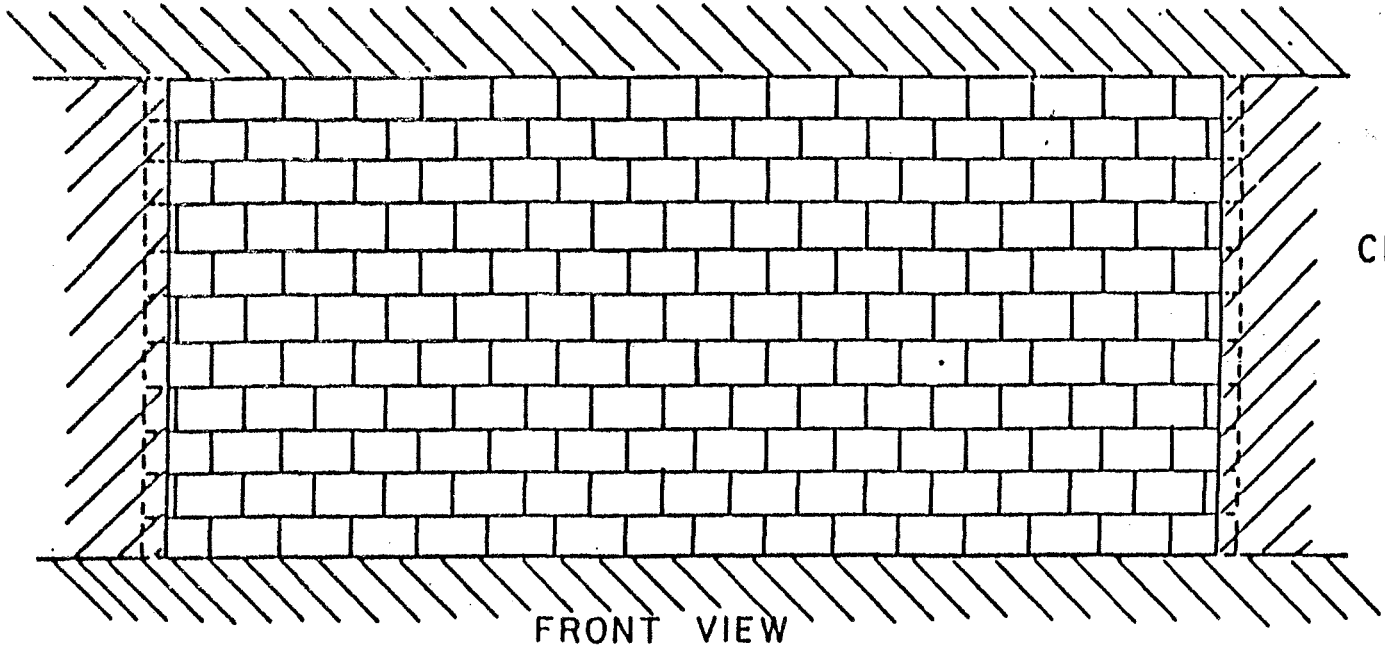
AUXILARY FAN VENTILATION



SCALE : 1" = 10'

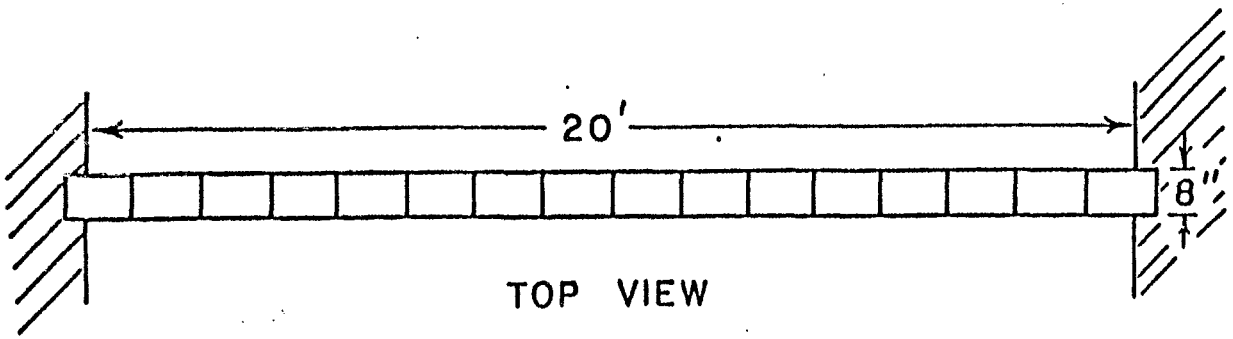
DRAWING 3

CONSTRUCTION OF MORTARED FACE STOPPING



FRONT VIEW

STOPPING IS MADE OF STACKED CINDER BLOCKS WITH MORTARED FACES. OTHER TYPES OF BLOCK OF COMPARABLE QUALITY AND COMPRESSIVE STRENGTH MAY BE USED. ALSO AN AIR SEALANT SUCH AS "STOP IT" MAY BE APPLIED TO THE STOPPING.

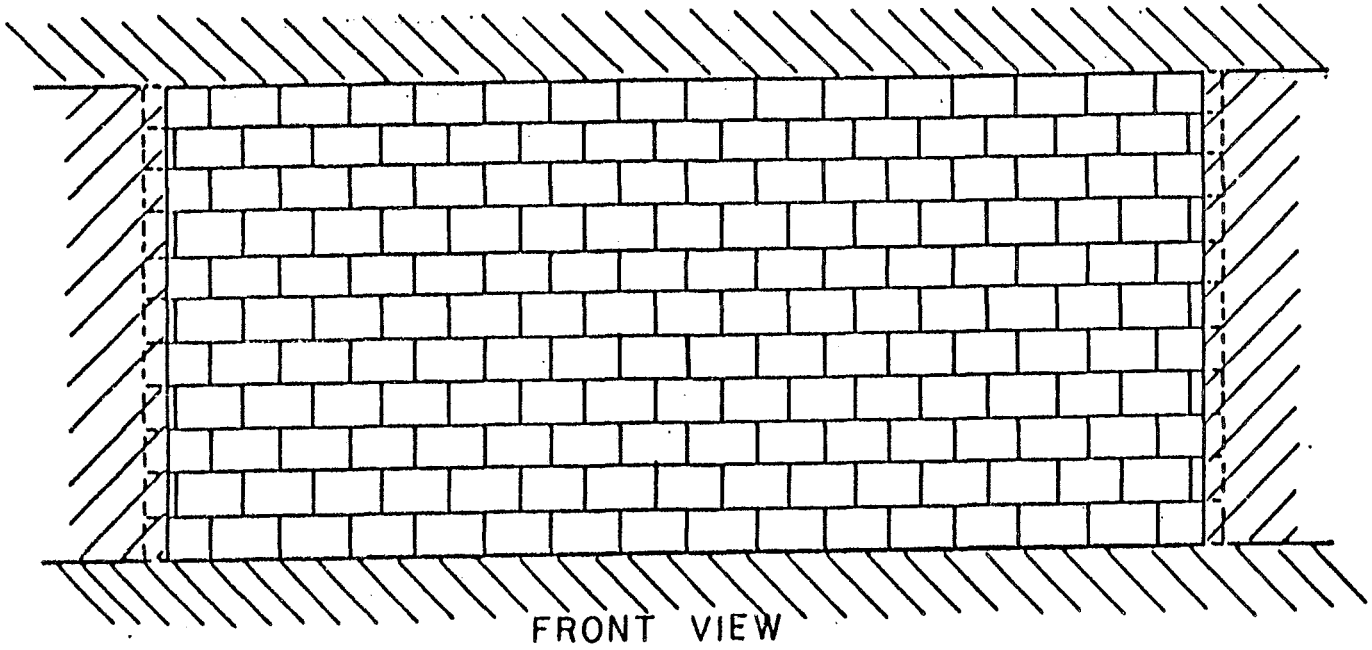


TOP VIEW

SCALE 1" = 4'

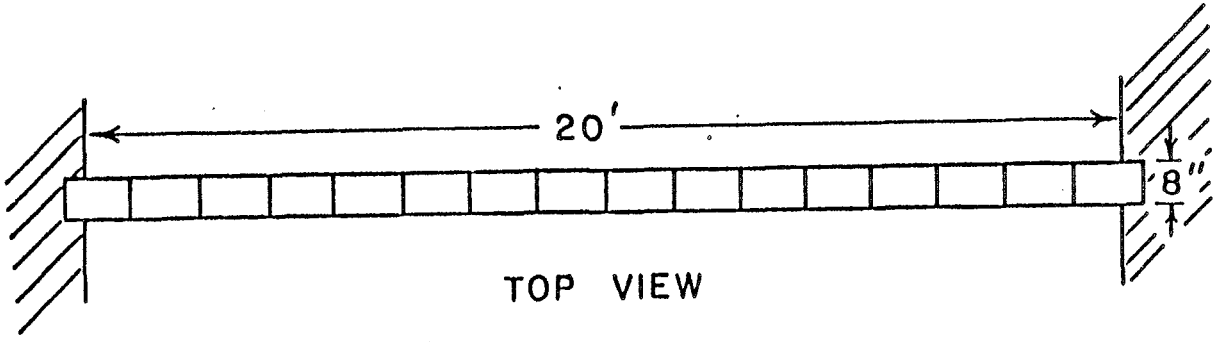
BEAVER CREEK COAL CO

CONSTRUCTION OF MORTARED JOINT STOPPING



FRONT VIEW

STOPPING IS MADE OF CINDER BLOCKS WITH MORTARED JOINTS. OTHER TYPES OF BLOCK OF COMPARABLE QUALITY AND COMPRESSIVE STRENGTH MAY BE USED. ALSO AN AIR SEALANT SUCH AS "STOP IT" MAY BE APPLIED TO THE STOPPING.

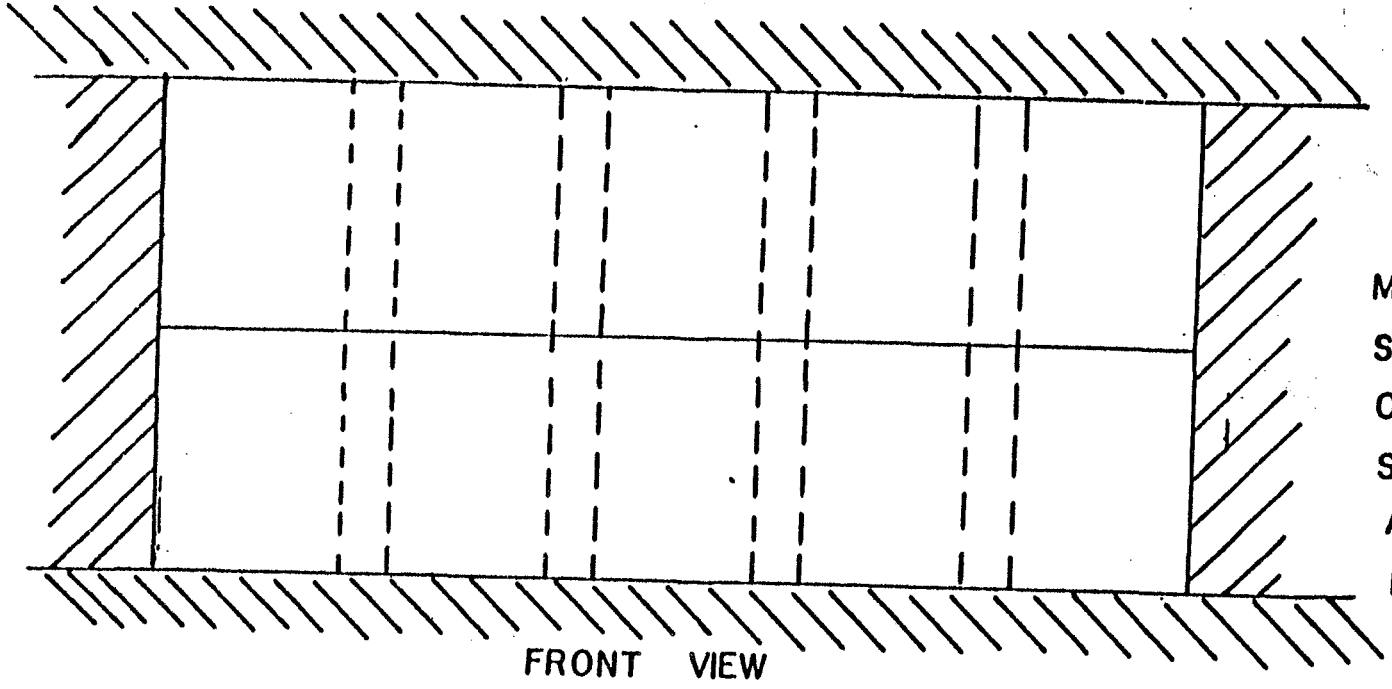


TOP VIEW

SCALE 1" = 4'

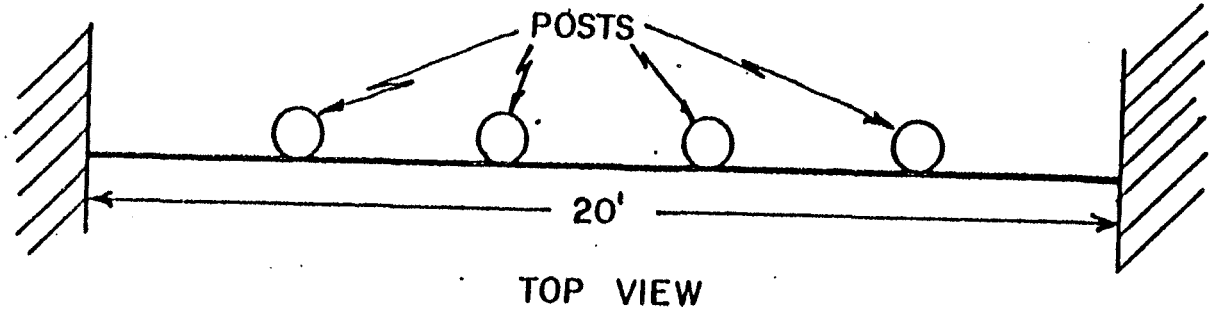
BEAVER CREEK COAL CO

CONSTRUCTION OF METAL STOPPING



FRONT VIEW

STOPPING IS MADE OF FOUR (4)
METAL OR TREATED TIMBER POSTS WI
SHEETS OF METAL ATTACHED TO POS
OTHER TYPES OF BRAND NAME META
STOPPING MAY BE USED. ALSO AN
AIR SEALANT SUCH AS "STOPPIT" MA
BE APPLIED TO THE STOPPING.



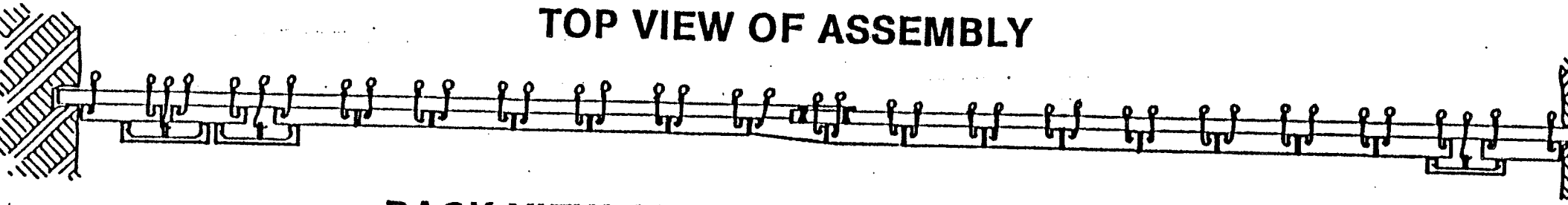
TOP VIEW

SCALE 1"= 4'

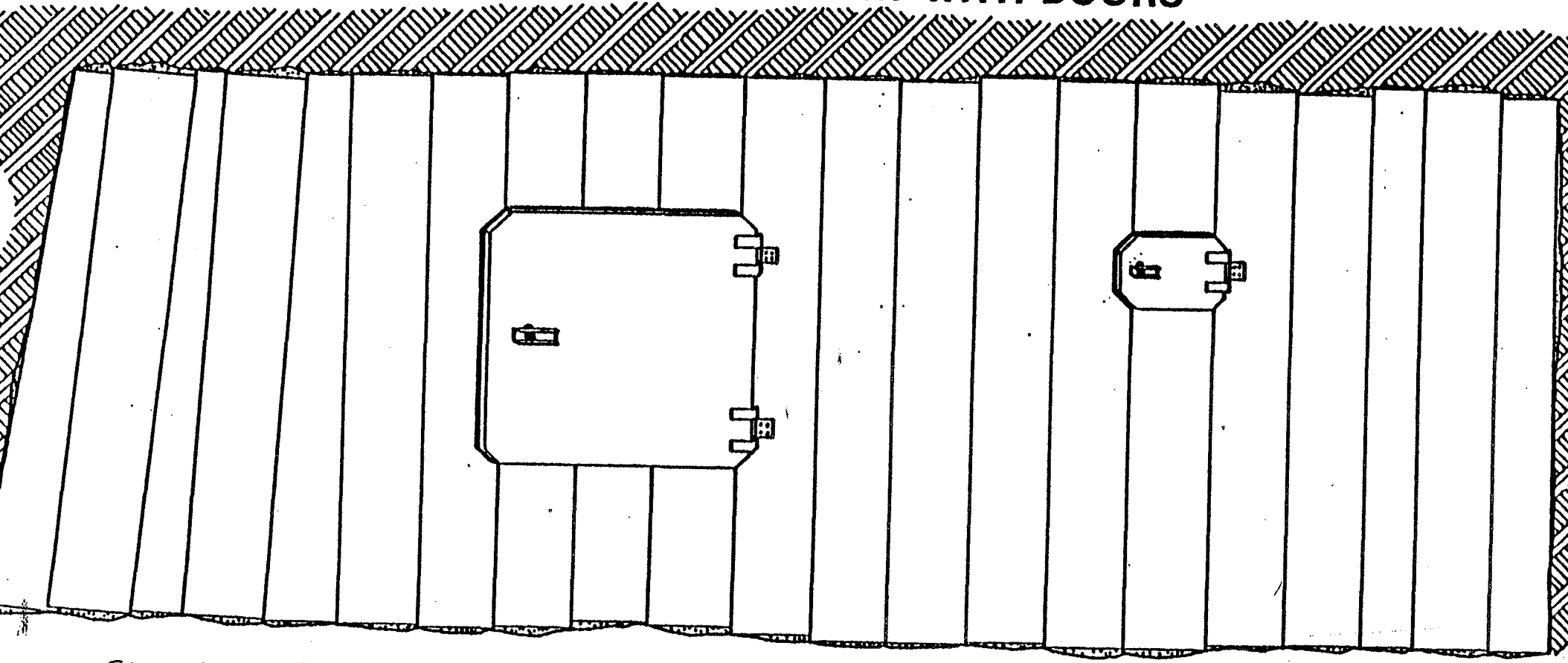
BEAVER CREEK COAL CO.

CONSTRUCTION OF METAL (KENNEDY) STOPPING

TOP VIEW OF ASSEMBLY



BACK VIEW OF ASSEMBLY WITH DOORS

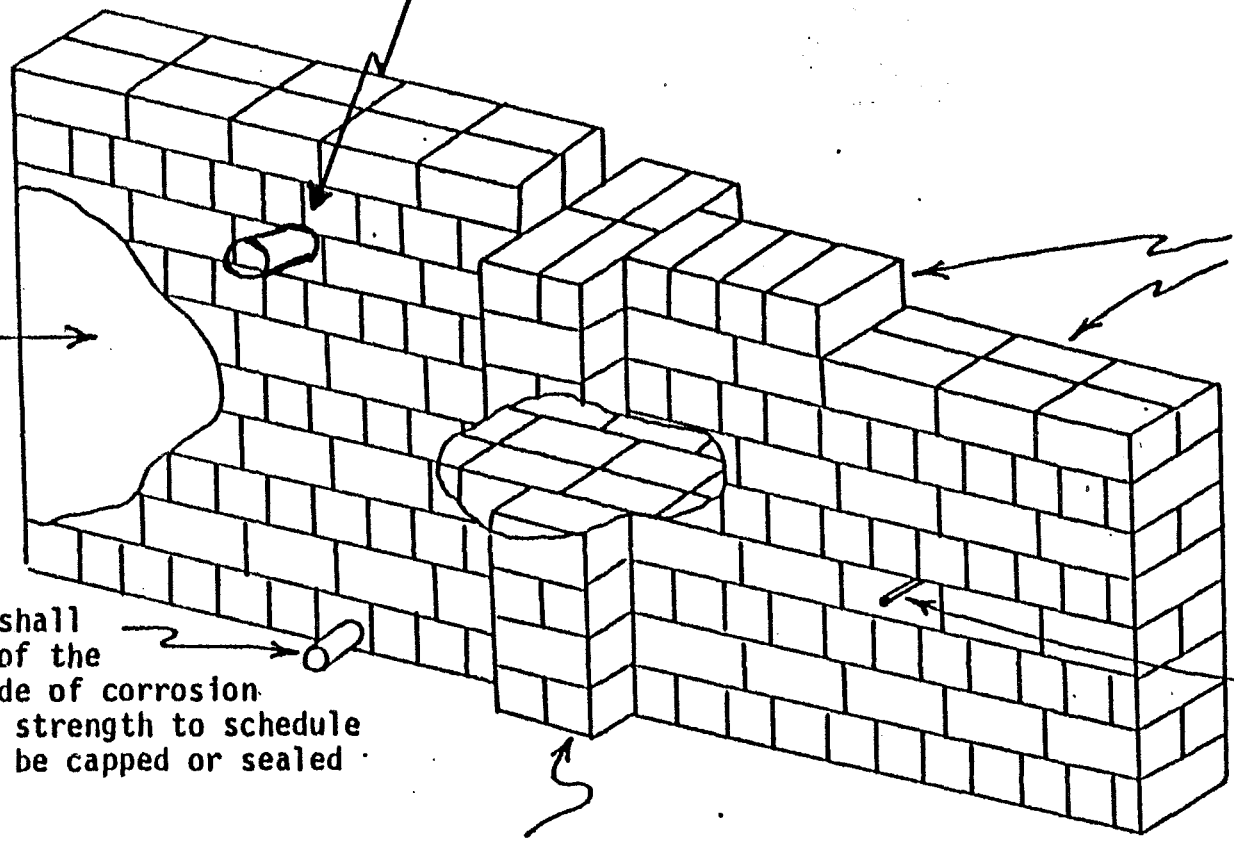


Stopping will be sealed
with stoppit or equivalent.

BEAVER CREEK COAL CO

EXAMPLE OF TYPICAL PLOSION-PROOF SEAL

When necessary, vent pipe(s) shall be installed through the bulkhead into a return aircourse. It shall not be more than 8 inches and have a strength equal to schedule 40 steel pipe and be located near the roof but no closer then 4 feet from a rib and not on the center line of the bulkhead. Vent pipe shall be packed with gravel for at least a 10 foot length or provided with equivalent flame arrestor. The ends of the pipe shall be closed with perforated caps.



e coated with mortar.

necessary, at least
" water drainage pipe shall
the lowest elevation of the
ead. Pipe shall be made of corrosion
tant material equal in strength to schedule
eel pipe. Pipe should be capped or sealed
a valve.

Blocks shall be laid in transverse pattern - 8"x8"x16" Solid Block

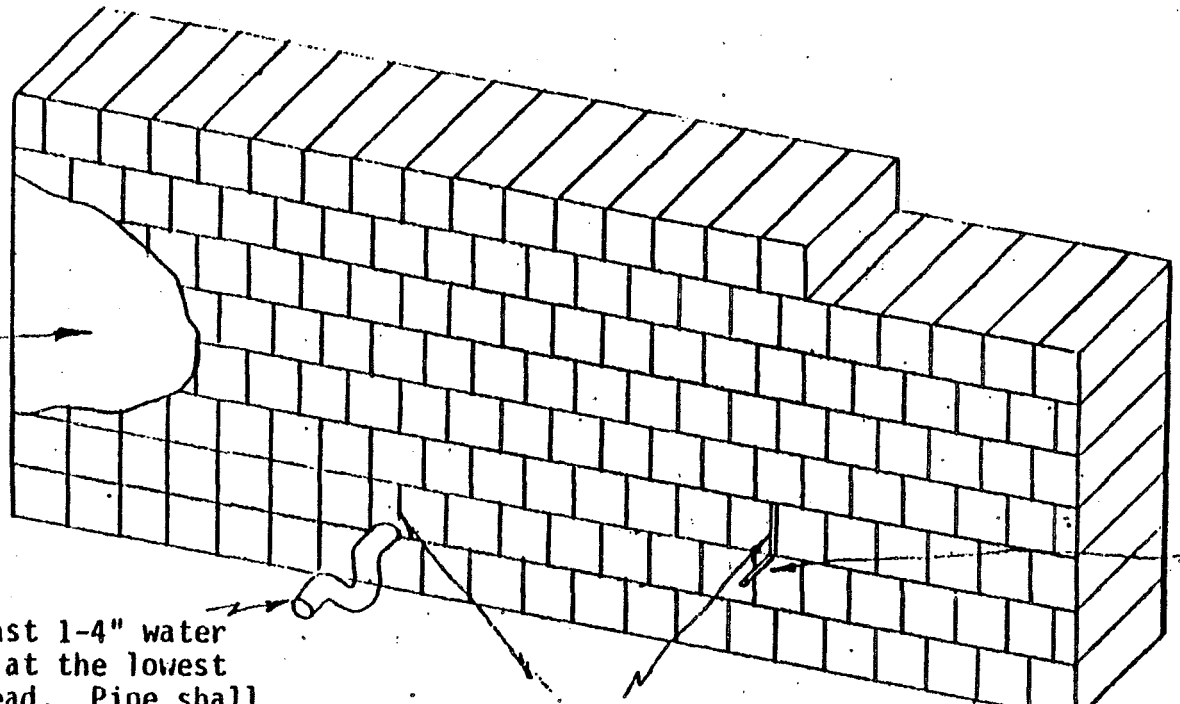
All joints shall be mortared.

At least one seal in each set of seals shall have surveillance tube 1/4" copp or 1/2" schedule 40 pipe or equivalent and be sealed at accessable outlet with a valve. Tube and fittings shall withstand at least 75 psig.

Pilaster shall be included in widths greater than 16 feet and heights greater than 10 feet.

DRAWING 5A

EXAMPLE OF TYPICAL EXPLOSION-PROOF SQUEEZE SEAL



Blocks shall be laid in parallel pattern - 8"x8"x3' Treated Crib Block.

Between each layer a 1" thick layer of rock dust.

be coated with
ppit or equivalent.

re necessary, at least 1-4" water
inage pipe shall be at the lowest
vation of the bulkhead. Pipe shall
made of corrosion resistant material
al in strength to schedule 40 steel
e. Pipe will have U-tube to
p constant water in pipe. Pipe should
capped or sealed with a valve.

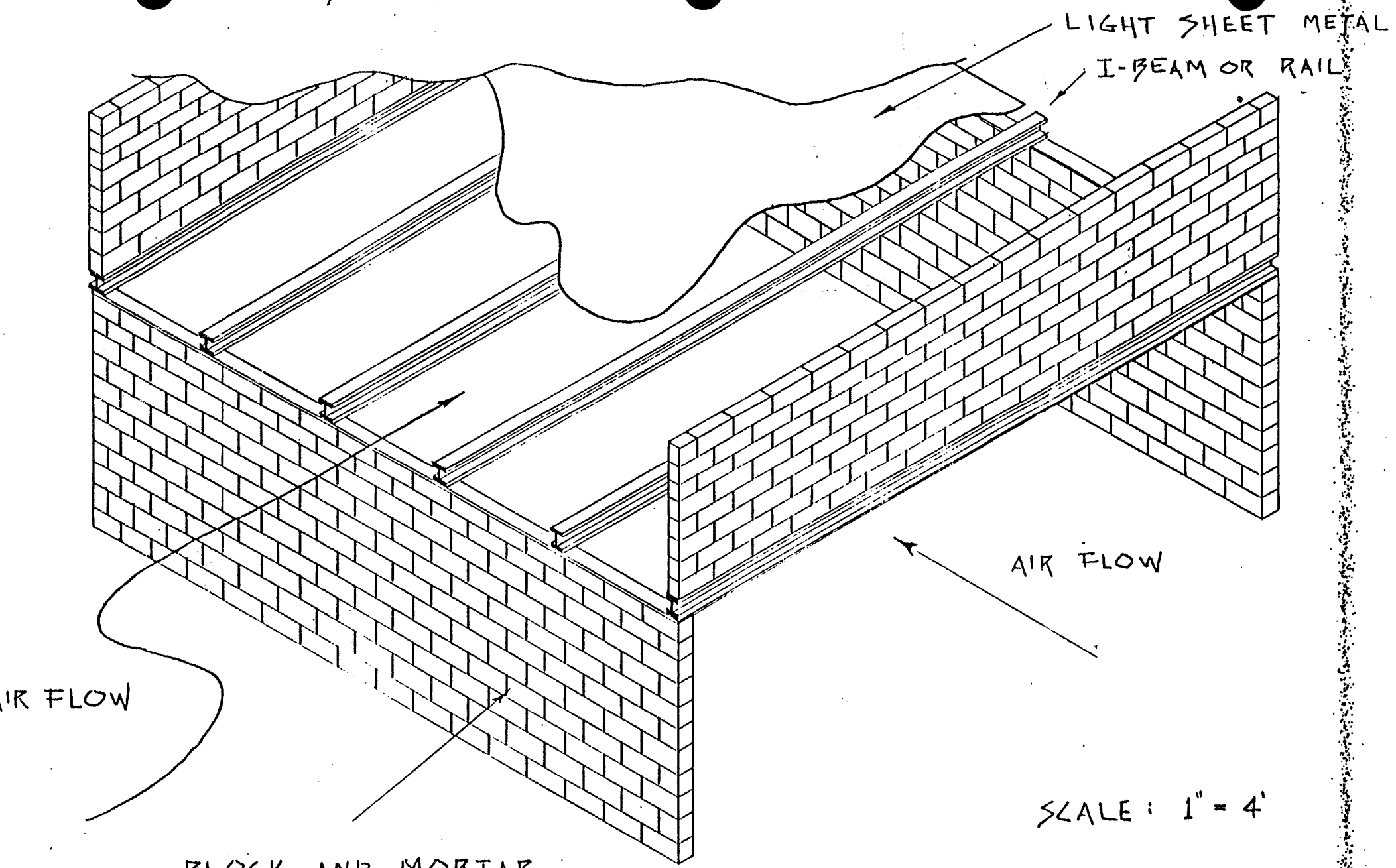
Gaps will be filled with fire resistant wood or rock dust.

At least one seal in each set of seals shall have surveillance tube ¼" copper or ½" schedule 40 pipe or equivalent and be sealed at accessable outlet with a valve. Tube and fittings shall withstand at least 75 psig.

DRAWING NO. 5B

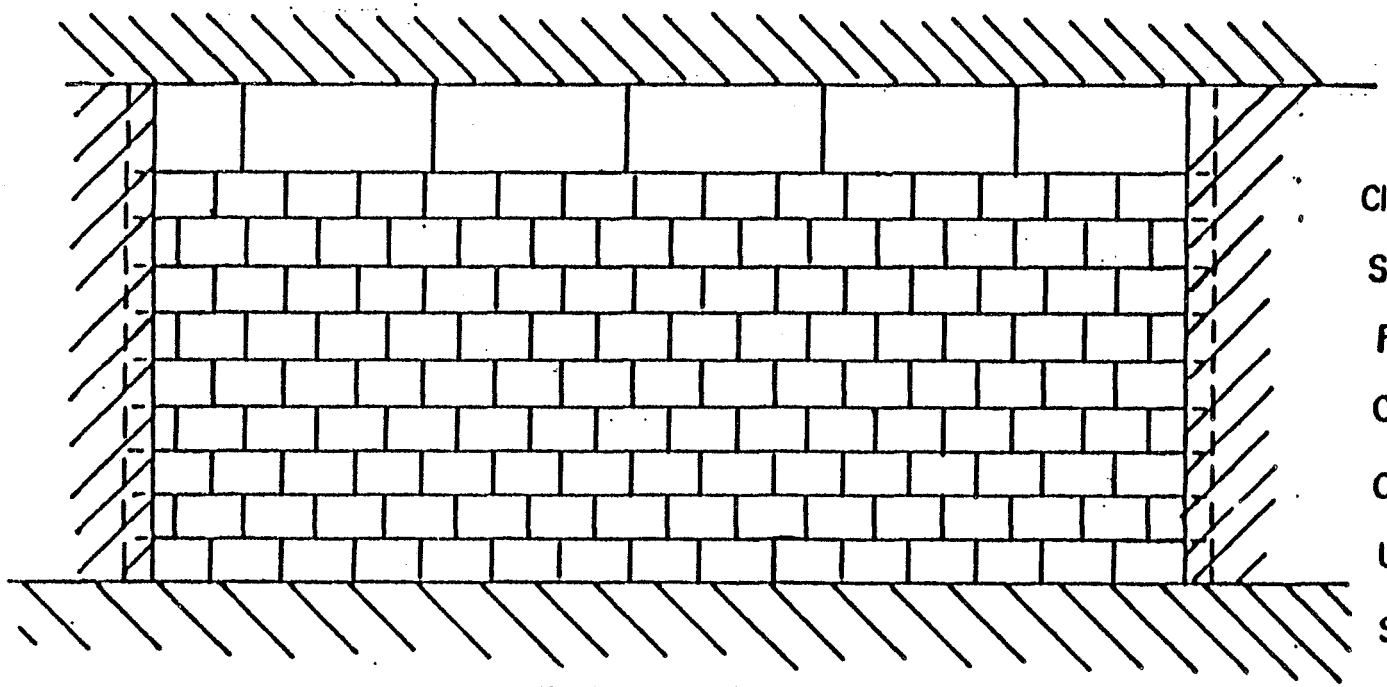
TYPICAL OVERCAST

BEAVER CREEK COAL CO.



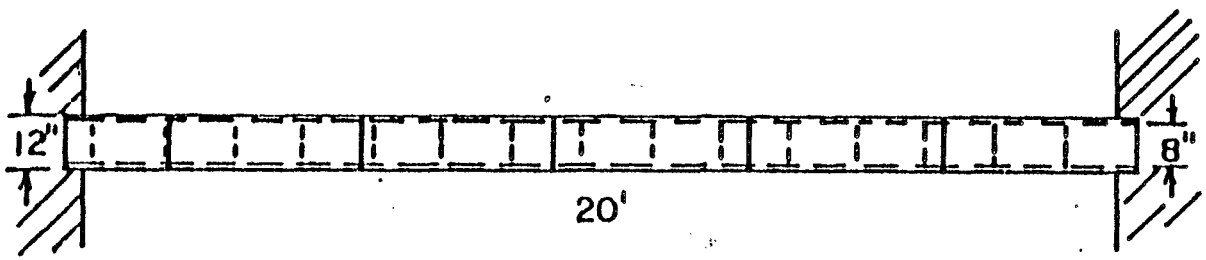
DRAWING 6

CONSTRUCTION OF MORTARED FACE STOPPING WITH TOP ROW OF STYRO FOAM BLOCKS



FRONT VIEW

STOPPING IS MADE OF STACKED CINDER BLOCKS AND TOP ROW OF STYRO FOAM BLOCKS WITH MORTAR FACES. OTHER TYPES OF BLOCK OF COMPARABLE QUALITY AND COMPRESSIVE STRENGTH MAY BE USED. ALSO AN AIR SEALANT SUCH AS "STOPPIT" MAY BE APPLIED TO THE STOPPING.



TOP VIEW

SCALE 1" = 4'

BEAVER CREEK COAL CO.

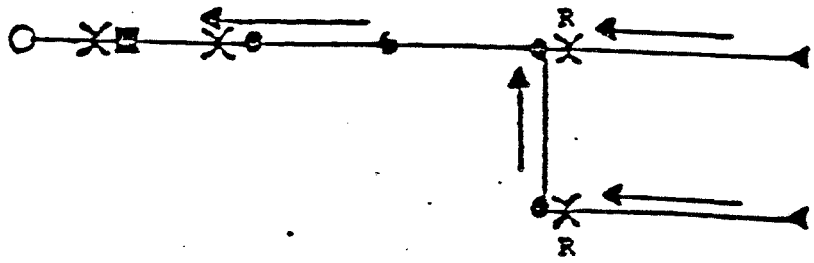
ine Huntington Canyon #4 Company Beaver Creek Coal Mine ID 42-01270

following information should be included on the line diagram: all active belt and track ries, direction of airflow, regulators, belt transfer points, rotary dumps, major repair ops, and designated sampling locations.

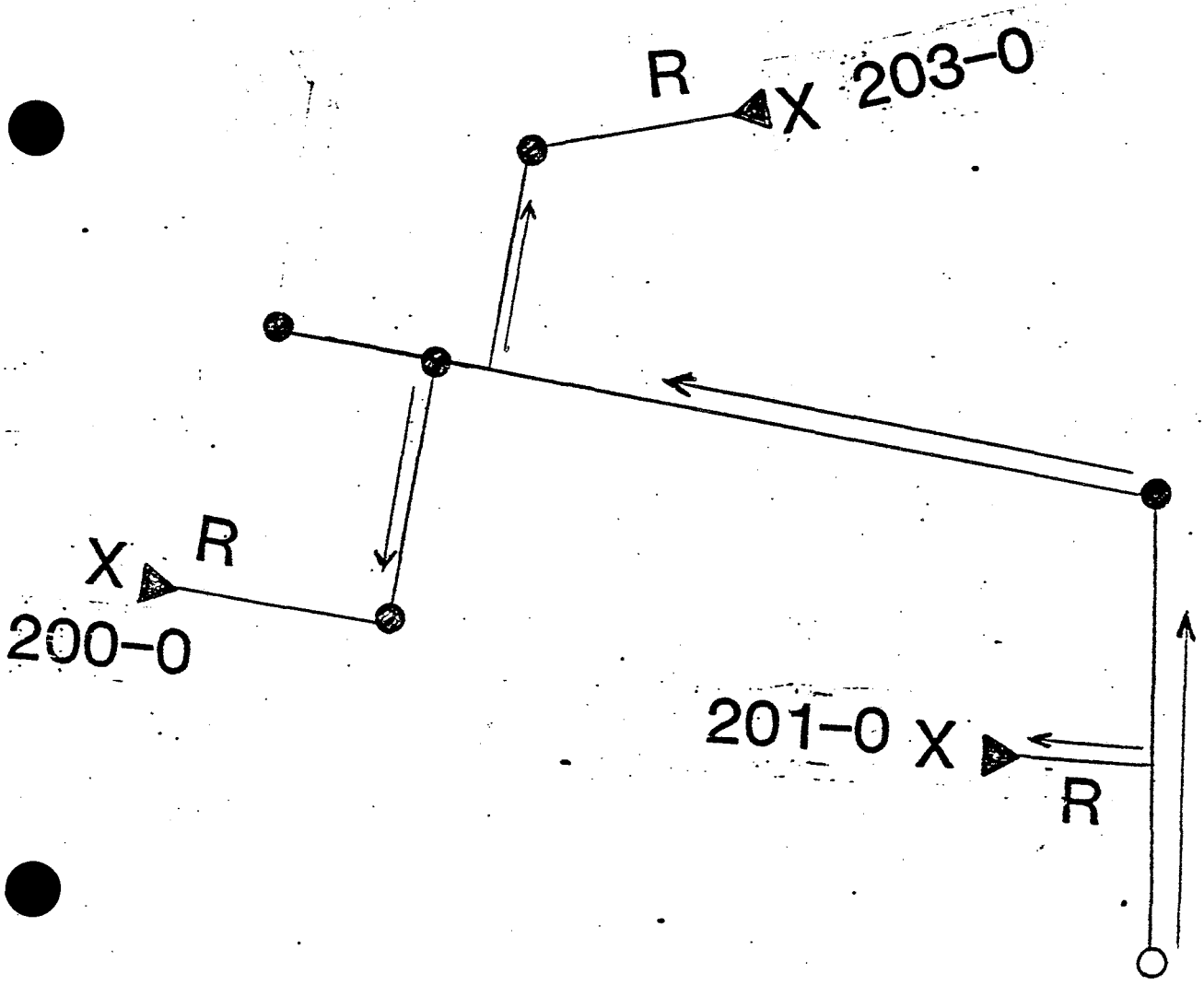
Example

KEY

- Belt to Rail Transfer Points
- Mine Opening
- Belt Transfer Point
- Section Loading Point
- X Designated Area
- R Air Regulated Into Return
- ← Air Movement



Show Line Diagram in the Following Space



Selection Sheet For Designated Areas

ne Huntington Canyon No. 4 Mine **Mine ID** 42-01270

mpany Beaver Creek Coal Company

	To Be Filled In By MSHA
Location Of Designated Area: 43 Section Loading Point **Position Of Sampling Instrument Within Designated Area:** 15 feet inby cats of feeder breaker on walkway side at normal breathing levels, but not less than one foot from roof and rib.	**Designated Area ID:** 200-0
Location Of Designated Area: 44 Section Loading Point **Position Of Sampling Instrument Within Designated Area:** 15 feet inby cats of feeder breaker at normal breathing levels but not less than one foot from roof and rib.	**Designated Area ID:** 201-0
Location Of Designated Area: 42 Section Loading Point **Position Of Sampling Instrument Within Designated Area:** 15 feet inby cats of feeder breaker at normal breathing levels, but not less than one foot from roof or rib.	**Designated Area ID:** 203-0
Location Of Designated Area: **Position Of Sampling Instrument Within Designated Area:**	**Designated Area ID:**
Location Of Designated Area: **Position Of Sampling Instrument Within Designated Area:**	**Designated Area ID:**

APPENDIX 4

HUNTINGTON-CLEVELAND IRRIGATION COMPANY WATER RIGHTS

INCORPORATED UNDER THE LAWS

UTAH

NUMBER

No. A 730

SHARES

800.00

HUNTINGTON-CLEVELAND IRRIGATION COMPANY

HUNTINGTON, UTAH

This Certifies that Hardy Coal Company IS THE OWNER OF

Eight Hundred and no/100 * * * * * * * * * SHARES OF THE CLASS A CAPITAL STOCK OF

HUNTINGTON-CLEVELAND IRRIGATION COMPANY

TRANSFERABLE ONLY ON THE BOOKS OF THE CORPORATION ON SURRENDER OF THIS CERTIFICATE PROPERLY ENDORSED.

In Witness Whereof the said Corporation has caused this Certificate to be signed by its duly authorized officers and its Corporate Seal to be hereunto affixed

this 21 day of May A.D. 19 75

SECRETARY

PAR VALUE $1.00

PRESIDENT

A G R E E M E N T

THIS AGREEMENT by and between Huntington-Cleveland Irrigation Company, a corporation, herein referred to as the "Irrigation Company", and Swisher Coal Company, a corporation, herein referred to as the "Coal Company", Witnesseth:

Whereas, the Coal Company is a stockholder in the Irrigation Company and has requested the Irrigation Company to file in its name with the State of Utah, an appropriate application to change the point of diversion, place and nature of use of water to a spring and stream in Mill Fork Canyon for use for coal mining purposes, and,

Whereas, other stockholders in the Irrigation Company, particularly Huntington City and North Emery Culinary Water Users Association, believe that mining operations in Mill Fork may adversely affect the flow of water from a spring or springs used by them or either of them,

Now, therefore, in consideration of the mutual covenants contained herein,

IT IS AGREED:

1. The Irrigation Company will file in behalf of the Coal Company an appropriate change application provided that the coal company shall prepare such application and pay filing fee and other expenses in connection with the processing of it to approval and certification.

2. The Coal Company shall measure by an automatic measuring device all water diverted from Mill Fork Spring and Stream and shall furnish to the Irrigation Company a record of such measurements each month. The measuring device may be inspected and tested by an agent or employee of the Irrigation Company at any reasonable time.

3. The Coal Company to the same extent as may be determined by Irrigation Company with respect to the other shareholders will pay all assessments hereafter levied against its stock in the Irrigation Company, including the general assessments,

and the assessment for operation and maintenance of the canal in which the water has heretofore been carried and any extra assessments for corporate purposes.

4. It is recognized by the parties that the water entitlement represented by a share of stock in the Irrigation Company varies from day to day, month to month, and year to year, and the coal company agrees that the determination of such water entitlement, including losses of water in the irrigation canals, ditches, reservoirs, and other facilities from seepage, evaporation and transportation and other causes, shall be made from time to time by the Irrigation Company, and that such determination shall be binding upon the Coal Company to the same extent that it is binding on other shareholders. If, at any time, the Coal Company should be diverting a quantity of water in excess of its entitlement, it shall forthwith reduce the diversion to the proper flow and quantity and agrees that any excess use of water from any previous period shall reduce its entitlement in any subsequent period within the time frame of one water year.

5. If the Coal Company should, by its mining operations, intercept and collect in its tunnels, shafts and other workings any appreciable amount of underground water, it shall promptly notify the Irrigation Company; and it shall be presumed that such water is tributary to Huntington Creek and cannot be used by the Coal Company unless approval is obtained from the Irrigation Company. Any amount of such water which is not so lawfully used by the Coal Company shall either be released to Huntington Creek or shall be replaced in equal quantity and quality at the expense of the Coal Company in a manner approved by the Irrigation Company. Agents and representatives of the Irrigation Company shall have the right, at any reasonable time, to inspect the mine and any waters intercepted therein. The Coal Company agrees to furnish to the Irrigation Company within 30 days after flowing water is encountered in its mining operations, a map showing the location or locations of water interceptions.

6. In the event that the mining operation should diminish or interfere with the flow of water from any spring being utilized as a source of culinary water by any stockholder of the Irrigation Company, the Coal Company agrees to obtain water of a culinary quality from some other source and to place it in the culinary water system of the Irrigation Company in such quantity and quality as would replenish the flow that is lost. In the event that mechanical water treatment is required to bring the water up to Utah State's standards for culinary water, the Coal Company agrees to reimburse the Irrigaton Company for the costs of treating this water through a treatment plant as long as the interruption continues.

7. The provisions of this Agreement create rights and obligations in favor of and binding upon Irrigation Company and Coal Company but this Agreement neither creates nor abridges any right of action on the part of any shareholder of Irrigation Company.

8. This Agreement shall be effective from the date hereof and during such time as the Coal Company mines coal in Mill Fork Canyon. It shall be binding on the successors and assigns of the parties.

Dated this 8 day of Dec., 1976.

HUNTINGTON-CLEVELAND IRRIGATION CO.

By Milton M Ephraim
President

Witness:

SWISHER COAL COMPANY

By Ray G. Kobb
President

ANACONDA Minerals Company
555 Seventeenth Street
P.O. Box 5300
Denver, Colorado 80217
Telephone 303 293 4000

Domestic Land Acquisitions

APPENDIX 4

March 1, 1984

Mar Grange
Huntington-Cleveland Irrigation Company
Box 327
Huntington, UT 84528

RE: Beaver Creek Coal Company
Water Rights

Dear Mr. Grange:

I would appreciate your assistance in getting the ownership of record changed on water rights previously owned by Hardy Coal Company and Swisher Coal Company, now owned by (Beaver Creek Coal Company) Atlantic Richfield Company.

By purchase agreement dated October 22, 1979 Atlantic Richfield Company acquired Swisher Coal Company from General Exploration Company. I have attached a copy of exhibit A to that Purchase Agreement listing the water rights conveyed. Included therein is all stock owned in the Huntington-Cleveland Irrigation Company referenced in an agreement between Huntington-Cleveland Irrigation Company and Swisher Coal Company dated December 8, 1976.

I do not have a copy of the agreement referenced and would appreciate your providing a copy if you have one.

I believe, that included in the above transfer was certificate No. A-730 for 800 shares of Class A Stock to Hardy Coal Company (a copy of which is enclosed). The ownership of the Hardy Coal Company shares must have been transferred to Swisher Coal Company as it is referenced in the Application for Temporary Change of Point of Diversion dated December 14, 1976 copy of which is also attached.

I am also attaching documentation which will show the transfer of ownership from Swisher to GEX to Beaver Creek Coal Company and to Atlantic Richfield Company.

When we discussed this matter on the phone you mentioned that a lost instrument bond would be needed. However, I am still unsure as to the number of shares involved. If you could provide me with a listing we can provide a bond to cover them.

New certificates should be issued to Atlantic Richfield Company for all the rights.

If you need additional information, or if there are any fees for the transfer, please call me collect at (303) 293-7560.

I would appreciate any assistance you might be able to give in expediting this matter as we are currently in the process of getting our permits for mining, and the ownership needs to be reflected correctly on local records.

Very truly yours,

Paula A. King

Paula A. King
Landman

PAK/gld
Enclosures
cc: B. L. Bertoli
D. Guy, BCCC
J. A. Herickhoff, BCCC

APPENDIX 5

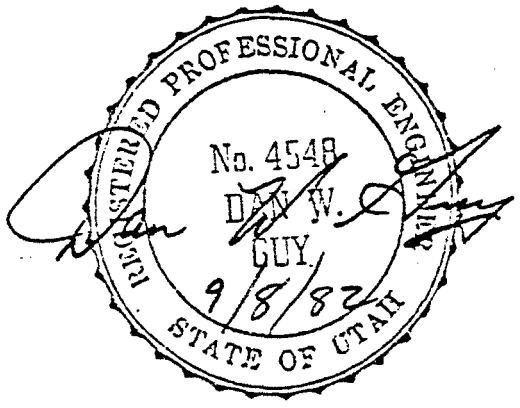
APPROVED SEWAGE DISPOSAL SYSTEM

September 3, 1982

BEAVER CREEK COAL COMPANY

WASTE WATER DISPOSAL SYSTEM

HUNTINGTON CANYON #4 MINE



WASTE WATER DISPOSAL SYSTEM
PLAN FOR CONSTRUCTION AND MAINTENANCE

GENERAL DESCRIPTION

Beaver Creek Coal Company is expanding its surface facilities at the Huntington Canyon #4 Mine site. The mine is located in Section 16, Township 16 South, Range 7 East, in Emery County, Utah, approximately 36 miles southwest of Price.

This submittal covers the complete design of a waste disposal addition to the existing system.

WASTE WATER DISPOSAL SYSTEM
SPECIFICATIONS

DESIGN PARAMETERS

1) Bathhouse facilities will include toilets, sinks and showers.

2) Facilities redesigned for a maximum of 100 persons per day.

3) Disposal system designed for 35 gallons per person per day. (Based on Workers at Factories, Table V-2, Part V of Code of Waste Disposal Systems.)

4) Allowable rate of application is 1.0 gallons per square foot of sidewall per day.

5) Design is based to comply with Utah State Division of Health, Code of Waste Disposal Regulations, Part V, Small Underground Waste Water Disposal Systems.

6) Design is certified by a Registered Professional Engineer, State of Utah.

DESIGN

The system proposed is a septic tank/drainfield type, using proven and approved materials and techniques. It will consist of a waste water discharge line, septic tank and absorption trenches.

LOCATION AND INSTALLATION

Location and installation of the system will be such that with reasonable maintenance it will function in a sanitary manner and will not create a nuisance, health hazard or endanger the quality of any waters in the State. The location of the entire system is shown on the attached map.

CONSTRUCTION MATERIALS

All materials used in the construction of the system shall be durable, sound and not unduly subject to corrosion. Pipe, pipe fittings and similar materials shall comply with the Utah Plumbing Code.

WASTE WATER DRAINAGE LINE

This line will convey waste water from the bathhouse facilities to the septic tank. The following criteria shall be followed for installation of this line:

1) It shall be of suitable, approved material and have water-tight and root-proof joints.

2) It will have an inside diameter of four (4) inches and be laid on a minimum grade of 15 inches per 100 feet.

3) Clean-outs will be installed every 50 feet and at every change of direction, and will be constructed of two (2) 45° bends with clean-out.

4) Lines will not be closer than ten (10) feet horizontally to any water service pipes.

WASTE WATER QUANTITY ESTIMATES

Estimates have been based on Table V-2 "Estimated Quantity of Domestic Waste Water" Part V, Underground Waste Water Disposal Systems. The value from the table used is 35 gallons per person per day for workers at factories. The disposal system is being re-designed for a maximum of 100 people capacity. Total daily waste water at maximum would be:

100 persons x 35 gallons/person/day = 3500 gallon/day

SEPTIC TANK

The septic tank shall be constructed of durable materials which will resist both physical forces and corrosive reactions, and designed so that it will provide settling of solids, accumulation of sludge and scum, and proper access for cleaning.

The septic tank proposed here is of a standard approved concrete type, sold commercially under the name "Dura-Crete". The tank will meet all requirements of Sections V-13 through V-21 of Part V, Small Underground Waste Water Disposal Systems. A detailed drawing of the proposed tank is included.

The tank sizing is based on the requirements of Section V-15c for waste waters flowing greater than 1500 gallons per day.

$V = 1125 + (0.75)(Q)$
Where "Q" is 3500 GPD
$V = 1125 + (0.75)(3500) = 3750$ gallon/day

A new 2500-gallon septic tank, in addition to the existing 2500-gallon tank is proposed for this installation.

Existing Tank	2,500 gallons
Proposed Addition	2,500 gallons
Total Tank Capacity	5,000 gallons
(Excess Capacity	1,250 gallons)

DISCHARGE LINES

The effluent from the septic tank will be conducted to the absorption field through a water-tight line meeting the requirements for house sewers.

Tank outlet inverts will be at least one (1) inche below the inlet invert.

ABSORPTION FIELD

1) Soil Exploration: The attached copy of Seepage Pit Construction Certificate by Gerald C. Story shows 0 to 10' of sandy loam or sandy clay soil. Also, attached is a field soil texture test certificate conducted by David R. Chenoweth (Soil Scientist) which shows a sandy loam soil in the proposed expansion area.

2) Installation: The field is to be placed level with all trenches interconnected.

3) Sizing: The allowable rate of application of waste water for a gravel-sand-clay soil mixture is 1.0 gallon per square foot of sidewall per day. Based on this rate, a minimum of 3500 square feet of absorption field area is needed for the expected waste water discharge of 3500 gallons per day. The total seepage area in the existing sewage disposal system is 2912 square feet. The proposed additional field will consist of two (2) trenches, two (2) feet in width and 155 feet in total length, separated by 20 feet of undisturbed soil, wall-to-wall. This will provide a combined total absorption area of 5110 square feet. This will provide an absorption area of 1610 square feet in excess of that required.

4) Criteria: The absorption field will consist of gravel-filled trenches provided with perforated pipes to distribute septic tank effluent over the absorption field, from which it will percolate through the trench walls and bottom into the surrounding subsurface soil.

   a) The portion of trenches below distribution lines shall be in natural or acceptable stabilized soil.

b) The proposed system shall be level with all trench bottoms constructed at the same elevation. All distribution lines and trenches will be level and interconnected.

c) Effluent distribution lines will be four (4) inches in diameter, perforated pipe of suitable material.

d) Gravel-fill in the trench bottoms will be 1/2-inch by 2-1/2-inch drain rock and will completely encase the perforated distribution lines. The gravel will be covered with untreated building paper or straw prior to backfilling.

PARKING AREA

Due to the small confined area for surface facilities and parking, we propose to make an over-flow parking area on top of our absorption field. Because of this parking area, the absorption field has been purposely over-designed in size. With the type of soil and depth of the absorption trenches, we feel that the proposed parking area can be constructed and used without any impact on the system or endangering the quality of any waters of the State.

STATE OF UTAH
DEPARTMENT OF HEALTH
~~45~~ ~~ft. Douglas Blvd.~~
Salt Lake City, Utah

~~INDIVIDUAL~~ SEWAGE DISPOSAL SYSTEM INSPECTION REPORT

Property Address Huntington Canyon County Emery County

Owner Swisher Coal City County area

Contractor Minchey Digging Case No.

Number of ~~Bedrooms~~ Men 40 Basement No ~~Seepage Test~~ loam Soil

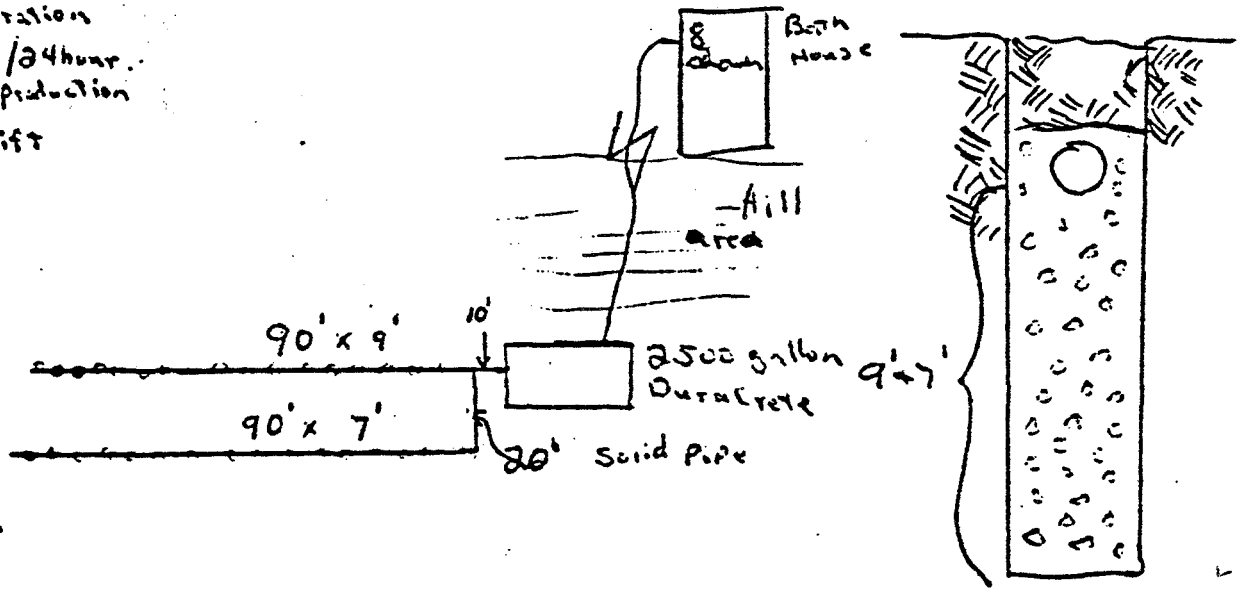
Required Seepage Area 2500 Sq. Ft.

Water Supply: Public ☐ Private ☒

Septic Tank ☒ Tile Disposal Field ☐ Seepage Pit ☒

Sketch of Units:

Note: Shafer reports operation
20 men per Section / 24 hour.
Operation 80+ men / production
Crew each shear Shift



main field installed on flat area

Total Seepage Area = 2912 sq ft

Existing Installation ☐

Date of Final Inspection October 1976 Approved ☒ Rejected ☐

Give reasons for rejection

Remarks: installation CONSULT FINANCING AGENCY PRIOR TO BACKFILL
per authority Section I-1 (v)
I-8 Utah Code Waste Disposal Reg.

Harold C. Stong
Sanitarian

SDH-San-6-9/63

SEEPAGE PIT CONSTRUCTION CERTIFICATE

I certify that the seepage pit provided for effluent disposal on property located at Swisher Coal Co # 4 Mine Huntington Canyon Emery County Utah

has a diameter of _____ and a total depth of 9 feet and has been constructed in accordance with the requirements specified in "Individual Sewage Disposal System Regulations" promulgated by the Utah State Division of Health.

I further certify that soil structure, as determined during excavation of the pit, is as follows (measurements from ground surface):

Heavy tight clay, hard pan, rock and other impervious formations	from to	Total thickness _____
Clay with small amount of gravel	from to	Total thickness _____
Clay with considerable amount of gravel	from to	Total thickness _____
Sandy loam or sandy clay	from 0 to 10'	Total thickness 10'
Fine sand	from to	Total thickness _____
Coarse sand or gravel	from to	Total thickness _____

Seepage pit inlet is 2 feet below ground surface.

Signed Gerald C. Story
~~(Name of Builder)~~

Address Box 800
Price Utah

Date October 1976

Table 7

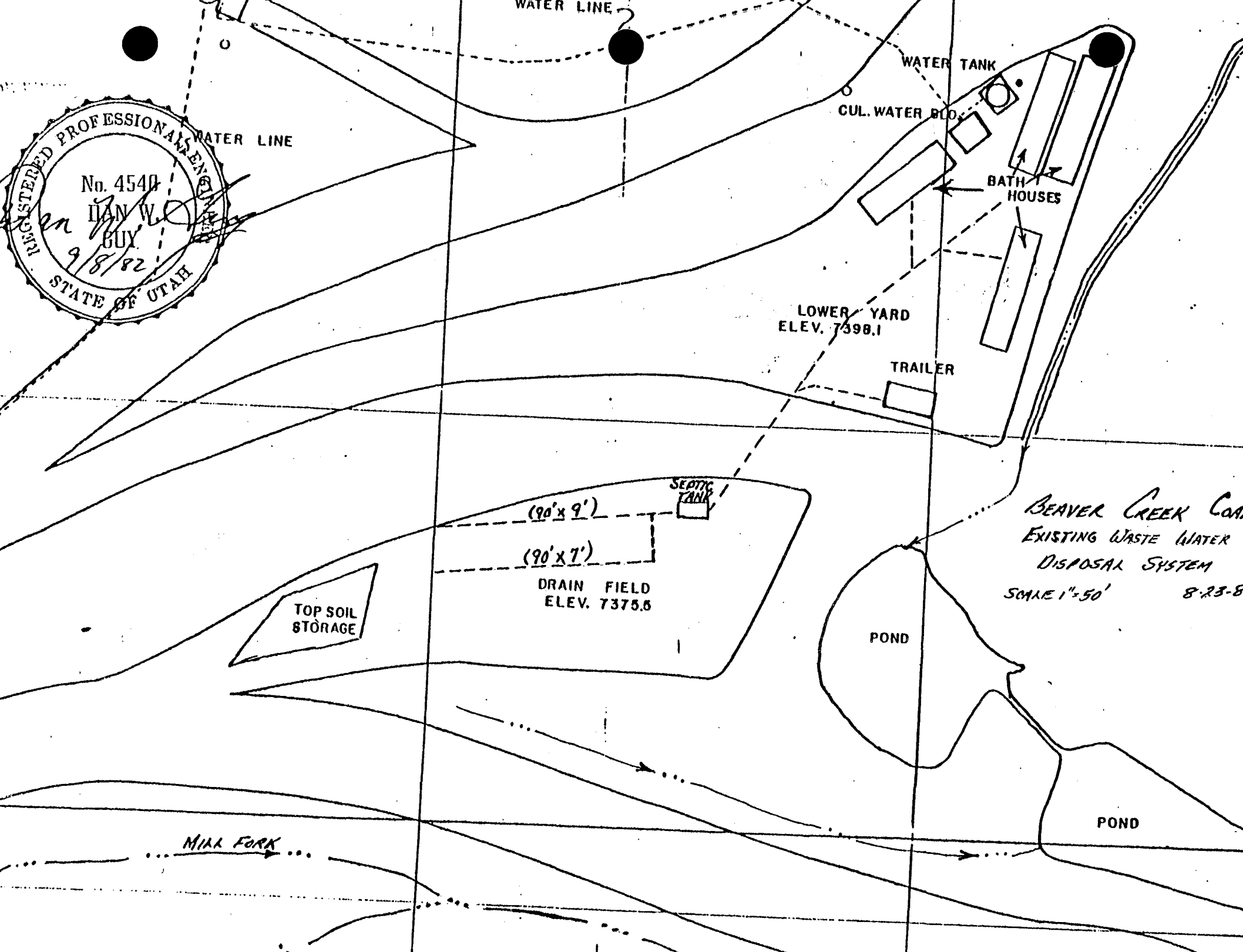
Seepage Trench
Minimum Absorption Area Requirements and
Allowable Rate of Application of Wastewater
(Based on Soil Descriptions)[a] [b]

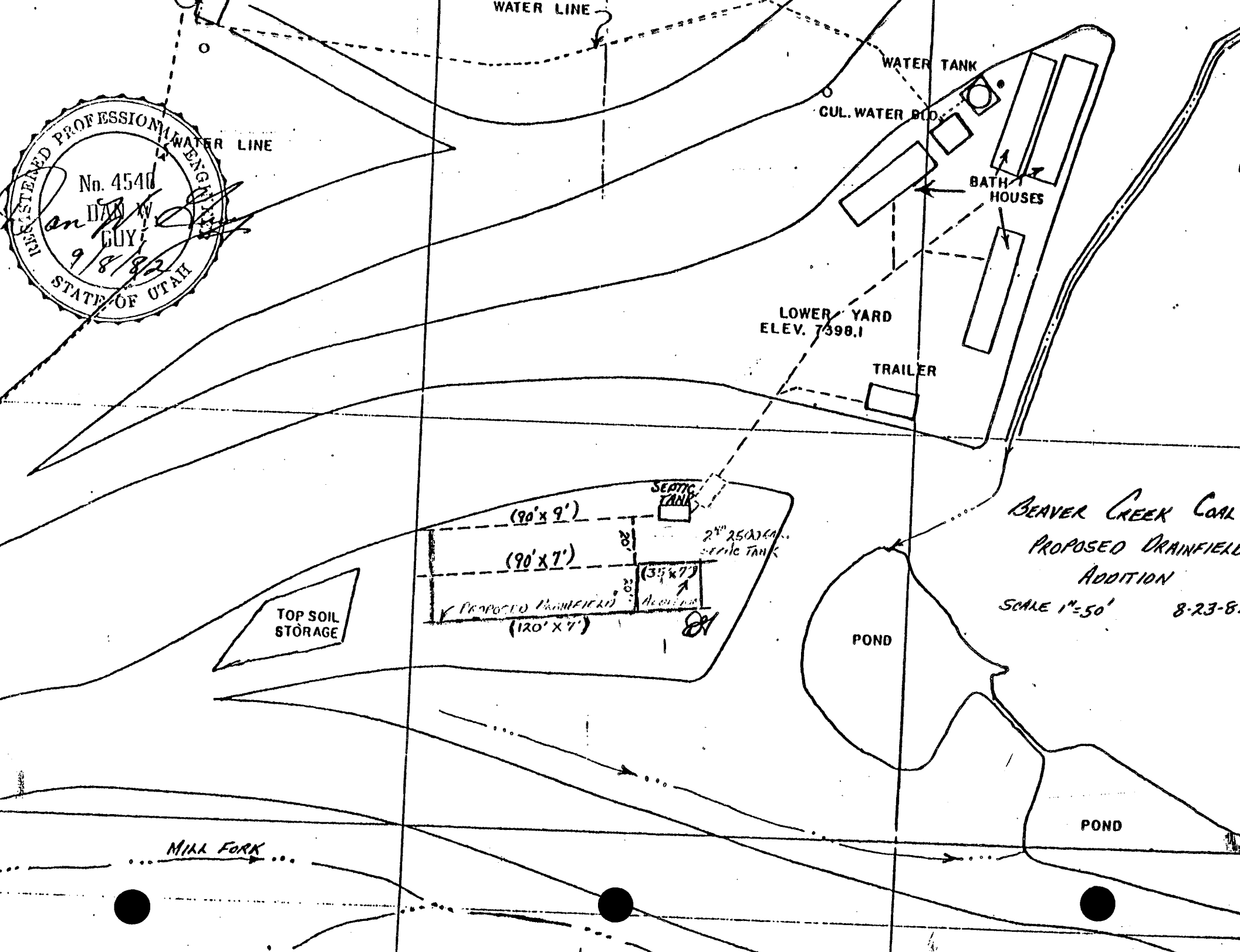
	Symbol and Character of Soil by Uniform Classification System	Residential Sq. ft. of sidewall area required per bedroom [c] [d]	Commercial, Institutional, etc. Maximum rate of application in gallons per sq. ft. sidewall per day[e]
GW	Well graded gravels, gravel-sand mixtures, little or no fines	50[f]	4.0[f]
GP	Poorly graded gravels or gravel-sand mixtures, little or no fines	50[f]	4.0[f]
SW	Well graded sands, gravelly sand, little or no fines	75[f]	2.67[f]
SP	Poorly graded sands or gravelly sands, little or no fines	75[f]	2.67[f]
SM	Silty sand, sand-silt mixtures	125	1.6
GC	Clayey gravels, gravel-sand-clay mixtures	200	1.0
SC	Clayey sands, sand-clay mixtures	200	1.0
ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity	400[f]	.5[f]
CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays	450[f]	.4[f]
OL	Organic silts and organic silty clays of low plasticity	[g]	[g]
MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts	[g]	[g]
CH	Inorganic clays of high plasticity, fat clays	[g]	[g]
OH	Organic clays of medium to high plasticity, organic silts	[g]	[g]
PT	Peat and other highly organic silts	[g]	[g]

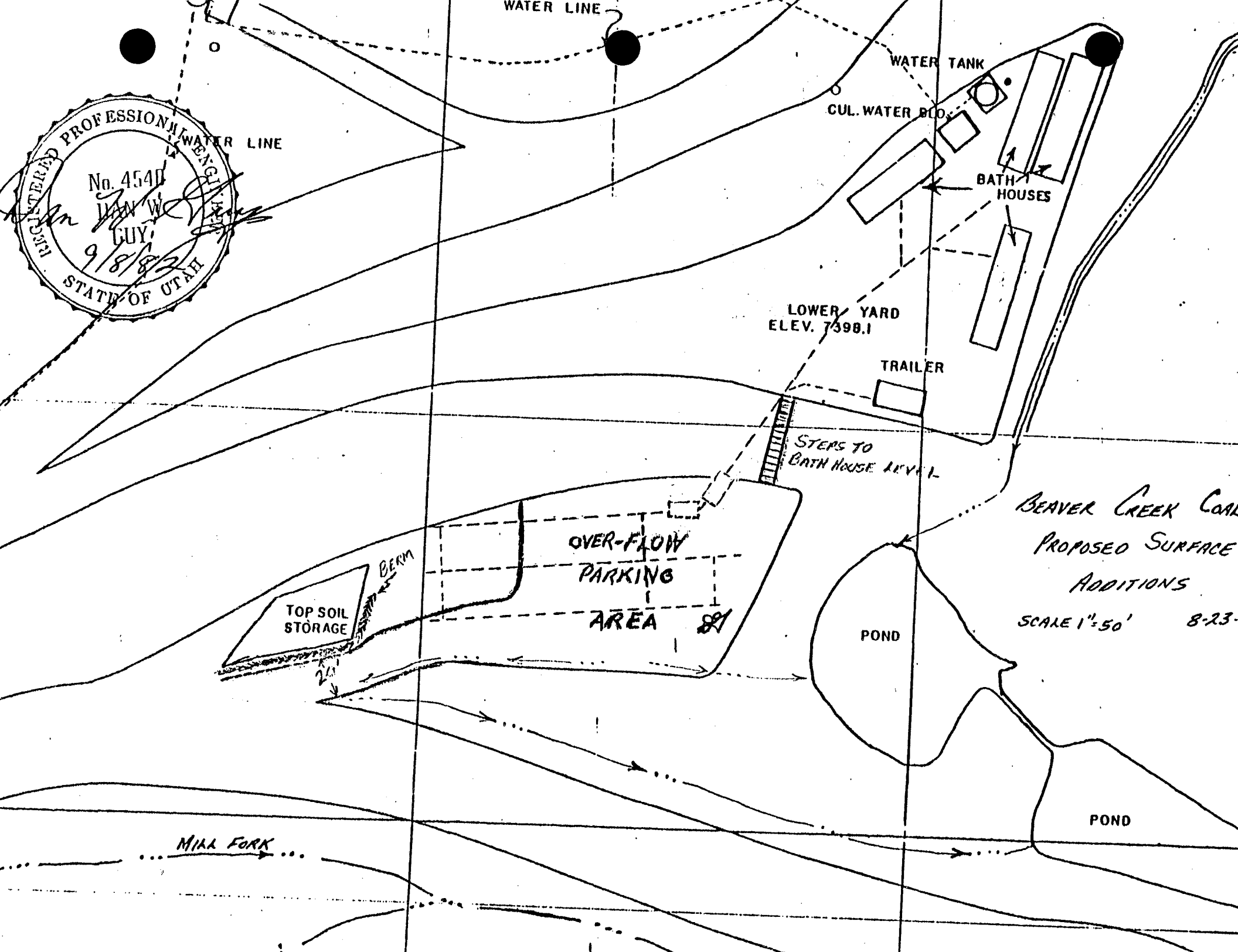
Field Check of Soil Texture Within Drainage Field - Huntington Canyon No. 4 Mine

At the request of Dan Guy, on August 10 I conducted a hand texture test of soil within the proposed expansion area for the sewage leach field at Huntington Canyon No. 4 Mine. The results of my field test indicate that the soil texture is a sandy loam. Additionally, I estimated that the soil contained approximately 70% sand particles and 15% coarse fragments (greater than 2.0 mm). Due to the high amount of sand particles and coarse fragments, I feel this particular soil would have a high percolation rate when compared to other soils with heavier (more clay) textures.

David R. Chenoweth
Soil Scentist


WATER LINE
WATER TANK
CUL. WATER BLD.
WATER LINE
REGISTERED PROFESSIONAL ENGINEER
No. 4540
IAN W. GUY
9/8/82
STATE OF UTAH
BATH HOUSES
LOWER YARD
ELEV. 7398.1
TRAILER
SEPTIC TANK
(90'x 9')
(90'x 7')
DRAIN FIELD
ELEV. 7375.6
TOP SOIL STORAGE
BEAVER CREEK CO
EXISTING WASTE WATER
DISPOSAL SYSTEM
SCALE 1"=50'
8-23-8
POND
POND
MILL FORK


WATER LINE
WATER TANK
CUL. WATER BLD.
WATER LINE
REGISTERED PROFESSIONAL ENGINEER
No. 4548
DAN W. GUY
9/8/82
STATE OF UTAH
BATH HOUSES
LOWER YARD
ELEV. 7398.1
TRAILER
SEPTIC TANK
(90' x 9')
(90' x 7')
(35' x 7')
(120' x 7')
TOP SOIL STORAGE
POND
POND
MILL FORK
BEAVER CREEK COAL
PROPOSED DRAINFIELD
ADDITION
SCALE 1"=50'
8-23-8


WATER LINE
WATER TANK
CUL. WATER BLD.
WATER LINE
REGISTERED PROFESSIONAL ENGINEER
No. 4548
IVAN W. GUY
STATE OF UTAH
9/8/83
BATH HOUSES
LOWER YARD
ELEV. 7398.1
TRAILER
STEPS TO BATH HOUSE LEVEL
BEAVER CREEK COAL
PROPOSED SURFACE
ADDITIONS
SCALE 1"=50'
8-23-
OVER-FLOW
PARKING
AREA
TOP SOIL
STORAGE
BERM
POND
POND
MILL FORK

BEAVER CREEK COAL CO.
HUNTINGTON CYN. #4 MINE

OVER-FLOW PARKING AREA.

(1" MAX GRAVEL) BASE

NATIVE FILL

GRAVEL-SAND-CLAY MIXTURES

(1.0 GAL/SQ.FT. MAX. RATE OF APPLICATION)

STRAW?

4" PERF PIPE

½" x 2½" DRAIN ROCK

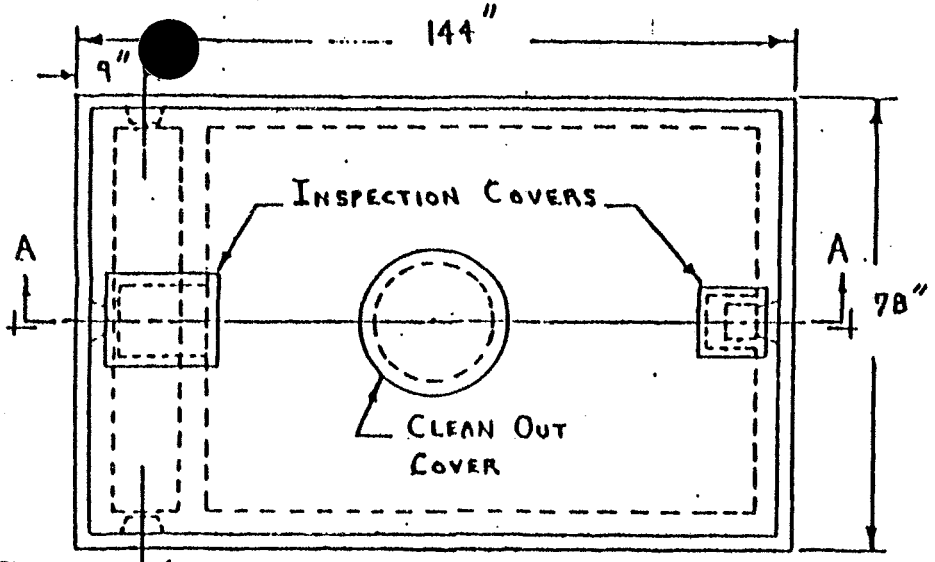
7'

2'

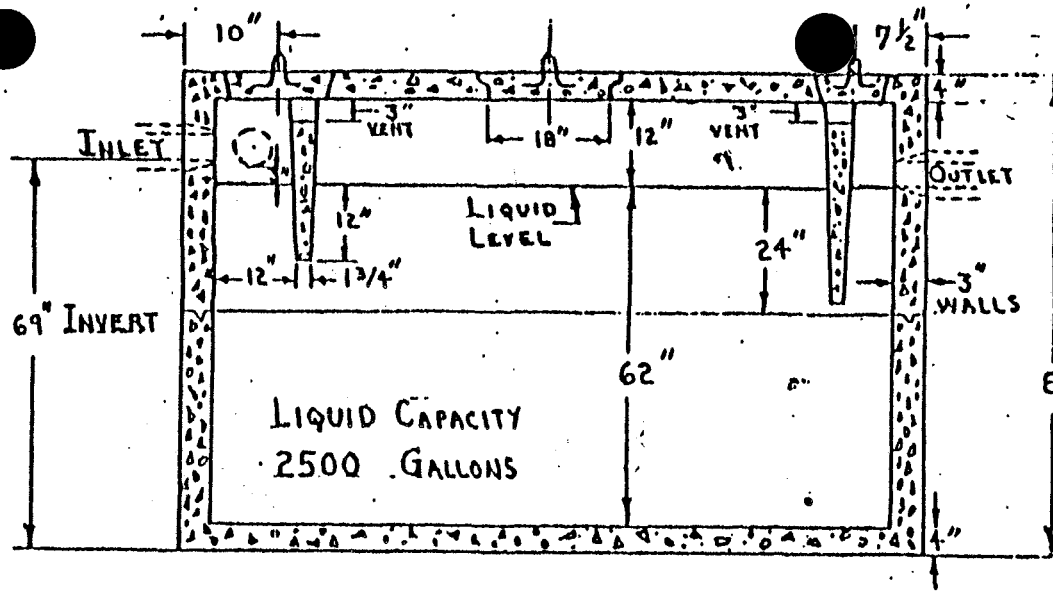
TRENCH DETAIL

SCALE ¾" = 1' 9-3-82

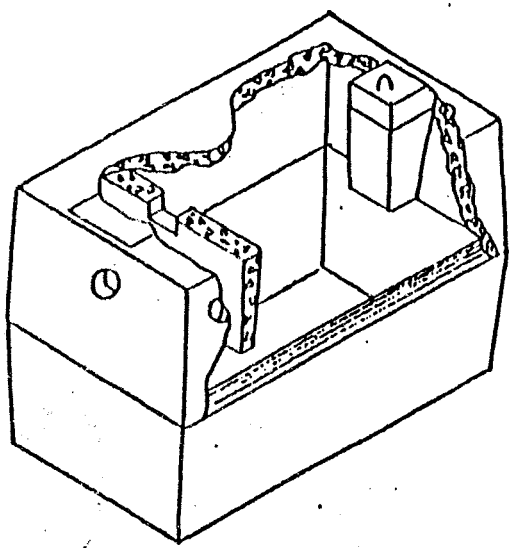
REGISTERED PROFESSIONAL ENGINEER
No. 4548
DAN W. GUY
9/8/82
STATE OF UTAH



TOP VIEW



SECTION A-A



CUTAWAY ISOMETRIC

NOTE:

CAPACITY – 2500 GALLONS
WEIGHT – 28000 POUNDS
EXCAVATION DIMENSIONS – 9'X 15'
FLOW LINE – 5'-9"

SEALED WITH ASPHALT ROPE AND REINFORCED WITH 4"X 4" - 4 X 4 WELDED FABRIC

2500 GALLON - TWO PEICE SEPTIC TANK

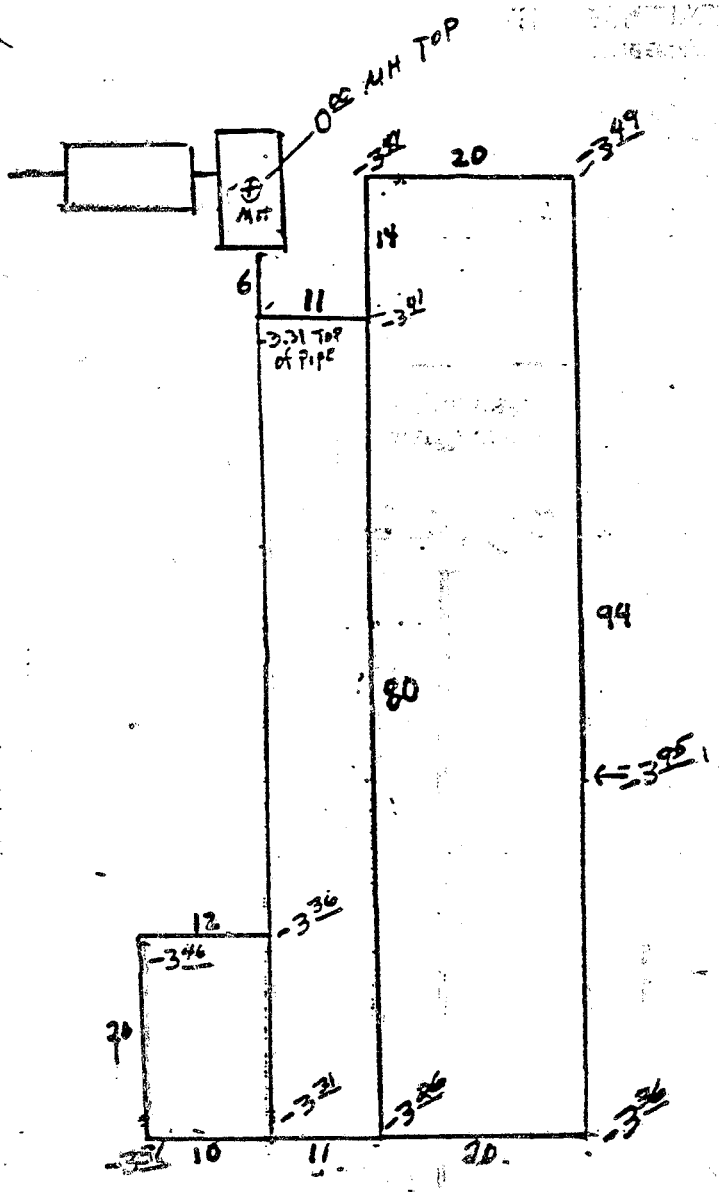
SCALE: NONE	APPROVED BY:	DRAWN BY
DATE: 4-29-74		REVISED

DURA – CRETE, INC.

1475 W. 3500 S. SALT LAKE CITY, UTAH

PHONE NO. 262-1140

DRAWING NUMBER



332 TOTAL PIT

Mike Heckimer
PO Box 644
Cutbank Mt 59427

SOUTHEASTERN UTAH DISTRICT HEALTH DEPARTMENT
Division of Environmental Health

APPROVAL NOTICE

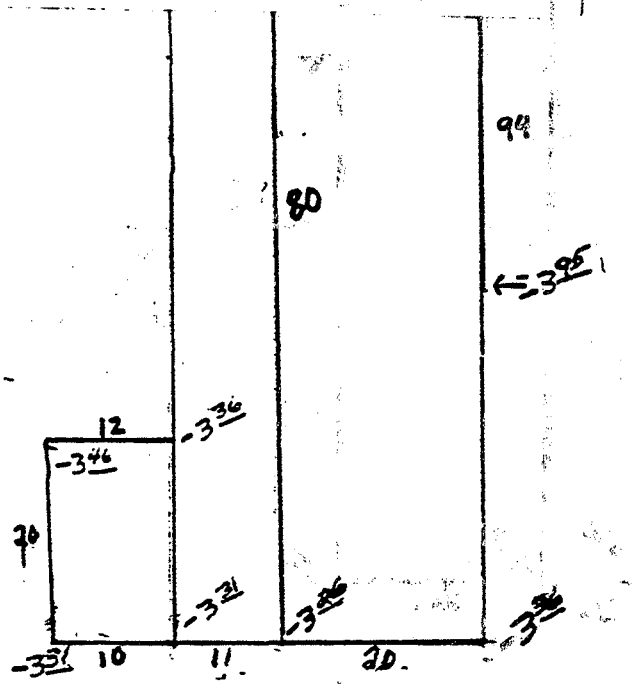
Name of Owner Emery Creek Coal Co #4 Mine

Location Huntington Canyon

Contractor Welco Contractors Inc

A final onsite inspection of your wastewater disposal system has been conducted by the health department and approval is hereby given for backfill.

Sanitarian Michael N. Heckimer Date Nov. 22, 1982



372 TOTAL PIT

Mike Heckimer
PO Box 644
Castle Dale 84513

APPENDIX 6

U.S.F.S. Special Use Permits/Specifications

on

Mill Fork Road

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
Manti-LaSal National Forest
599 West Price River Drive
Price, Utah 84501

2820
7730

August 31, 1982

Mr. Tom Parker
ARCO Coal Company
1109 South Carbon Avenue
Price, Utah 84501

Dear Mr. Parker:

Enclosed is the approved Road-Use Permit for Forest Development Road No. 50245 to your No. 4 mine.

Sincerely,

W H Bailey

for
REED C. CHRISTENSEN
Forest Supervisor

Enclosure

6200-11 (1/69)

USDA - Forest Service ROAD USE PERMIT (re: FSM 7344)	Authority: Acts of 6/30/14, 4/24/50, 6/12/60, 10/14/64, and 10/21/76 (16 USC 498, 572, 530, and 532-38; and 43 USC 1702, 1761, 1764, and 1765).

THIS BY
Ex Cx ~~ARCO~~ Coal Company (Name) of 1109 South Carbon Avenue Price, Utah 84501 (Address and ZIP Code)

(hereafter called the permittee) is hereby granted use of the following road(s) or road segments: (See map attached) That segment of Mill Fork Canyon Road, No. 50245, from its intersection with State 31 to the Forest boundary located between Sections 16 and 21, T16S, R7E, SLBM, a distance of approximately 1.3 miles.

on the Manti-LaSal National Forest, subject to the provisions of this permit, including clauses 1 through 13, on page(s) 1 through 3 for the purpose of hauling coal from their No. 4 Mine and transporting supplies, equipment, and personnel to and from said mine.

The exercise of any of the privileges granted in this permit constitutes acceptance of all the conditions of the permit.

1. Compliance with Laws, Regulations, and Rules Governing Use. The permittee, in exercising the privileges granted by this permit, shall comply with the regulations of the Department of Agriculture and all Federal, State, County, and Municipal laws, ordinances, or regulations which are applicable to the area or operations covered by this permit. The permittee, its agents, employees, contractors, employees of contractors, and guests of the permittee shall comply with the rules and regulations prescribed by the Forest Service for the control and safety in the use of the road and to avoid damage to the road. Such rules and regulations shall include:

   a. Closing the road or restricting the use when required by any government agency which, by law, has jurisdiction to authorize such closing or restrictions.

   b. Upon reasonable notice closing the road during periods when, in Forest Service judgment, there is extraordinary fire or avalanche danger.

   c. Traffic controls which, in the judgment of the Forest Service, are required for the safe and effective use of the road by authorized users thereof.

This permit is accepted subject to all of its terms and conditions.

	Permittee (Name and Signature)	Date
ACCEPTED	Thomas H Parker President & Gen. Manager	25 Aug 1982
	Issuing Officer (Name and Signature) Title	Date
APPROVED	W H Bailey [illegible]	9/1/82

d. The permittee shall not use chemical poison, as defined in Section 2 of the Federal Insecticide, Fungicide, and Rodenticide Act of June 25, 1945, as amended (61 Stat. 163; 73 Stat. 286; 75 Stat. 18; 75 Stat. 190), or any chemical or other road surface treatment without the approval of the Regional Forester or his designated representative. The application for approval shall be in writing and shall specify the area to be treated, the material used in the treatment, and the time, rate, and method of application.

2. Use Nonexclusive. The privileges granted in this road use permit, including use when the road is closed to public use, is not exclusive. The Forest Service may use the road and authorize others to use the road at any and all times. The permittee shall use the road in such a manner as will not unreasonably or unnecessarily interfere with the use thereof, by other authorized persons including the Forest Service.

3. Use Plans. Prior to use each year this permit is in effect, the permittee shall notify the District Ranger Ira W. Hatch 10 S. Carbon Ave., Price, Utah 84501, telephone No. 801- 637-2817 in writing of the date and approximate time when such use will commence; the anticipated duration of such use, the names and addresses of permittee's contractors or agents who will use the road on behalf of the permittee, the estimated extent of use, purpose of use, and such other information relative to permittee's anticipated use as the Forest Service may from time to time reasonably request. When there is a significant change in use by the permittee, it is the permittee's responsibility to promptly notify the District Ranger in writing. Plans and changes will be approved by the Forest Supervisor before use may commence.

Operation of equipment is not desirable on these roads when wet surface or saturated subgrade conditions would cause excessive damage. ~~A sustained winter operation is prohibited, and snow removal is to be done only on an emergency basis unless specifically approved in the annual use plan, or as a provision of this permit.~~ Where emergency access by the permittee is required during periods when excessive damage will occur, the permittee will promptly repair the damage.

4. Maintenance. The permittee shall bear the expense of maintenance proportionate to his use. This expense will be borne by the permittee, its agents, operators, and/or contractors. The Forest Service will, upon request of the permittee, make a determination of the proportionate road use and resulting road maintenance responsibilities and assign the maintenance accordingly.

Where road maintenance standards required by the permittee are above those required by the Forest Service, the permittee shall bear the total incremental cost of maintaining the road to the higher standard.

Maintenance shall be performed in accordance with Forest Service specifications or requirements for maintenance as hereinafter listed, or as may be mutually agreed upon from time to time and shall consist of (1) current

maintenance as necessary to preserve, repair, and protect the roadbed, surface and all structures and appurtenances, and (2) resurfacing equivalent in extent to the wear and loss of surfacing caused by operations authorized by this permit.

a. Maintenance and Resurfacing Requirements and Specifications. Exhibit I, attached, specifies these requirements and shall be adhered to.

5. Fire Prevention and Suppression. The permittee shall take all reasonable precautions to prevent and suppress Forest fires. No material shall be disposed of by burning in open fires during the closed fire season established by law or regulation, without a written permit from the Forest Service.

6. Damages. The permittee shall exercise diligence in protecting from damage the land and property of the United States covered by and used in connection with this permit, and promptly upon demand shall pay the United States for any damage resulting from negligence, or from violation of the terms of this permit or of any law or regulation applicable to the National Forests, by the permittee, or by his agents, contractors, or employees of the permittee acting within the scope of their agency, contract, or employment.

7. Officials Not to Benefit. No Member of or Delegate to Congress or Resident Commissioner shall be admitted to any share or part of this agreement or to any benefit that may arise herefrom unless it is made with a corporation for its general benefit.

8. Outstanding Rights. This permit is subject to all outstanding rights.

9. Suspension. Upon the failure of the permittee, its agents, employees or contractors to comply with any of the requirements of this permit, the officer issuing the permit may suspend operations in pursuance of this permit.

10. Termination. This permit shall terminate on January 1, 1986 unless extended in writing by the Forest Service. It may be terminated upon breach of any conditions herein.

11. The Environmental Assessment Report developed for this project shall be made a part of this permit. This permit is subject to the guidelines, requirements and constraints developed in that report.

12. Traffic Operations. The permittee may install a guard shack on Forest land adjacent to road #50245 near the lower loadout facility. The purpose of the guard shack shall be to provide protection of the guard person from the elements. The activities of a guard may be to administer use of the road in an attempt to discourage theft and vandalism from the mine. The purpose of the guard shall not be to prevent the public from use of the road. The appearance and size of the guard shack shall be as mutually agreed to between District Ranger Ira Hatch and the permittee.

MAINTENANCE REQUIREMENTS

EXHIBIT I

Road Maintenance. Road maintenance is defined as the performance of work on the entire road facility commensurate with Permittee's use. This work consists of restoration and preservation of surface, shoulders, roadsides, structures, drainage, sight distance, and such traffic control devices as are necessary for prevention of excessive erosion damage to the facility and adjacent lands.

I. Description. Maintenance work to be done currently during the periods of use by the Permittee shall include:

A. Removal of slides and boulders, which obstruct safe sight distance.

B. Adequate blading and shaping of roadway surfaces and ditches to maintain the original cross sections.

C. Removal of earth and debris from ditches and culverts so that the drainage systems will function efficiently at all times.

D. Prevention of excessive dusting of road surface materials.

E. Repair of damages to fences, cattleguards, culverts, and other roadway structures including traffic regulatory and directional signs.

F. Restoration of eroded fills and repair and protection of shoulder berms, berm outlets, stabilized waterways, vegetated slopes, and other erosion control features.

G. Removal of snow from roadway surface.

H. Replacement of roadway and/or surfacing material worn out and lost through use of the roadway.

I. Maintenance and erection of signs to warn the public of hauling operations.

II. Performance. All items of maintenance work shall be done currently as necessary to insure safe, efficient transportation and to protect roads, streams, and adjacent lands from excessive damage. Work shall be done in accordance with the following minimum standards of performance:

A. Removal of Material. Earth, rocks, trees, brush, and debris removed from roadways and ditches shall not be deposited in stream channels or upon slope stabilization and erosion control features.

B. During roadway blading and shaping operations, banks shall not be undercut nor shall gravel or other selected surfacing material be bladed off the roadway surface. The original crown or slope of the road shall be preserved. Mud, debris, and oversize material shall be deposited outside the roadway by hand or by careful blading, and these materials shall not be mixed with the road surfacing material.

C. Ditches, culverts, drop inlets, trash racks, downspouts, and splatter structures shall be kept clear of earth, slash, and other debris so that drainage systems will function efficiently during, and immediately following, periods of road use by Permittees. This includes correcting and eliminating causes of erosion or plugging of the structure, and actual repair of the structure and riprap if damaged.

D. Fugitive dust shall be controlled to prevent hazardous driving conditions or loss of road surface or binder material. The Permittee shall control such dusting by sprinkling, or other approved surface treatments.

E. Permittee shall promptly repair all damages, caused by the Permittee's operations, to the road surface or to any structures in or adjacent to the roadways.

F. Any washing or settling of roadway fills shall be corrected promptly to prevent additional soil erosion or roadway damage. Shoulder berms, berm outlets, and stabilized waterways shall be protected during road maintenance operations and, if damaged, such structures shall be promptly restored to their original condition including repair and reseeding of vegetation established to control slope erosion. No earth, rocks, or other debris shall be deposited upon any roadside slope stabilization structure or feature.

G. Snow Removal

1. Requirements

a. Sanding of hazardous areas shall be with sand. Coal dust or salt are not to be used.

b. Equipment - The equipment should be in sound operating condition, be equipped with angle blade or adequate grousers or traction tires, and be operated by a fully qualified operator.

c. Removal

Width - Snow will be removed to the full width of the road plus any turnouts and ditch lines. Through-cuts will be allowed only after snow depths exceed the height of the cab or across flat ground. Disposal shall always be to the outside or downhill side of the road.

Outlets - Outlets for surface runoff shall be placed in all snow through-cuts at points where water can flow off the road surface at the following intervals:

8% or less grades - 500 feet center to center minimum.
8% and up grades - 300 feet center to center minimum.

Cattleguards - Crawler tractors will not be operated across cattleguards.

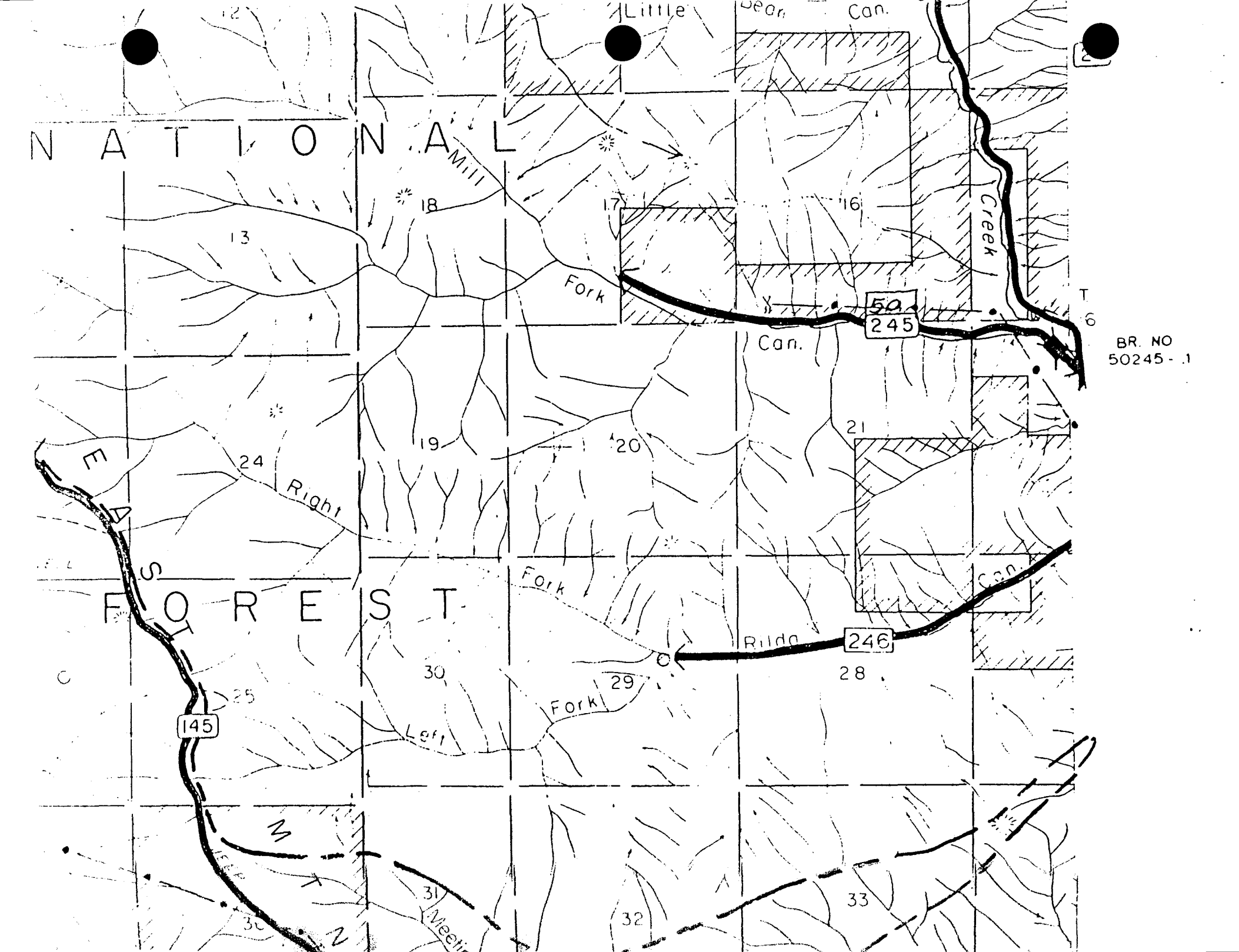
Culvert Cleaning - Culvert heads and outlets shall be cleaned of snowpack by hand.

Tree Damage - Snow should not be pushed, blown, or stacked on trees along the roadside. Care will be taken to avoid scarring trees with equipment.

2. Inspections

a. Intermittent inspections may be made during snow removal operations.

b. Final inspection will be made to check for full compliance and damages.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April 21, 1976

COOPERATIVE AGREEMENT
Between
SWISHER COAL COMPANY
and
MANTI-LASAL NATIONAL FOREST, U.S.D.A.

This Cooperative Agreement, made and entered into by and between the Swisher Coal Company, Price, Utah, hereafter referred to as the COOPERATOR and the Forest Service, U.S. Department of Agriculture, hereafter referred to as the FOREST SERVICE, under the provisions of the Act of October 31, 1964, (16 USC 532, 535). WITNESSETH:

WHEREAS, the Mill Fork Canyon Road, No. 50245, hereinafter referred to as ROAD, is presently used jointly by the public, government agencies, and by the Cooperator; and

WHEREAS, the Cooperator desires to upgrade and maintain the Road to facilitate the operation of his coal mine business.

WHEREAS, it is mutually advantageous for the parties herein to cooperate in the reconstruction of the Road; and

WHEREAS, the Cooperator is willing to contribute money, labor, materials, and equipment toward reconstruction of the Road in order to upgrade the Road, maintain hauling efficiency, and improve traffic safety.

Now, THEREFORE, in consideration of the above premises, the parties hereto agree as follows:

A. The Cooperator will:

1. Reconstruct the Road from its intersection with the Fairview-Huntington Highway to the ~~Forest boundary~~ LOADING FACILITIES to standards, specifications, lines, and grades mutually agreed upon by the Forest Service and Cooperator and provide quality control inspections during construction.

2. Construct the single lane bridge across Huntington Creek to the standards, specifications, lines, and grades mutually agreed upon by the Forest Service and Cooperator and provide quality control inspections during construction.

3. Provide the Forest Service with a formal Right-of-Way ~~description~~ 2, for public access across portions of private land in Sections 16 and 17 of Township 16 South, Range 7 East, Salt Lake Baseline Meridian. The type and magnitude of which will be mutually agreed upon by the Forest Service and the Cooperator.

B. The Forest Service will:

1. Make a determination of the Road standards necessary as in A1 and A2.

2. Survey, design, prepare drawings and specifications, and accomplish initial construction staking as relates to ~~A1 and A2~~ EXPEND THE FUNDS NECESSARY TO DEVELOPMENT OF THE ROAD AND BRIDGE.

3. Provide inspection assistance during construction to assure compliance with the agreed design specifications and drawings.

4. Grant a ROAD USE PERMIT at such point in time as the aforementioned items are complete.

C. It is mutually agreed and understood by and between the parties that:

1. No member of, or delegate to, Congress or Resident Commissioner shall be admitted to any share or part of this Agreement, or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this Agreement if made with a corporation for its general benefit.

2. Equal Employment Opportunity. See Exhibit "A" attached and hereby made a part of this Agreement.

3. The Cooperator shall indemnify the United States against any liabilities for damage to life or property resulting from negligent acts or omissions of acts of Cooperator's employees, agents, or servants, occurring in the performance of this Agreement. Cooperator assumes no liability for injuries or damages to anyone using the Road.

4. No contribution herein provided for shall entitle the Cooperator to exclusive use of the Road or to any share of interest in the Road other than the right to use same under regulations of the Forest Service. All improvements shall be and remain the property of the United States.

5. Nothing herein shall be construed as obligating the Forest Service to expend, or as involving the United States in any contract or other obligations for future payment of money in excess of appropriations and expenditures authorized by law.

6. Nothing herein shall be construed as obligating Swisher Coal Company, Division of General Exploration Company, for future Road construction expenditures in excess of those authorized by annual budgets approved by General Exploration Company.

7. Either party may terminate this Agreement by providing 60 days written notice. Unless terminated by written notice, this Agreement will remain in force indefinitely.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the last date written below.

Date	Swisher Coal Company
Date	Forest Supervisor Manti-LaSal National Forest

EQUAL OPPORTUNITY

(The following clause is applicable unless this contract is exempt under the rules, regulations, and relevant orders of the Secretary of Labor (41 CFR, Ch. 60).

During the performance of this contract, the Contractor agrees as follows:

(a) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex or national origin. Such action shall include, but not be limited to, the following employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Contracting Officer setting forth the provisions of this Equal Opportunity clause.

(b) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex or national origin.

(c) The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency Contracting Officer, advising the labor union or workers' representative of the Contractor's commitments under this Equal Opportunity clause, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(d) The Contractor will comply with all provisions of Executive Order No. 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(e) The Contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(f) In the event of the Contractor's noncompliance with the Equal Opportunity clause of this contract or with any of the said rules, regulations. or orders, this contract may be canceled, terminated or suspended, in whole or in part, and the Contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

Continued on reverse

(g) The Contractor will include the provisions of paragraphs (a) through (g) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, that in the event the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

AMENDMENT NO. 1

Road Use Permit
Mill Fork Canyon Road No. 50245
Swisher Coal Company

Clause 7. Rules Governing Use, Subpart (9) Other

This clause is hereby amended to read as follows:

The operator shall limit hauling truck speeds to 25 miles per hour on roads covered by this permit.

Accepted _____ Date 10/15/79
Swisher Coal Company

Approved _____ Date _____
William H. Boley, Acting Forest Supervisor

August 24, 1976

To Forest Supervisor
Manti-LaSal National Forest

The Swisher Coal Company hereby acknowledges its intent to grant to the Forest Service the following right of way for public access in return for Forest Service designs of the road and bridge and other considerations under the "Road Use Permit". Title transfer will be made upon receipt of the right of way plat and description.

The right of way in question begins at approximately the south quarter corner of Section 16, T16S, R7E, SLBM then meadners westerly through the south ½ of the south ½ of Section 16 to Section 17. From this point, the road traverses the southern half of the privately owned south east quarter of Section 17 bearing north west to the Forest Boundary.

The required right of way width will be developed in the description to encompass the road "as built" in Section 16 and "as exists" in Section 17.

Action on the right of way will commence following the remonumentation program by the Bureau of Land Management.

Swisher Coal Company

U.S. Department of Agriculture – Forest Service

ROAD USE PERMIT
(Re: FSM 7770)

Authority:
Acts of 6/30/14, 4/24/50, 6/12/60, and 10/14/64;
(16 U.S.C. 498, 572, 530, and 532-38)

Swisher Coal Company (Name) of 90 West, 1st North, Price, Utah 8450[illegible] (Address and ZIP Code)

(hereafter called the permittee) is hereby granted use of the following road(s) or road segments: That segment of Mill Fork Canyon Road, Number 50245, from its intersection with State 31 to the Forest Boundary located between sections 16 and 21, T16S; R7E, SLBM a distance of approximately 1.3 miles.

on the Manti-LaSal National Forest, subject to the provisions of this permit including clauses 2-1 through 19, on page(s) 1 through 6 for the purpose of hauling coal from their number 4 mine.

The exercise of any of the privileges granted in this permit constitutes acceptance of all the conditions of the permit.

[illegible] (Per traffic unit, MBF, cu. yd. other–Specify)

Rate for sharing of maintenance is shown in clause 9.

2-1. WORK REQUIRED TO ACCOMMODATE PERMITTED USE. In accordance with this use, the permittee shall perform the work described below and in accordance with plans and specifications attached hereto: The work required shall include the construction of 0.5 miles of road to a 34 foot base including shaping and drainage. The work will also include constructing a 54 foot long single lane bridge across Huntington Creek. Six inches of gravel sub-base shall be placed over entire extent of the haul road, approximately 1.3 miles. (See attached continuation)

WORK PERFORMANCE SCHEDULE. (Construction of required improvements or reconstruction will be completed within 6 months and before hauling commences.)* [illegible]

* or 180 continuous working days with allowance for inclement weather.

[illegible]

This permit is accepted subject to all of its terms and conditions.

ACCEPTED	Permittee (Name and Signature) [signature]		Date
APPROVED	Issuing Officer (Name and Signature)	Title	Date

* Delete if not applicable.

(over)

7700-41 [illegible]

3. USE PLANS. Prior to January each year this permit is in effect, permittee shall notify the District Ranger in writing of the approximate time when such use will commence, the anticipated duration of such use, the names and addresses of permittee's contractors or agents who will use the road on behalf of permittee, the estimated extent of use, and such other information relative to permittee's anticipated use as the Forest Service may from time to time reasonably request. If and when during the year there is any significant change with respect to the information so supplied by permittee, the permittee will notify the District Ranger promptly in writing of such change. Plans and changes will be approved by the Forest Supervisor before use may commence.

5. COMPLIANCE WITH LAWS AND REGULATIONS. The permittee, in exercising the privileges granted by this permit, shall comply with the regulations of the Department of Agriculture and all Federal, State, county and municipal laws, ordinances or regulations which are applicable to the area or operations covered by this permit.

6. USE NONEXCLUSIVE. The privileges granted in this permit to use this road are not exclusive. The Forest Service may use this road and authorize others to use it at any and all times. The permittee shall use said road in such manner as will not unreasonably or unnecessarily interfere with the use thereof by other authorized persons, including Forest Service.

7. RULES GOVERNING USE. The permittee, its agents, employees, contractors or employees of contractors, shall comply with all reasonable rules prescribed by the Forest Service for control and safety in the use of this road and to avoid undue damage to the road. Such rules will include:

(1) Upon reasonable notice, closing the road or restricting its use when, due to weather conditions, or the making of alterations or repairs, unrestricted use would in Forest Service judgment, cause excessive damage, or create hazardous conditions;

(2) Upon reasonable notice, closing the road during periods when, in Forest Service judgment, there is extraordinary fire danger;

(3) Traffic controls, which in Forest Service judgment, are required for safe and effective use of the road by authorized users thereof;

(4) Prohibition upon the loading of trucks while such trucks are standing on the roadway surface, except to recover loose materials.

(5) Prohibition on the operation on this road of any vehicles or equipment having cleats or other tracks which will injure the surface thereof.

(6) Applicable signing shall be erected to warn the general public of hauling operations.

(7) Regulation of the number of vehicles so as to prevent undue congestion of this road.

(8) The Permittee shall not use an "active ingredient" as defined in Section 2 of the Federal Insecticide, Fungicide, and Rodenticide Act, as amended (86 Stat. 973), in violation of said act on the land described in this permit.

(9) Other–Specify (Optional)

8. INSURANCE. Permittee shall be required to carry public liability and property damage insurance for the operation of vehicles, in the amounts established by applicable State laws, cooperative agreements, or easements issued on the subject road or roads. In any event, the permittee must carry liability insurance and property damage insurance of not less than $ 100,000 for injury or death to one person, $ 300,000 for injury or death to two or more persons, and $ 50,000 for damage to property. Proof of satisfactory insurance may be required by the Forest Service prior to hauling over this road and will be for the duration of the permit, and such insurance policy shall bear an endorsement requiring the issuing company to give 30 days prior written notice to the Forest Supervisor Manti-LaSal National Forest of cancellation or material change.

9. MAINTENANCE. The permittee shall bear the expense of maintenance proportionate to his use. This expense will be borne by The Swisher Coal Company and the Forest Service. At a future time when hauling commences, the Forest Service will conduct a study to determine the proportionate share of maintenance cost for which each of the parties is to be held responsible. The study will take into consideration both the number of vehicles using the Road, and the type of vehicle. Forest Service will update such study periodically and will reapportion maintenance costs. Until such time as a study indicated otherwise, the Swisher Coal Company will perform all maintenance required under this permit.

Maintenance shall be performed in accordance with Forest Service specifications or requirements for maintenance as hereinafter listed, or as may be mutually agreed upon from time to time and shall consist of (1) current maintenance as necessary to preserve, repair, and protect the roadbed, surface and all structures and appurtenances, and (2) resurfacing equivalent in extent to the wear and loss of surfacing caused by operations authorized by this permit.

9a. MAINTENANCE AND RESURFACING REQUIREMENTS AND SPECIFICATIONS. (Specify)

Maintenance shall be performed on a routine, reoccurring interval to include cleaning of ditches and catch basins, removal of surface ruts and imperfection, maintenance of surface materials, and dust abatement control. Maintenance shall also include snow removal and the sanding of hazardous areas. Coal dust shall not be used during maintenance operations. (See attached continuation)

10. PERFORMANCE BOND. In the event the permittee is to perform his proportionate share of road maintenance, road resurfacing, or betterment, as determined and within time periods established by the Forest Supervisor, the Forest Service may require as a further guarantee of the faithful performance of such work that the permittee furnish and maintain a surety bond satisfactory to the Forest Service in the sum of one hundred thou dollars ($ 100,000.00), or in lieu of a surety bond, deposit into a Federal depository, as directed by the Forest Service, and maintain therein cash in the sum of hundred thousand dollars ($ 100,000.00), or negotiable securities of the United States having market value at time

[1] Delete inapplicable clause

one
of deposit of not less than hundred thousands 100,000.00). As soon as security for the performance of road maintenance (and betterment) requirements or the settlement of claims incident thereto is completed, unencumbered cash guarantees or negotiable securities deposited in leiu of surety bond will be returned to the permittee.

11. FIRE PREVENTION AND SUPPRESSION. The permittee shall take all reasonable precautions to prevent and suppress Forest fires. No material shall be disposed of by burning in open fires during the closed season established by law or regulation without a written permit from the Forest Service.

12. DAMAGES. The permittee shall exercise diligence in protecting from damage the land and property of the United States covered by and used in connection with this permit, and promptly upon demand shall pay the United States for any damage resulting from negligence, or from violation of the terms of this permit or of any law or regulation applicable to the National Forests, by the permittee, or by his agents, contractors, or employees of the permittee acting within the scope of their agency, contract, or employment.

13. OFFICIALS NOT TO BENEFIT. No Member of or Delegate to Congress or Resident Commissioner shall be admitted to any share or part of this agreement or to any benefit that may arise herefrom unless it is made with a corporation for its general benefit.

14. OUTSTANDING RIGHTS. This permit is subject to all outstanding rights.

15. SUSPENSION. Upon the failure of the permittee, its agents, employees or contractors to comply with any of the requirements of this permit, the officer issuing the permit may suspend operations in pursuance of this permit.

16. TERMINATION. This permit shall terminate on January 1, 1986 unless extended in writing by the Forest Service. It may be terminated upon breach of any conditions herein. This permit shall be reviewed annually and is subject to revision.

17. In the event of any conflict between any of the preceding printed clauses or any provision thereof and any of the following clauses or any provisions thereof, the following clauses will control.

18. The Environmental Analysis Report developed for this project shall be made a part of this permit. The permit is subject to the guidelines and recommendations developed in that report.

19. Before final acceptance, buildings, roadways, borrow pits, quarries, and all ground occupied by the Contractor in connection with the work shall be cleaned of all rubbish, excessive materials, temporary structures and equipment, and all parts of the work shall be left in a neat and presentable condition. Cleanup will include roughly spreading the overlying material and topsoil back over disturbed areas in such a manner so that water will not collect in low areas. All slopes will be smooth and uniform.

2-1. Work Required to Accommodate Permitted Use

The attached plans, general provision, general specifications, and construction details shall be used and shall be adhered to as follows:

A. The Permittee shall supply the materials to construct the bridge and road including material certification. The certifications are to be forwarded to the Manti-LaSal National Forest for confirmation prior to installation or erection. The Permittee shall also supply the corrugated metal culvert, aggregate, and bitumen surfacing materials needed to construct the road.

B. The Permittee shall provide quality control inspections during construction. Such inspection will include but not be limited to:

1. That pipe and bridge materials are of the proper size, shape, gage, and quality as specified.

2. That compactive effort is maintained as specified through inplace density tests. This action will require that the permittee obtain moisture density curves for field samples prior to beginning construction activities.

3. That aggregate surfacing gradations meet the specifications.

4. That constructed sections conform to the lines and grades as shown on the plans and staked on the ground by the Forest Service.

C. The inspectors provided by the Permittee shall be qualified to take the tests called for in the specifications. The inspectors shall certify in writing that the work and materials comply with the specifications.

D. Where materials are delivered to the job site, certification shall be made and given to the Forest Service prior to installation of the materials. A copy of the suppliers certification shall be forwarded to the Forest Service.

E. In the attached specifications, the term "Contractor" refers to the Permittee, the Swisher Coal Company. The term "Engineer" refers to the person or persons designated by the Permittee as their Project Engineer. Inspection by the Forest Service will be done to insure that the Permittee's inspectors require compliance with the specifications.

F. The term Contracting Officer refers to the Forest Supervisor.

G. The Swisher Coal Company will take the necessary steps to obtain a responsible contractor, as determined by a review of said contractor's past performance and financial capabilities. Said contractor will be agreeable to all parties of this permit.

9a. Maintenance and Resurfacing Requirements and Specifications

It is the intent of this permit that at some future time, the Permittee will provide an adequate bituminous pavement structure over the entire haul route. This second stage of construction concerning bituminous surfacing shall commence at such time as degradation of the gravel surface and dust abatement can no longer be contained by routine maintenance.

The specifications developed as a part of this contract contain no references to bituminous surfacing requirements. Such specifications and requirements will be developed by the Forest Service at that time.

Engineering - (801) 637-5052

November 18, 1975

Mr. Ira Hatch
District Ranger
Manti-LaSal National Forest
10 North Carbon Avenue
Price, Utah 84501

Dear Ira:

Enclosed is an account of our recent meeting in Mill Fork Canyon and the conditions set forth in your verbal permission for Swisher Coal Company to begin upgrading the lower section of the road.

Sincerely,

SWISHER COAL COMPANY

Dave Shaver
Mining Engineer

DS:kk

Enclosure

On Thursday, November 13, 1975, a meeting between the U.S. Forest Service and Swisher Coal Co. was held on the site in Mill Fork Canyon, a tributary of Huntington Canyon, Emery County, Utah. Those in attendance representing the Forest Service were Ira Hatch, Bill Boley and Roger Thomas. Representing Swisher Coal Co. were Dave Shaver, Reid Olsen, Ted Hanks and Max Robb.

At this time verbal permission was granted Swisher Coal Co. by the Forest Service to begin upgrading the section of road in Mill Fork Canyon from the intersection of the haul road at the old Leamaster Mine site to the big bend in the road up the canyon from the existing bridge over Huntington Creek. Road work below this stretch will be delayed until an appropriate bridge site is selected; road work above this section will be delayed until further surveying and engineering is done. Conditions of this verbal permission are:

1. All culvert locations are to be approved by the Forest Service and staked prior to construction.

2. The horizontal alignment of the road is to remain essentially unchanged.

3. The existing grade of the road is to remain unchanged except for localized smoothing and leveling.

On November 14 Ralph Geibel and Dan Hadley of the Forest Service and Dave Shaver and Bert Jeanselme of Swisher Coal staked the culverts along this stretch with the exception of the upper two culverts which locations are dependent upon the development of a more detailed site plan of the mine yard area. With the exception of the culvert handling the drainage from the side canyon in which the mine yard is located all culverts are to be 24" or 18" in diameter depending on the recommendation of the Forest Service hydrologist and are designed to accommodate a 26' wide road base. Culverts have been ordered.

APPENDIX 7

SEDIMENT POND MODIFICATION

APPROVAL

STATE OF UTAH
NATURAL RESOURCES & ENERGY
Oil, Gas & Mining

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Cleon B. Feight, Division Director

State Office Building • Salt Lake City, UT 84114 • 801-533-5771

December 1, 1981

Mr. Ken Wangerud, Coordinator
Permits and Compliance
Arco Coal Company
P. O. Box 5300
Denver, Colorado 80217

RE: Huntington #4
Sedimentation Pond
Modification
ACT/015/004
Emery County, Utah

Dear Ken:

The Division of Oil, Gas and Mining has reviewed Arco's request to modify the existing sedimentation ponds at the Huntington #4 mine to treat and discharge mine water which has accumulated in two underground sumps.

The nature of this project is to discharge mine water directly over established surface runoff drainages to the upper cell of the two sedimentation ponds. The mine water will be dewatered to the lower cell through a 12 inch cmp culvert equipped with a head gate in the lower cell to manually regulate flow. The lower cell treatment system consists of a filter dike of coke breeze covered with slag through which mine water will be filtered before discharging into Mill Fork Creek. The fact that the upper cell has a maximum capacity of 68 acre feet or that requested for the 10-year, 24-hour event plus sediment storage, justifies the Division granting approval of this project with stipulations.

According to Mr. Dan Guy, chief engineer for Beaver Creek Coal Company, the mine discharge system may be temporary and will be used minimally due to a number of factors:

1. This initial discharge should eliminate the mounting disposal problem of several hundred thousand gallons of mine water which has accumulated in underground sumps.

2. The assumed rate of mine water accumulation should come close to equaling that which is required for operational use underground.

3. If the rate of mine water accumulation exceeds underground use, then discharge from underground sumps would only occur on an infrequent basis and under controlled conditions.*

4. If the rate of mine water accumulation is highly excessive compared to the rate of operational use with discharge occurring on a regular basis, then a new system of discharging mine water to the lower pond cell would be designed and incorporated.

The Division approves the use of the lower cell of the sedimentation ponds as a mine water treatment facility utilizing the established surface drainages for routing mine water flow which will be passed through the upper cell to the lower cell by use of a 12 inch cmp dewatering culvert with a head gate, which will be manually controlled. The mine water will then be filtered through a coke breeze and slag dike before discharging into Mill Fork Creek. The following stipulations are concurrent with this approval and must be adhered to in using this sytem.

1. The operator will summarize the operational need and capability of this system within six months of this approval to justify its further use or nonuse.

2. The operator will use a 12 inch cmp culvert as a dewatering device for two purposes: (1) to pass mine water discharge from the upper cell to the lower cell; and (2) for dewatering of the 10-year, 24-hour volume after an appropriate detention period has been achieved.

3. Within one month of this approval, the operator shall submit to the Division the rate of dewatering from the upper cell to the lower cell which adequately maintains the filter dike process with a commitment to dewater at this constant rate.

4. All mine water discharge and treatment shall be carried out during operating hours at Huntington #4. The operator shall commit to closing off the gate valve at the end of each mine water discharge occurrence. There should be no mine water discharged during the spring snowmelt/runoff period.

---

*Controlled conditions implies operator knowledge of current weather conditions and the surface operator maintaining the opening of the head gate at a rate which will prevent a washout situation in the lower sedimentation cell, and the closing of the head gate between occurrences of mine water discharge.

5. All stipulations of the State of Utah, Division of Water Pollution Control shall be fulfilled.

6. All design information resulting from Stipulations 1, 3 and 5 shall be forwarded to the Division within the specified time period.

If you have any further questions regarding this approval, please contact Sally Kefer of my staff.

Sincerely,

Sally Kefer

for JAMES W. SMITH, JR.
COORDINATOR OF MINED
LAND DEVELOPMENT

CC: Dan Guy, Beaver Creek Coal Co.
Richard Dawes, OSM

JWS/SK/btb

APPENDIX 8

MILL FORK CREEK

DISTURBED AREA

RECLAMATION PLAN

01/14/85

RECLAMATION PLAN - DISTURBED AREAS

MILL FORK CREEK #4 MINE

SCOPE:

The scope of this reclamation plan is to establish a permanent, effective and diverse vegetative cover, capable of self-regeneration and plant succession, for use as rangeland and wildlife habitat. A prompt vegetative cover will be established which, through time, will allow vegetative cover, woody plant density and productivity to recover to levels equal to the cover, density, and productivity of adjacent areas.

The following procedures are designed to revegetate and control erosion. They should, to a large degree, satisfy the commitments made by Beaver Creek Coal Company in their permit, while also satisfying OSM regulations as pertaining to wildlife concerns and final reclamation for those areas which will be utilized after mining operations are concluded.

The areas in question are along and adjacent to the #4 Mine, mine access road, Pump house and Holding pond, and will be of a permanent nature.

The actual ground involved comprises approximately 120 sq. meters of disturbed land, primarily disturbance associated with the removal of the Pump house, pond and fence. (See Plate 3 - 1b). The actual procedures involve a four phase program; (1) earthwork: To prepare a site which will be stable enough for a period of time to allow vegetation to become established, (2) hydroseed, tacify, and mulch the entire area to supplement revegetation and control run-off until stabilization is complete, (3) to plant seedlings to further stabilize the soil and to provide necessary wildlife, hydrological and aesthetic commitments as detailed in mine reclamation permit, and (4) to enhance and re-establish a riparian zone in conjunction to Mill Fork Creek.

METHODOLOGY

Phase 1; Earth Moving

UMC 817.44 Hydrologic Balance: Stream Channel Diversions

The methodology which Beaver Creek Coal Company contemplates implementing upon final abandonment and reclamation of that portion of Mill Fork Creek in the vicinity of the pump house and pond are as follows:

1. To use a large track-mounted excavator to remove the pump house and to regrade the opposing banks on approximately a 3 to 1 slope to facilitate revegetation and to enhance the establishment of a riparian zone. In-place soils will be utilized for the grading or reshaping of this area. This will consist merely of redistributing existing soils over a small area prior to planting. The use, depths, and quality will be as they exist prior to reclamation. (Note Fig. 1 for the present stream configuration and post reclamation configuration, Fig. 1 - A.)

2. To rip-rap a small holding pond along the channel where the existing concrete structure is presently, by utilizing native materials. The actual methodology is to leave the concrete structure in place, construct a rock face by utilizing large rock, 2' - 3' in diameter. Secure the rocks together in a stacked manner; with the lowest portion corresponding to the exisisting channel to creast a centralized spillway.Once the rocks are secured into the channel, rock rip-rap should be laid on the up stream side to a height equal to the height of the concrete retainer and continued up stream for a distance of 36" decreasing in height so as to be level with the original rip-rapped channel. Then by utilizing a backhoe, a pit approximately 3' in diameter should be dug at the

fall line of the spillway and lined with large rock 2'+. The pond configuration should mitigate the loss of the silt load in the existing pond. The silt area associated with the present pond will form a small riparian bench when reseeded and should enhance the area in creating a small park along the area of disturbance.

The intent of the holding pond created by the rock dam is to maintain the sediment and minimize the down stream migration of this potentially detrimental source of silt and convert it into a potentially beneficial, enriched, growth media to facilitate the enlargement and establishment of riparian vegetation. Over a course of time the water holding capability of the ponded area will decrease as this pond fills with sediment, however, the small pond at the base of the spillway should remain relatively free from sediment and due to the small surface areas and depth, they will hold water over an extended period during dry seasons. A diagram is attached for your review. (See Figure 2).

Below the area of the confluence of disturbance, three silt fences (100X filter) will be installed to minimize the migration of any sediment during the reclamation effort. These filters will be checked daily and cleaned as indicated. The filters will be maintained until the creek is within normal sediment levels, and the reclamation implementation is completed. (See Figure 3 for basic design.)

Phase 2 - Seeding and Mulching

The entire area of disturbance will be hydroseeded during September - October, 1985. The seed mix and rate of application is attached. Hydroseeding and mulching will be carried out in conjunction with the earth work of phase 1. Recommendations for the hydroseeding and mulching operation are as follows:

This methodology involves the use of a hydroseeder to apply the seed and tac to all disturbed areas and then to overspray the seeding with a wood-fiber mulch (approximately 3,000 lbs./acre long fiber) in combination with fertilizer and additional tacifying agents.

The following rates of material should be utilized:

(Rates of tac were developed with respect to velocity and erosive power of water which is proportional to the square root of the slope.) An emperical factor was determined from laboratory and field studies to arrive at the minimum tac fiber ratio. Thus, 60 pounds of tac per ton of fiber is about minimum for slopes up to 20% and the emperical factor is determined as 60 x 25% = 15. A 25% slope is about maximum for the minimum amount of tac. For a 100% slope (1 : 1 or 45°) the ratio of tac to fiber is calculated as:

SUGGESTED RATIOS OF TAX TO FIBER FOR HYDRO-SEEDING AND HYDRO-MULCHING TO SERVE AS MULCH OR SOIL BINDER

SLOPE ANGLE	SLOPE RATIO	PERCENT SLOPE	LBS.TAC PER TON FIBER	RATIO TAC TO FIBER
	Rise:Run			
14°	1 : 4	25%	60 (minimum)*	1 : 30
26°	1 : 2	50%	80	1 : 25
33°	1 : 1½	66%	100	1 : 20
45°	1 : 1	100%	120	1 : 16
45°	1½ : 1	150%	140	1 : 14
64%	2 : 1	200%	160 (minimum)	1 : 12

* 60 pounds is suggested as a minimum to insure excellent stabilization; however, in many conditions 40 pounds of tac per acre has given excellent results on a 1:4 or less slope.

Following the seeding effort the entire area of disturbance will be hydro-mulched and fertilized. The rate of application of the mulch is:

2,000 to 3,500 lbs/acre on all areas

The mulch should also be fortified with tac as previously indicated according to slope. Incorporated in the mulch slurry the following rate of fertilizer will be applied per acre:

180 lbs. N/acre
100 lbs. P_2C_5/acre
100 lbs. K_2O_5/acre

Phase 2 - Seeding and Mulching (Continued)

The seed mix is composed of a permanent reclamation species, primarily grasses: approximately 12 lbs./acre. The seed mix was developed as a result of an inventory of adjacent areas above and below the area of disturbance. The seed mix is attached as Appendix A and the inventory as Appendix B.

Phase #3 - Planting:

The planting of seedlings will be done within 1 year of the seeding effort in order to evaluate the number and species of seedlings necessary to ensure both composition and stocking of woody species to maximize utilization by wildlife and domestic grazing.

The species and numbers of individual plants are correlated to the inventory conducted in the Fall of 1984.

The planting of willow cuttings will be done in conjuction to the seeding effort.

The numbers of individual plants are correlated to the inventory conducted in the Fall of 1984.

Planting Procedures

Planting will be done utilizing willow cutting approximately 18" in length and ½" in diameter. The cuttings will be collected from plants in the area of the Permit. The cuttings should be spaced at approximately 3' intervals along the border of the creek and the disturbed area. Each shoot should be buried a minimum of 9".

Phase #3 - Planting (continued):

Care should be taken to leave no air pockets or loose dirt (which would constitute settling). The shoots should be firm when a light pressure is exerted on the stem and standing in an upright position.

Phase #4 Enhance and Re-establish Riparian Zone Along Mill Fork Creek and Holding Pond #4 Mine

Due to apparent lack of any consequental riparian zone along Mill Fork Creek, the establishment of one, in conjunction with the reclamation effort will constitute enhancement.

The principal factors which appear to be limiting a riparian zone are:

1. The extreme angle of the opposing canyon walls, and
2. The dense over-story of both, conifers to the north, and desiduous trees on the south.

Both of these obstacles are mitigated through the meadow-park configuration which will be constructed upon final reclamation.

The holding pond structure will be maintained and fortified with rock rip-rap. The interior of the concrete structure should then be fortified with a minimum of 18" of additional rip-rap (12"+ material).

In this manner, the stability of the pond will be assured and the pond can be maintained and allowed to go through a normal pond succession. This will eliminate the necessity of subsequent reclamation when this pond would have had to been removed. By utilizing this method of natural succession, the following environmental benefits will be gained:

1. The ponds can be maintained as a valuable reservoir for Macroinvertebrates during dry periods.

2. The Micro and Microinvertebrates which are presently in abundance in the pond, can be maintained.

3. The pond will act as an enhancement feature in providing additional water in the drainage, and in time will significantly increase the riparian habitat.

Monitoring

Upon completion, the reclaimed area will be monitored to determine when bond release parameters are achieved. If the monitoring indicates inadequacies, the area will be supplemented with additional efforts.

The monitoring procedures will be the same sampling methodologies which will be incorporated in establishment of bond release on the balance of the mine site, and as discussed previously in the plan.

ATTACHMENT A

RECOMMENDED SEED MIX

RIPARIAN HABITAT

01/14/85

RIPARIAN AREA

GRASSES (seed)

Scientific Name	Common Name	lbs./acre
Agropyron smithii	Western Wheatgrass	3
Agropyron trachycaulum	Slender Wheatgrass	2
Bromus carinatur	Mountain Brome	2
Carex Spp.	Sedge	2
Poa pratensis	Kentucky Bluegrass	2
		11# PLS

FORBS

Melilotus officinalis	Yellow Sweet Clover	3
Penstemon palmeri	Palmer Penstemon	.5
		3.5# PLS

SHRUBS

Mohonia repens	Creeping Oregon Grape	.25
Rosa woodii	Woods Rose	.5
Rubus idaeus sachalinensis	American Red Raspberry	.25
Salix rigida	Yellow (Watson) Willow	
(cuttings on 3' centers along channel & pond)		.25
		1.25# PLS

TOTAL SEED 15.75# PLS per acre

NOTE: Insert in Appendix 8
6/24/85

ATTACHMENT B

INVENTORY OF RIPARIAN VEGETATION

MILL FORK CREEK

On October 29, 1984, an inventory of Mill Fork Creek was conducted by M.A. Coonrod of the consulting firm of E.I.S.

The purpose of the inventory was to attempt to establish an estimate of riparian habitat lost in the construction of Beaver Creek #4 Mine, Pump House, and associated Holding Pond.

Conventional vegetation inventory methods were not utilized due to the narrowness of the channel and the scattered small area dispersal of any riparian zones.

The methodology incorporated was to measure out a 100 meter distance above and below the mine disturbance, then to determine the average width of the riparian zone at each 5 meter interval, then average the distances, and by utilizing the mean, estimate the amount of riparian habitat lost.

The average width above the mine site was 5.6 meters. The average width below the mine site was 6.58 meters. Utilizing the mean of 6 meters for a distance of 20 meters of disturbance, the total riparian habitat lost would equal 120 square meters.

A representative species list was determined and percent of cover by type of vegetative cover.

Vegetative Type	Percent Cover
Grasses	32%
Forbs	63%
Browse	5%

(Aspen less than 8' in height included in Browse classification

The Principal Species Are:

Grasses

Carex Spp.

Poa Spp.

Agrostis stolonifera

Agropyron Spp.

Forbs

Saxifraga odontiloma

Epilobium alpinum

Veratrum califonicum

Minulus guttatus

Achillea millefolium

Osmorhiza chilensis

Rorippa curvipes

Helenium hoopesii

Lathyrus lanzwertii

Browses

Ribes viscosissimum

Sambucus racemosa

Roas woodii

Populus tremuloides

ATTACHMENT C

MILL FORK DRAINAGE

STORM RUNOFF CALCULATIONS

01/14/85

MILL FORK DRAINAGE

STORM RUNOFF CALCULATIONS

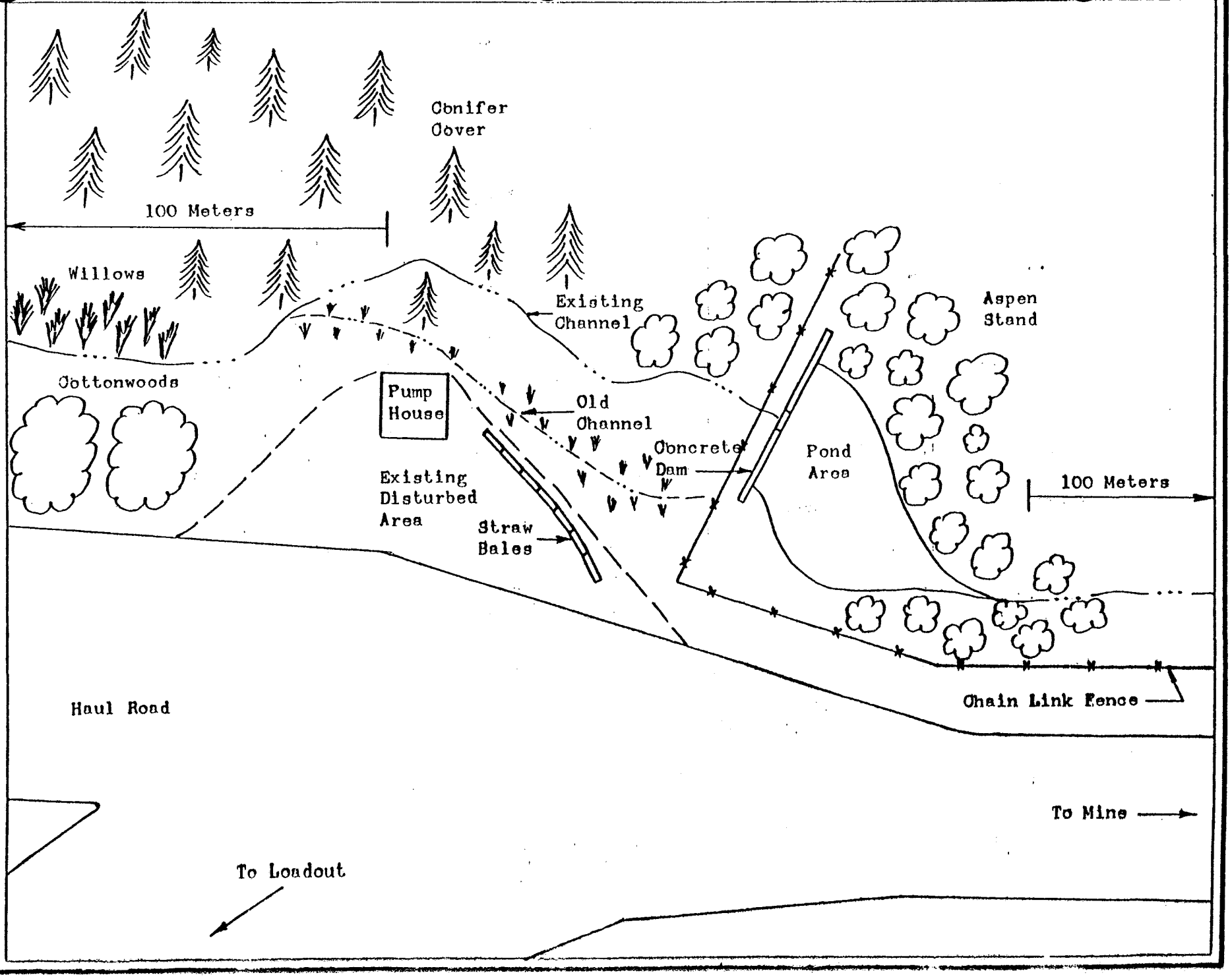
Drainage Area	735 Acres
Flow Length	9500 Feet
Slope	21%
Curve Number (Undisturbed Forested, Good Condition)	70
100 yr., 24 hr. Precip.	3.3 Inches
10 yr., 24 hr. Precip.	2.3 Inches
Basin Lag (Curve Number Method)	0.6 Hrs.
Time of Concentration	1.0 Hrs.
Q (CSM/inch)	320
Peak Discharge (100 yr.)	327 cfs
Peak Discharge (10 yr.)	132 cfs

01/14/85

EXISTING CHANNEL AREA

Scale: 1" = 20'

FIGURE NO. 1

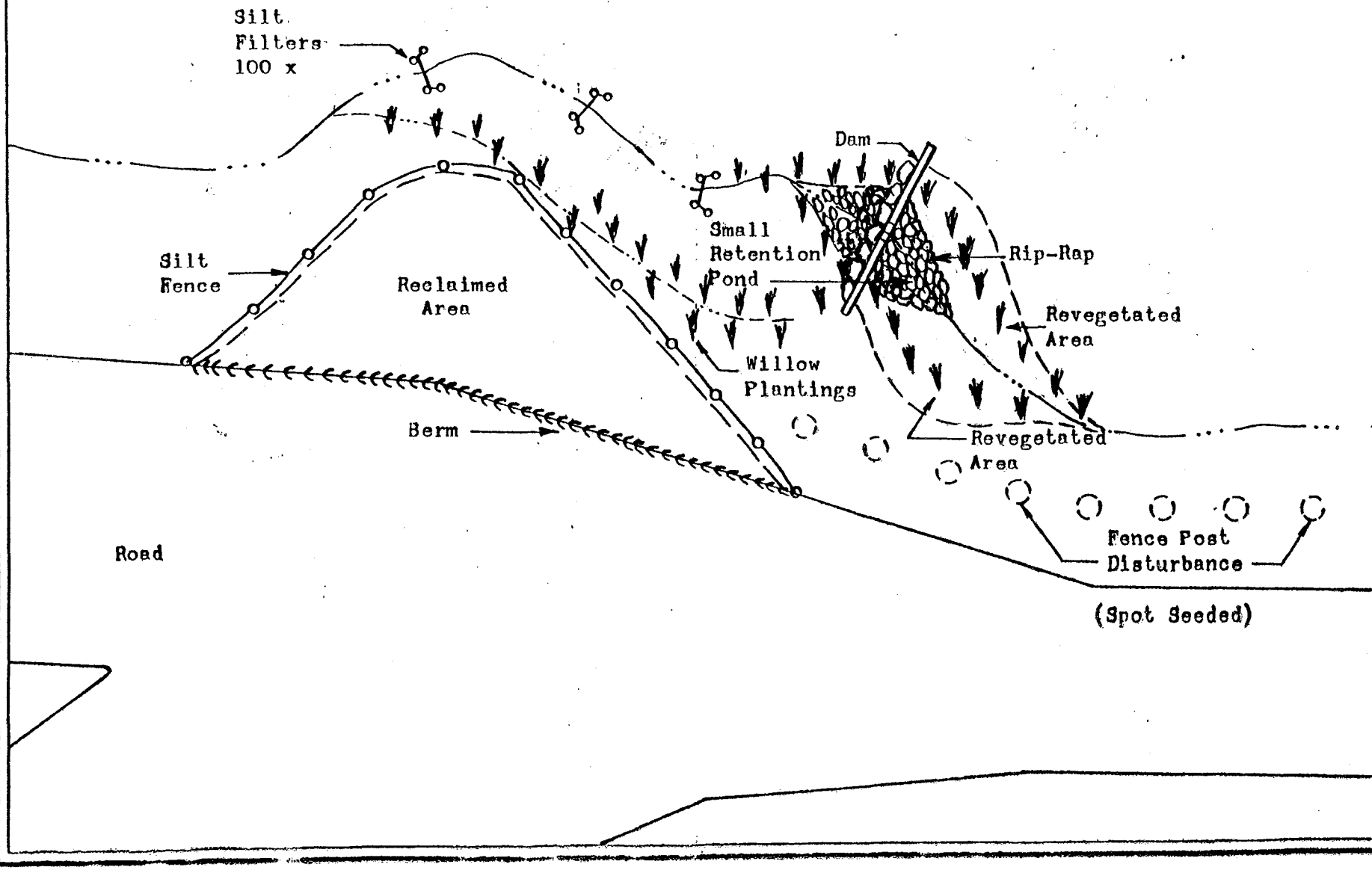


RECLAIMED CHANNEL AREA

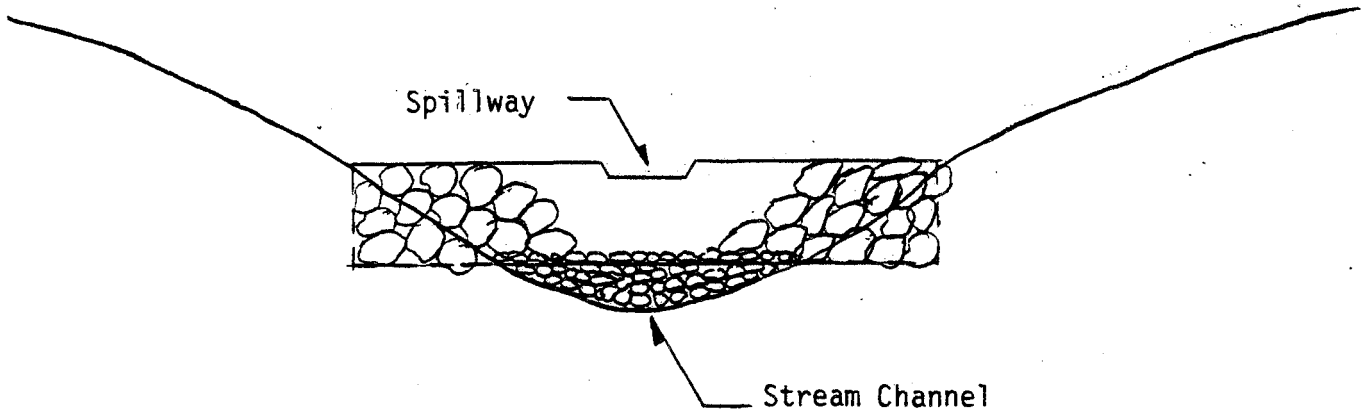
Scale: 1" = 20'

FIGURE NO. 1-A

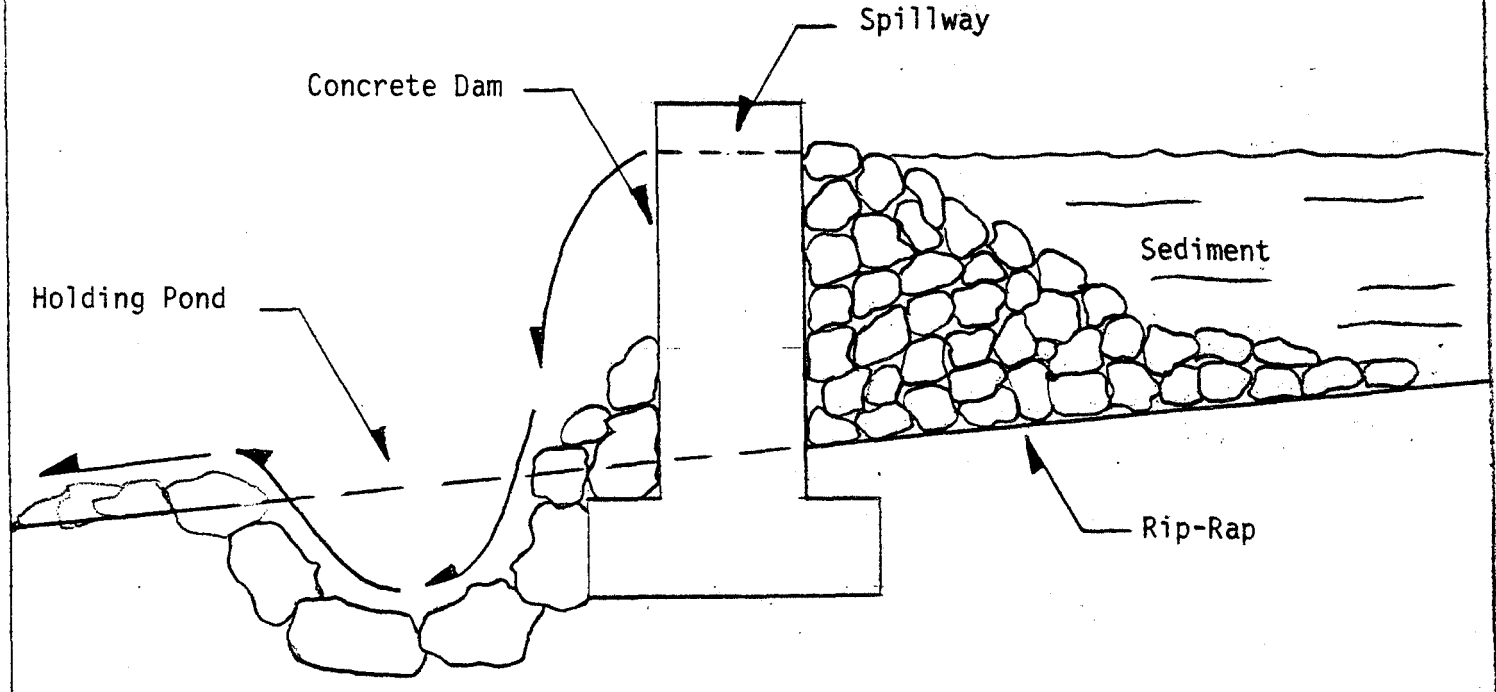
Note: Existing vegetation on Figure 1 to be left undisturbed.



CHECK DAM

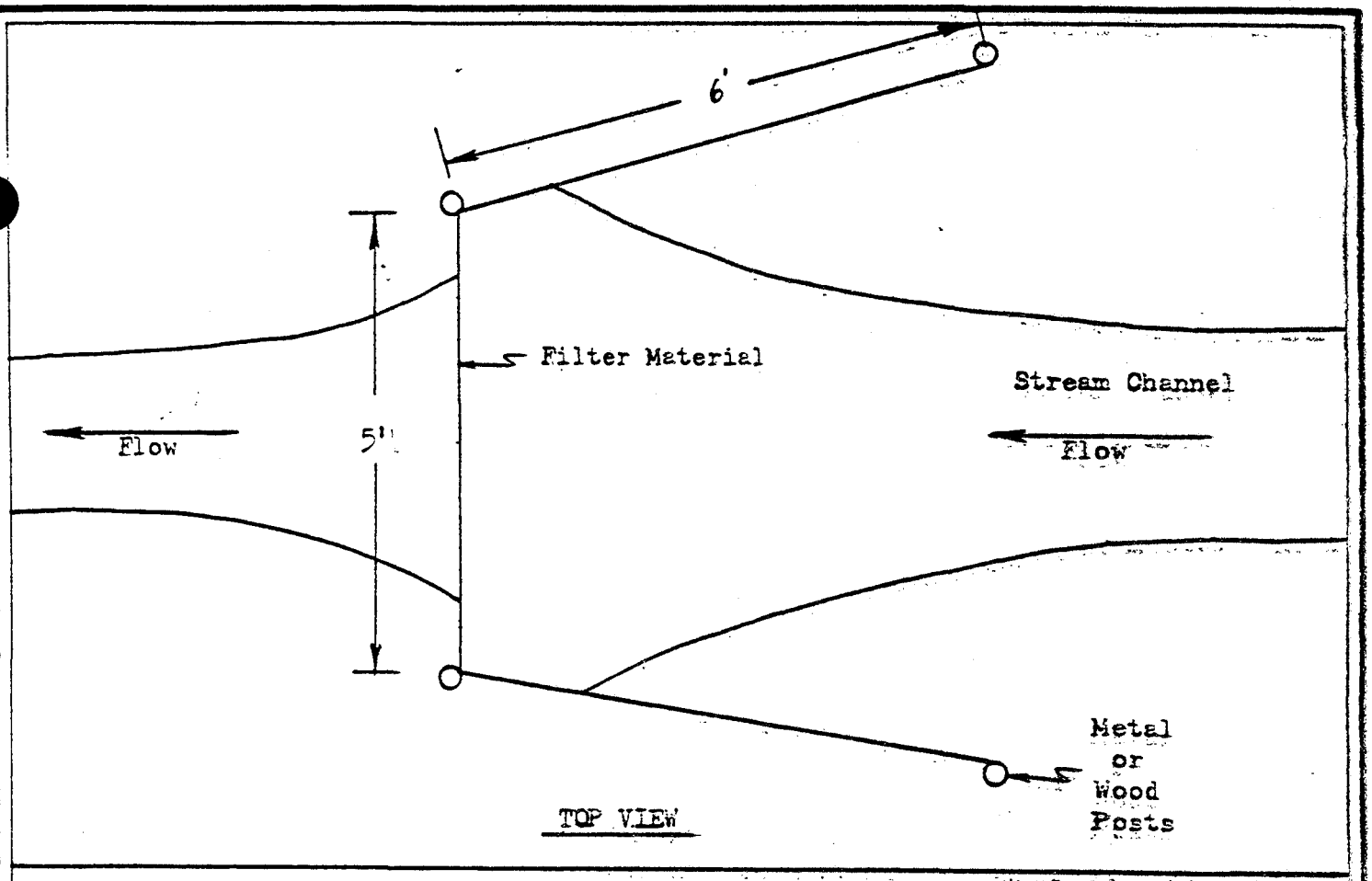


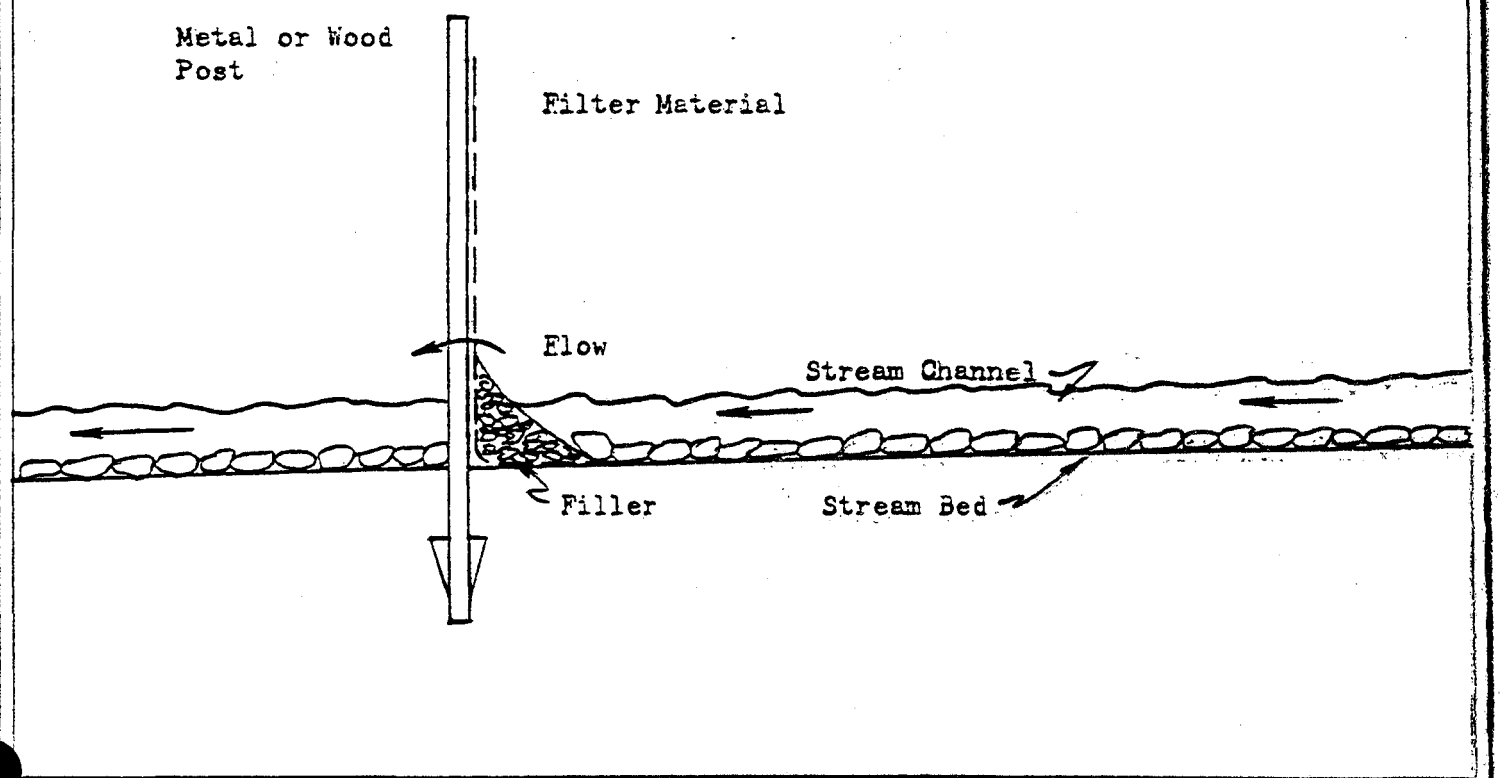
Section View
Scale 1" = 10'



Side View
Scale 1" = 2'

STREAM ENHANCEMENT STRUCTURE	SCALE: As Shown	FIGURE No.2





FILTER DESIGN	Scale: 1" = 2'	FIGURE NO. 5

APPENDIX 9

FINAL MINESITE RECLAMATION

Huntington Canyon No. 4 Mine
Final Minesite Reclamation

General

The final reclamation of the Huntington Canyon No. 4 Mine was performed in the fall of 1985. A description of the reclamation techniques is found in Attachment A of this Appendix. this is the written material submitted for the application for the O.S.M. "Excellence in Surface Mining Award" in 1986. This reclamation project subsequently won the Utah nomination for the federal award, as documented in Attachment B.

The reclamation was performed according to the approved reclamation plan, using the approved seed mix for the minesite and riparian areas, as described in Section 3.4.5 and Appendix 8 of this plan. The only variation from the plan during the initial reclamation was on a portion of the upper road, where ledge rock was encountered which prevented the recontouring of that area as planned. this variation was described in the Public Notice that was later submitted for Phase I Bond Release. A copy of the notice is enclosed as Attachment C of this Appendix.

In 1988, it became necessary to perform some additional drainage control and minor regrading on the lower pad area. This work was approved by a field amendment, and is described in Attachment D of this Appendix.

The only significant reclamation project remaining to be completed at this site is the removal of the Sediment Ponds. A complete description of the pond removal plan is found in Attachment E of this Appendix.

ATTACHMENT A

DESCRIPTON OF RECLAMATION

4/12/90

Huntington Canyon No. 4 Mine
Final Minesite Reclamation
by
Beaver Creek Coal Company

Background

The Huntington Canyon No. 4 Mine is an underground mine located in Mill Fork Canyon, approximately 12 miles northwest of Huntington, Utah. The mine started production in early 1977, was temporarily inactive in October, 1978, resumed full-time operation in March, 1980, and was closed in October, 1984. The mine operation is located on the same surface areas used by the Leamaster Mine in the Early-1940's.

All surface facilities and construction for the existing operation were in place by Late-1976, with the exception of diversions, sediment ponds and minor culvert work.

All facilities, environmental controls, and reclamation were covered by an approved Mining and Reclamation Plan, O.S.M. Mine Plan Approval No. UT-004, and Utah Division of Oil, Gas and Mining (UDOGM) approval ACT/015/004, 4/85.

The land on which the Huntington No. 4 Mine is located has long been used for coal mining. Mill Fork Canyon has supported three underground operations in the past --- the Helco, Skeen and Leamaster Mines.

The surface facilities of the No. 4 Mine were located in exactly the same area as those of the old Leamaster Mine which was operated more than a quarter of a century ago. The Helco and Skeen Mines also operated in the early-1940's. All three mines were abandoned without clean-up or reclamation.

Swisher Coal Company (now Beaver Creek Coal Company) performed additional work on the area in 1976 to reactivate the Leamaster Mine. Consequently, all major disturbance was performed prior the the enactment of P.L. 95-87, the Surface Mining Control and Reclamation Act

of 1977, and methods of site selection and preparation were not conducted per existing regulation. Roads and pads were constructed with the cut and fill technique commonly used in mountainous terrain and no topsoil was saved. The only disturbance created since 1977 was the construction of sedimentation ponds and diversions with the topsoil from these areas having been saved and placed in a designated storage pile area.

The permit area is located on the eastern edge of the Wasatch Plateau and is characterized by steep, narrow canyons containing conspicuous sandstone cliffs. The area is drained primarily by intermittent and perennial streams. The complex geological and geomorphological conditions have produced a variety of site specific soils that support the Douglas Fir forest, Pinion-Juniper woodlands and Great Basin Sagebrush vegetation types. The habitats in turn support a variety of wildlife. The permit area covered 1320 acres. Disturbed areas (roads, pads, etc.) amounted to 12.5 acres with an additional 25 acres of affected area around the minesite.

The minesite is located on privately-owned surface within the boundaries of the Manti-LaSal National Forest. Coal was mined from both fee ownership and Federal Leases.

Coal was mined by continuous miners, with shuttle car and conveyor haulage out of the mine. Due to the steep topography, coal was dropped over 300' in elevation by a 400' long chute, into an open storage pile. The coal from this pile was loaded by front-end loader onto trucks and hauled some 35 miles to the preparation facility.

The Huntington Canyon No. 4 Mine ceased operations in October, 1984. Portals were sealed and surface facilities were removed during Late-1984 and Early-1985. In August, 1985, the earthwork and revegetation portion of the final reclamation was started. The reclamation of the minesite was completed in early November, 1985. The following is a general description of the reclamation performed.

Reclamation Work Performed

A. 3 Portals Sealed and Backfilled
   1. Double row-solid concrete blocks mortared and laid in transverse pattern, recessed 6" into ribs and floor.
   2. Backfilled a minimum of 25' with incombustible material.

B. Structure Removal
   1. Removal and salvage/disposal of all structures on site:
      a. Concrete broken up and buried along highwalls.

C. Abandoned Mine Portals Sealed
   1. Sealing off portals performed by UDOGM Abandoned Mine Lands Department.
   2. Backfilling of portals along upper road performed by Beaver Creek Coal Company.

D. Coal Waste Removal
   1. Plus-4000 tons of coal waste hauled 35 miles to approved disposal site.
   2. Coal chute spillage (approximately 400' long x 50' wide) washed off hillside and hauled to disposal site.
   3. Coal spillage from abandoned mine operations also removed in areas of road and pad reclamation.

E. Backfilling and Grading
   1. After sealing of the portals and removal of all structures, a backhoe (Cat 231) was brought to the upper (portal) terrace.
   2. The backhoe began by reaching down over the fill bank and retrieving as much material as could be reached. This material was placed on the terrace.
   3. A dozer (Komatsu K-155A) worked with the backhoe, taking the retrieved material and spreading and compacting it from the highwall outward to reach the final configuration. Compaction of 90% or greater was accomplished by spreading the material in lifts not to

exceed 15" and tracking over it with the dozer. The top 12"-18" was left in a roughened, loose condition to promote water infiltration and plant growth.

4. The upper pad sloped to drain to the center. A rock-lined natural drainage was restored in this area since all diversions were removed during the backfilling and regrading.
5. The procedure, as noted above, continued down the upper road with the backhoe and cat operating in conjunction to reclaim this area down to the property line.
6. Similar reclamation techniques took place on the lower level starting with the coal storage area, lower pad, (including the lower road) and drainfield area. Removal of sedimentation ponds will take place after reclaimed areas are stabilized with vegetation.

F. Revegetation
   1. Entire disturbed and affected area hydroseeded and mulched according to approved plan.
   2. Shrubs planted according to approved plan.
   3. Planted 100 additional Ponderosa pines besides those called for in the approved Plan.

G. Fencing
   1. Fence designed to preclude vehicle and stock access while allowing for wildlife access.

H. Final Site Inspection 10/2/85
   1. UDOGM Staff

I. Application for Phase I Bond Release 2/27/86

J. Bond Release Inspection 6/12/86
   1. Participants:
      a. OSMRE
      b. UDOGM
      c. U.S. Forest Service
      d. B.L.M.
      e. Beaver Creek Coal Company

K. Mill Fork Road Narrowing
   1. Main canyon road narrowed to 16' and shoulders reseeded per request from U.S. Forest Service.
   2. Performed in addition to approved plan.

L. Phase I Bond Release
   1. UDOGM/OSMRE approved 60% bond release ($216,062.40) on November 10, 1986.

Specific Techniques

The Huntington Canyon No. 4 Mine Reclamation was unique in that it was the first complete, steep-slope minesite reclamation performed in the State under SMCRA; therefore, there was limited, proven data available from which to pattern technique. In addition, this was a pre-disturbed site with no available topsoil, and extremely steep highwalls and slopes. As a result, most of the reclamation techniques employed at this site were innovative; however, two of the procedures employed were particularly interesting and successful: (1) Leaving the reclaimed pad and road areas in a roughened condition, and (2) washing the coal waste material off the hillside. The following is a description of each of these techniques:

1. Roughened Pad & Road Areas - After the pad and road areas were recontoured and compacted, the top 12" - 18" of the surface was raked and ripped by the dozer and backhoe, leaving a loose veneer of soil with numerous water pockets to promote water infiltration for plant growth and to reduce erosion commonly caused by water running over a smoothly contoured

area. In addition, large rocks, dead trees and other natural debris were strewn along the reclaimed areas to provide cover for wildlife and to present a more natural configuration. After the first year, this technique appears to have been highly successful in reducing erosion and promoting vegetation. Preliminary estimates indicate an increase of approximately 20% in vegetation success by using this roughened surface procedure as opposed to the more conventional, smoother regrading method.

2. Washing of Coal from Slope - The coal chute from the upper pad to the lower loadout area had numerous problems with plugging and spillage during the operation. As a result, there was a great deal of coal accumulation over an area approximately 50' wide by 400' long on the hillside. The plan had called for partial removal by machine and/or hand, with final covering of the coal in place. Since the hillside slope averaged 40^{o}, it was decided that neither men nor machine could move the coal from the hillside safely. Since the slope was rocky in nature, with a series of ledges, it was decided to try and wash the coal down to the loadout pad. The spray from the hydromulcher was used to perform the washing operation. The high pressure spray was successful in moving the coal from the hillside, while requiring only limited access onto the slope by men. Coal accumulations of 2' to 4' in depth were removed along the chute location, and even dust accumulations 15' to 25' away were successfully flushed from the hillside.
The coal was washed into the loadout area, where it was loaded and hauled to an approved refuse site. The excess water was conveyed to the existing sedimentation ponds. Once the coal was removed from the loadout area, the high pressure spray was once again employed to clean accumulations from the sandstone cliffs surrounding the storage area. This method proved to be not only safe and efficient, but economical as well.
Vegetation success has also been greatly enhanced in the areas where the coal was removed.

ATTACHMENT B

EXCELLENCE IN SURFACE MINING AWARD

4/12/90

Jay Hansen

United States Department of the Interior
OFFICE OF SURFACE MINING
Reclamation and Enforcement
WASHINGTON, D.C. 20240

TAKE PRIDE IN AMERICA

JUL 7 1987

Mr. Dick Pick, President
Beaver Creek Coal Company
P.O. Box 1378
Price, Utah 84501

Dear Mr. Pick:

I am writing this letter to thank you for your company's efforts in making the first annual Excellence in Surface Mining Awards Program a success.

Your site or project was nominated for this competition by your State Regulatory Authority - a distinction which is highly commendable and for which I extend my heartiest congratulations. By your efforts and those of your dedicated employees, you have furthered the goals of the Surface Mining Control and Reclamation Act (SMCRA) and shown your spirit of commitment to restore the land.

Again thank you for your participation and demonstration of your pride in the restoration of America's natural resource base. We look forward to the continuation of this program next year when we will again recognize the outstanding achievements under SMCRA exemplified by this year's participants.

Sincerely,

Jed O. Christensen

Director

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

NEWS RELEASE
March 23, 1987

LOCAL COAL COMPANY NOMINATED FOR AWARD

The Utah State Division of Oil, Gas and Mining has selected Beaver Creek Coal Company as its nominee for the Federal Excellence in Surface Mining Award. Beaver Creek's Huntington Canyon #4 mine site was chosen as the outstanding reclamation project. Division Director, Dianne Nielson says, "The project demonstrates effective site reclamation, including stabilization of erosional slopes and removal of coal accumulations which reduce exposure to otherwise hazardous conditions."

The new awards program is part of the "Take Pride in America" campaign initiated by the U.S. Department of Interior and the Office of Surface Mining. The program is designed to recognize exemplary performance by coal operators. It also helps transfer successful reclamation technology for wider use.

Beaver Creek will compete with nominees from other coal-producing states for the national award. Secretary of the Interior, Donald Hodel, will announce the national winner on June 22, 1987, at the National Coal Association's 70th Anniversary Conference.

# # # # # #

For further information contact:
Dotti Brockbank
Public Affairs
538-5428 or 538-5429

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

February 23, 1987

Mr. Dan W. Guy, Manager
Permitting and Compliance
Beaver Creek Coal Company
P. O. Box 1378
Price, Utah 84501

Dear Mr. Guy:

Re: Excellence in Surface Mining Award Program

The Division of Oil, Gas and Mining wishes to thank Beaver Creek Coal Company (BCCC) for their participation in the First Annual "Excellence in Surface Mining Award" (ESMA) that is being conducted as part of the Secretary of the Interior's "Take Pride in America" campaign.

After careful evaluation of the criteria for selection, the Division found that BCCC's reclamation project at Huntington No. 4 met the requirements for submittal to the ESMA program and on November 25, 1986, submitted BCCC's application to Office of Surface Mining Reclamation and Enforcement Director, Jed D. Christensen.

Congratulations on your excellent performance and for being Utah's nomination for this year's ESMA.

Best regards,

Dianne R. Nielson
Director

jb
0372Q-109

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

February 23, 1987

Mr. Dan W. Guy, Manager
Permitting and Compliance
Beaver Creek Coal Company
P. O. Box 1378
Price, Utah 84501

Dear Mr. Guy:

Re: Excellence in Surface Mining Award Program

The Surface Mining Control and Reclamation Act (SMCRA), passed in 1977, created the Office of Surface Mining Reclamation and Enforcement and provided the basis for Utah's coal regulatory program under the "primacy" provisions. Utah must maintain regulations and conduct its program in a manner that is as effective as the federal program, but Utah has the authority to resolve specific technical surface mining problems, in a creative manner, by a cooperative effort with industry to develop innovative mining technologies. We hope to fulfill these opportunities and support the Excellence in Surface Mining Award program (ESMA).

At the November 6, 1986, meeting of the Utah Coal Committee of the Utah Mining Association in Price, Utah, the Division of Oil, Gas and Mining invited Utah operators to submit completed reclamation projects to the Division for consideration as part of the "Take Pride in America" campaign, Excellence in Surface Mining Award program. The program is designed to recognize exemplary performance by coal mining operators under Title V of SMCRA. It is also an important mechanism to provide public recognition for the outstanding contributions made by coal operators, and to transfer successful reclamation technology for use in other areas of the nation.

We have conducted a screening competition for all coal mining company applications within the state, and have selected one company for nomination at the national level to compete for the ESMA. At the national level, up to three companies will be selected to receive awards. The criteria considered in making the recommendation for the ESMA are creative development and application of new technology or technique, efficiency, safety, and voluntary effort.

Utah received submittals from Beaver Creek Coal Company, Utah Fuel Company, and Southern Utah Fuel Company. After careful evaluation of each submittal by the criteria above, Beaver Creek Coal Company's application was submitted by Utah to OSMRE Director, Jed D. Christensen, to compete as a candidate for the Excellence in Surface Mining Award. Subsequently, the director has convened a Federal Awards Evaluation Committee to evaluate and select up to three winners in the ESMA. As recently as last week, the evaluation committee completed their selection process and made recommendations to the director. It is my understanding that the director will soon announce the winners of the three awards and honorable mention for other participation entries.

The three Excellence in Surface Mining Awards will be signed by the Director of OSMRE and will be presented by OSMRE in the state of the recipient.

The Utah Division of Oil, Gas and Mining wishes to extend a vote of thanks and confidence to the coal mining industry in Utah for their efforts in achieving the level of compliance that makes them noteworthy among other states in the West. A vote of thanks is especially extended to the three companies who completed reclamation projects submitted for the Excellence in Surface Mining Awards.

Best regards,

Dianne

Dianne R. Nielson
Director

jb
0372Q-107-108

EXCELLENCE IN SURFACE MINING AWARDS APPLICATION

Beaver Creek Coal Company	Price	Utah
Company Name	City	State

Describe the work done and cite specific techniques or technologies employed:

See Attached Narrative

Summarize the basis and highlights of the exemplary performance:

See Attached Narrative

ATTACHMENT C

PUBLIC NOTICE

and

DESCRIPTION OF VARIATION

4/12/90

PUBLIC NOTICE

Huntington Canyon No. 4 Mine
Permit No. ACT/015/004, UT-004, 4/85

Beaver Creek Coal Company
P.O. Box 1378
Price, UT 84501

Application for Partial Release of Performance Bond

Beaver Creek Coal Company completed reclamation Phase I at its Huntington Canyon No. 4 Mine during the period of August 15, 1985 through September 30, 1985. This work has consisted of sealing of three (3) portals and one (1) opening, regrading and backfilling of pad and road areas, soil replacement, reseeding, and drainage control in accordance with the approved reclamation plan with the following exception: A slight deviation from the backfilling and regrading plan was necessary on a section of the upper road from station 32 + 00 to 45 + 00. The reclaimed section in this area has a 10' - 15' wide flat or slightly sloping area between the downslope and the highwall backfill area, instead of the typical single point transition. The variation at this location was due to the presence of a massive ledge rock just below the outslope fill area. The area was inspected, and the Division was notified of the variation on 9/17/85.

In accordance with Section UMC 801.11(b) of the Utah Coal Mining Reclamation Act (UCA, Section 40-10-1 et seq), notice is hereby given to the general public that Beaver Creek Coal Company is applying for partial release of the performance bond posted for this operation.

The present performance bond for the Huntington Canyon No. 4 Mine is $360,104.00. The application is filed for the release of 60% of this amount, or $216,062.40.

The Huntington Canyon No. 4 Mine is located in Mill Fork Canyon, approximately 35 road miles southwest of Price, Utah. The following are the legal descriptions of the permit area:

Township 16 South, Range 7 East, SLBM, Utah
Sec. 8: SW¼, S½ SE¼.
Sec. 9: S½, SW¼,SW¼ SE¼,
Sec. 16: All of Section.
Sec. 17: E½.

The permit area is located on the Rilda Canyon, Utah, U.S. Geological Survey 15 minute quadrangle map.

Federal Coal Leases are #U-33454 and #SL-064903.

The reclamation work was performed on 12.29 acres of disturbed area located on the following described lands:

Township 16 South, Range 7 East, SLBM, Utah
Sec. 16: SW¼ SE¼ (4.22 acres)
Sec. 16: S½ SW¼ (6.98 acres)
Sec. 17: SE¼ SE¼ (1.09 acres)

The Division will now evaluate the proposal to determine whether it meets all the criteria of the Permanent Program Performance Standards according to the requirements of UCA, Section 40-10-1 et seq.

Upon completion of the evaluation for said reclamation, a decision will be made as to approval or disapproval of the application. The reclamation plan is available for public review at: Division of Oil, Gas and Mining, 355 West North Temple, 3 Triad Center, Suite 350, Salt Lake City, Utah 84180-1203 and at the Emery County Courthouse, Castle Dale, Utah 84513.

Written comments, objections, and requests for public hearing or informal conference on this proposal may be addressed to the Director of the Division. Dr. Dianne Nielson, Director, Division of Oil, Gas, and Mining, 355 West North Temple, 3 Triad Center, Suite 350, Salt Lake City, Utah 84180-1203, Attention Mr. Lowell Braxton.

ATTACHMENT D

DRAINAGE AND REGRADING AMENDMENT

4/12/90

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

State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340

January 3, 1989

Mr. Dan Guy
Beaver Creek Coal Company

Re: Final Approval, Field Amendment, Minor Regrading and Drainage Changes, Beaver Creek Coal Company, Huntington #4 Mine, ACT/015/004-88-C, Folder #3, Emery County, Utah

Dear Mr. Guy:

The submittal received December 30, 1988, regarding the above noted permitting action was reviewed and found to be complete and adequate by Bill Malencik of the Division's technical staff.

The Division hereby approves the above referenced action. Thank you for your cooperation in this matter.

If you have any questions, please call Bill Malencik or me.

Sincerely,

Thomas Munson for

John J. Whitehead
Permit Supervisor/
Reclamation Hydrologist

cl
Enclosure
cc: R. Hagen
J. Helfrich
BT46/28

BEAVER CREEK Coal Company
Post Office Box 1378
Price, Utah 84501
Telephone 801 637-5050

December 12, 1988

Mr. Lowell P. Braxton
Administrator
Utah Division of Oil, Gas & Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

RE: Runoff Conveyance Maintenance
Huntington Canyon No. 4 Mine
INA/015/004
Emery County, Utah

Dear Mr. Braxton:

Beaver Creek Coal Co. completed a series of maintenance items at the Huntington Canyon No.4 Mine during the month of November, 1988. The work performed was primarily at the suggestion of the Division (and OSM), and included silt fence addition, reseeding and fertilizing areas of low growth on the upper road and pad, and cleaning of the sediment pond. One area, however, did involve moderate regrading and new drainage control, and was significant enough to constitute a field amendment, written and approved by Mr. William Malencik on 12/8/88.

The amendment required submission of 8 copies of a map showing the changes, and a description of the work performed. The revised map is attached and should replace the corresponding map in the M.R.P. The following is a brief description of the work performed:

(1) A new diversion was installed at the base of the steep slope above the middle pad (haul road area); This area had no special drainage controls, and drains a series of rock ledges with resulting runoff causing minor erosion on a lower, reclaimed slope;

(2) The diversion is approximately 600' long, with about 250' draining to the east to the main canyon channel, and the remaining 350' draining to the west and south to a road ditch and then east to the sediment pond.

(3) Loose rock check dams have been installed along the diversion next to the steep slope. The southern flowing portion has been rip-rapped. Controls have been placed at all points of expected erosion potential;however, these will be monitored and upgraded or changed as necessary.

(4) While large equipment was in the area for diversion construction, it was used to further cover an area of minor coal exposure and to redress a steep slope area between the middle and lower pad. The slope and area above were then roughened to maximize water retention.

(5) The upper and middle cells of the sediment pond were also cleaned at this time.

(6) Finally, all areas of disturbance were reseeded, fertilized and mulched as per the approved plan.

As mentioned above, all other maintenance items requested by the Division and O.S.M. were completed at this time, including the reseeding, fertilizing and straw mulching of the low growth areas on the upper road and pad. Pack horses and hand labor were utilized for this work in order to minimize disturbance.

If you have any questions, or need any further information, please let me know.

Respectfully,

Dan W. Guy
Manager Permitting/Compliance

cc: W.J. Malencik - D.O.G.& M.
J.L. Coffey - B.C.C.C.
File

IBM CR1

COAL MRP AMENDMENT/FIELD DECISION FORM

The Division of Oil, Gas, and Mining has issued approval for the below stated amendment while on location in the field.

Type of Proposal:

		TDN#
AMENDMENT	X	NOV #N ___ ___ ___ ___, # ___ OF ___
EXPLORATION	___	CO #C ___ ___ ___ ___, # ___ OF ___

I. B. C. ___ (Incidental Boundary Change)

Title of Proposal: Maintenance - Water/Runoff Conveyance Project

Company Name: Beaver Creek Coal Co.

Project or Mine Name: HUNTINGTON #4

File #: (INA /~~PRO~~/ ~~ACT~~ /~~CEP~~) 015 / 004 -88__ __# New Acres: _____

Description of Permit Change: Runoff Conveyance Maintenance on upper bench/lower pad that drains into the sediment pond. Maintenance work requested in inspection of 10/27/88 and ~~consists~~ includes the following (Sketch. See Reverse Side Hereof).

(1) New diversion about 600' long that starts immediately adjacent to a steep slope one segement draining in an eastely direction to a large rip rapped diversion and the other segement in a westely ~~and~~ Southerly direction to a road ditch. both ultimately terminate at the sediment pond. Check dams have been constructed in the diversion next to the steep slope. The segement running in a southerly direction has been rip rapped.

(2) The upper bench area mentioned above has been roughen up to hold and/or detain runoff and develop a micro climate for vegetal establishment. Steep raw slope was regraded.

(COVER PLEASE)

Due date for submittal of revised ~~application pages and~~ maps: 12/30/88

Submittal should include eight copies of:

- Map
- Brief description of work that was performed in a letter.

Dan W. Guy — 12/8/88

Authorized Representative for Permittee — Date

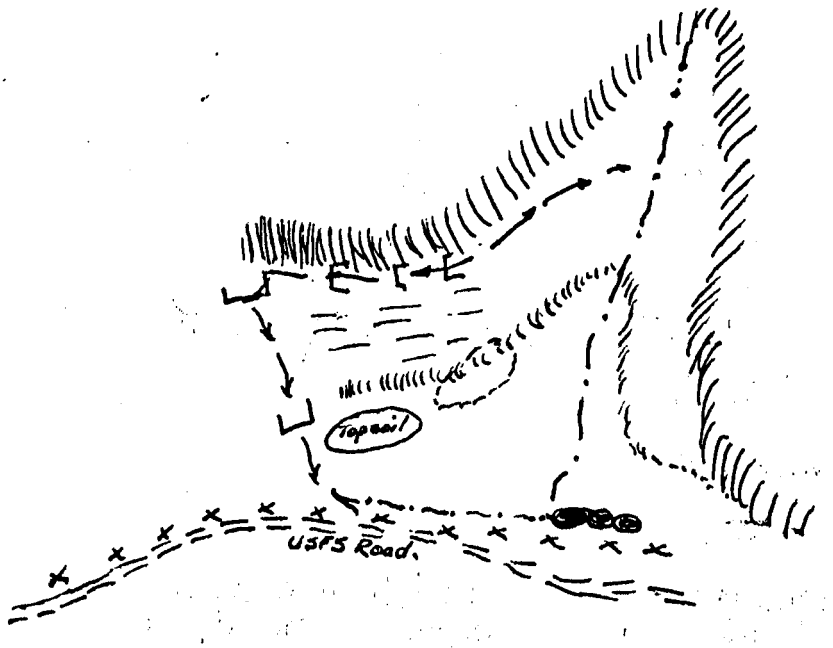
Approved

Lead Reclamation Specialist 12/8/88 — Specialist Approving ___ ___ ___

Jim D. Smolenek

8946R/61

(3) The redisturbed area was fertilized, mulched and seeded.



N

Scale
0 100' 200' 300' 400'

x x x Fence Existing
—·—· Existing Diversions
→ New Diversion & Drainage Direction
=== Roughed up Area
◌ Regraded Area.

WMN 12/8/88

ATTACHMENT E

SEDIMENT POND REMOVAL

Appendix 9

Sediment Pond Removal

As indicated under the reclamation section, the sediment ponds will be removed when the vegetation success standards are met for the property. An extra effort will also be made to sample runoff from the reclaimed site at the pond inlet. A station has been in place and monitored since the initial reclamation; however, to date, no inflow samples have been taken due to the lack of runoff during the monitoring cycles. Very little water has reached the ponds during this time, and it is likely that the only way to get an inflow sample is to be at the site during a major storm event. If possible, this will be done to provide information on water quality leaving the site.

The following procedures will be followed for removal of the sediment ponds:

(1) At least 3 soil samples each will be taken from the pond embankments and topsoil stockpile. These samples will be analyzed for the parameters in Table I of the Division Guidelines, and embankment material will be compared with the topsoil material. Fertilizer and/or soil enhancement requirements will be based on results of these analyses:

(2) If the soil is shown to be of suitable quality, the embankment material will be dozed into the ponds and compacted;

(3) Any structures (pipe, headgates, etc.) will be removed and salvaged or disposed in an approved landfill;

(4) The area will be reshaped to an approximate predisturbed configuration, and the main channel will be restored and rip-rapped down to the Mill Fork Road;

(5) A 36" cmp culvert will be installed under the Mill Fork Road to carry the main channel drainage to Mill Fork Creek. The culvert will be fitted with a trash rack and inlet section. Road drainage will be restored to direct runoff to the appropriate culverts.
(Note: The original culvert at this crossing site was a 24" cmp; however, a 36" is proposed to ensure long-term stability.)

(6) Once the area is regraded, the surface will be roughened as in the original reclamation, and reseeded using the seed mix and techniques used in the original reclamation;

(7) A silt fence or straw bales will be placed along the lower edge of the reclamation to help control runoff until vegetation is established.

It should be noted that the topsoil material originally removed from this site will not be redisturbed and replaced if the pond embankment material shows comparable quality. The topsoil pile is blended into the final reclamation, and is well vegetated. To remove it for replacement at the sediment ponds would only create another area of disturbance. The existing soils on the site have been shown to be capable of supporting the reclaimed vegetation, and additional soil samples on the pond embankments will further assure vegetation success.

APPENDIX 10

SEDIMENT POND REMOVAL

FOR

PHASE II BOND RELEASE

Appendix 10
Sediment Pond Removal

Introduction:

On March 20, 1995, the Utah Division of Oil, Gas & Mining granted approval of the Phase II Bond Release for the Huntington Canyon No. 4 Mine, conditional upon removal of the sediment ponds. This Appendix will address the proposed plans and designs for final removal of the sediment ponds.

General Plan:

The proposed plan for sediment pond removal consists of total removal and recontouring of the lower cell, and reduction of the upper cell to a basin. The basin is not a holding structure, and is intended only to provide surge capacity for the culvert inlet. A 36" culvert will then be installed to carry the drainage from the minesite and basin to Mill Fork Creek. The existing pond configuration is shown on Plate 1 of this Appendix. The proposed, final reclamation in shown on Plates 2 and 3.

Hydrology:

The runoff for the drainage areas were calculated for a 100 year-6 hour storm event of 2.12". Acreages, slopes, runoff curve numbers and times of concentration for both the undisturbed and disturbed (reclaimed) areas were taken from Chapter 7 of the approved permit for the proposed 36" culvert. The watershed area for the existing 24" culvert below the pond area was taken from the watershed map in Attachment A of this Appendix. Expected flows from both the undisturbed and disturbed areas were calculated using the OSM "Storm 6.0" computer program. The total flow was then routed through a culvert using the Haested "Flowmaster" program to determine minimum culvert size.

Proposed 36" Main Culvert:

The flow from the culvert will discharge onto a rip-rap apron prior to discharge to the stream. The rip-rap apron is proposed to be 15' in length with a bottom width from 3' - 9' and 2h:1v side slopes. Rip-rap will be 6" D50, as described under the Reclamation Section of this Appendix. A proposed design for the rip-rap apron is shown in Attachment A of this Appendix.

Existing 24" Culvert:

This culvert will remain in place to carry runoff from the road and a portion of the reclaimed and undisturbed areas above, which presently drain to the lower cell of the sediment pond. The culvert inlet and outlet is presently protected by a 6" D50 rip-rap, which will also remain in place. Calculations for the justification of the culvert are shown in the following table. Watershed areas and slopes were taken from the Watershed Map in Attachment A of this Appendix.

The following is a list of the parameters used and results obtained:

Culvert	*Proposed 36"*	*Existing 24"*
100 year / 6 hour event (in.)	*2.12*	*2.12*
Undisturbed/Reclaimed Area (ac.)	*78.08*	*6.89*
Undisturbed/Reclaimed Runoff CN	*75*	*75*
Undisturbed/Reclaimed Time of Concentration	*0.07*	*0.05*
Undisturbed/Reclaimed Peak Flow (cfs)	*28.52*	*2.47*
Disturbed Area (ac.)	*6.38*	*0.46*
Disturbed Runoff CN	*90*	*90*
Disturbed Time of Concentration (hrs.)	*0.289*	*0.07*
Disturbed Peak Flow (cfs)	*5.60*	*0.51*
Total Peak Flow 100/6 (cfs)	*34.12*	*2.98*
Culvert Manning's Number	*0.025*	*0.025*
Culvert Slope (%)	*3.50*	*4.00*
Velocity (fps)	*7.82*	*4.47*
Required Culvert Diameter (ft.)	*2.36*	*0.92*
Proposed Culvert Diameter (ft.)	*3.00*	*2.00*

As shown above, the proposed culvert diameters are more than adequate to carry the flow from a 100 year-6 hour storm event for this area. Computer backup information is included in Attachment A of this Appendix.

<u>Basin Inlet:</u>

It is proposed to perform additional work on the existing basin inlet to enhance the rip-rap protection and provide a better defined channel. Due to the steepness of the area and existing vegetation, it is questionable whether equipment access can be gained to the inlet without additional disturbance. The following is a proposed plan for the inlet providing equipment (trackhoe) <u>can</u> access the area from the east side:

(1) A channel area will be defined according to the design shown in Attachment A;

(2) Rip-rap will be re-set in the channel with the largest at the base of the slope decreasing in size up the slope;

(3) Larger pieces of rip-rap will be placed on top of one another in a stair-step fashion as much as possible;

(4) A mixture of gravel and finer materials (i.e. soil) will be compacted around the rip-rap using a vibrating foot tamper or other tool to achieve similar compaction;

(5) The area will be reseeded along with the reclaimed pond area.

If equipment access is deemed impractical in the field, as much of the above procedure as possible will be performed by hand methods.

Rip-Rap:

Rip-rap sizing for all areas was determined using the calculated flow velocities and selecting the median diameter size from the Rip-Rap Chart in Attachment A. Rip-rap will be generated on site if possible, and will be blocky and angular. The following is a summary of locations, slopes, velocities and proposed sizes of rip-rap to be placed:

Location	*Slope*	*Velocity*	*Req'd D50*	*Proposed D50*
Main Inlet	*45.71%*	*13.68 fps*	*20"*	*20"*
36" Cmp Inlet	*45.71%*	*13.68 fps*	**20"*	*12"*
36" Cmp Outlet	*3.50%*	*7.82 fps*	*6"*	*6"*
24" Cmp Inlet	*8.00%*	*3.94 fps*	*Not Req'd*	*Existing*
24" Cmp Outlet	*4.00%*	*4.47 fps*	*Not Req'd*	*Existing*

** Due to impractical size and having a cmp headwall, 12" ~~D50 is proposed.~~*

Rip-rap will be placed to a depth of not less than 1.5 times the D50. The rip-rap apron at the outlet of the 36" culvert will be underlain by a filter blanket as shown in Attachment A. All other rip-rap will either remain as is (24" culvert) or be re-set on existing ground with compacted soil/gravel in the voids as described in the Basin Inlet section above.

Reclamation Plan:

The proposed reclamation plan for the pond area is shown on the enclosed Plate 2, with cross-sections on Plate 3. A description of the proposed plan is as follows:

(1) All existing rip-rap from the pond overflows will be removed and temporarily stored for re-use;

(2) The berm along the lower cell will be pushed into the cell and compacted as fill;

(3) The dam of the upper cell will be lowered by approximately 8' and compacted into the lower cell area as backfill;

(4) The 36" culvert will be installed from the upper basin across the Mill Fork Road;

(5) Rip-rap on the existing pond inlet will be re-set with voids filled in with existing soil;

(6) The basin and culvert inlet structure will be rip-rapped using 12" D50 or larger rock with soil in the voids;

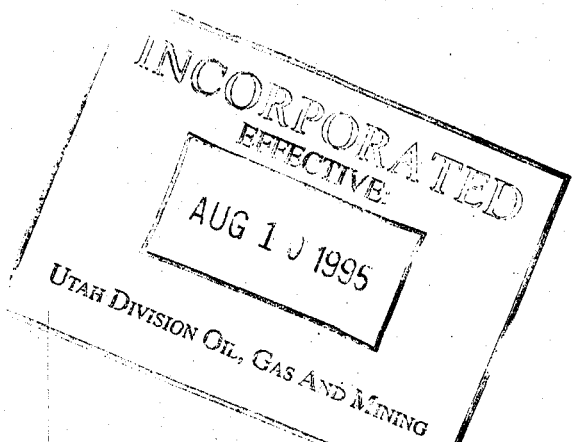
(7) The culvert outlet structure (rip-rap apron) will be installed using 6" D50 or larger rip-rap placed to a minimum depth of 9" over a bedding of filter fabric;

(8) All exposed soil areas will be roughened by hand and/or using the backhoe teeth;

(9) The entire re-disturbed area will be seeded and mulched, using the approved seed mix in the permit;

(10) The road drainage will be restored, and the temporary fence will be replaced along the pond side of the road.

ATTACHMENT A



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VDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD7
:Project Title          = #4 MINE DRAINAGE-DISTURBED 36" CMP                                        :
:WATERSHED HYDROGRAPH                                                                              :
:     Inflow into structure #  1                                                                   :
:     Structure type:          Null                                                                :
:                                                                                                  :
:                                                                                                  :
:-- Watershed data for watershed # 1                                                               :
:    Curve number             =    90.0                                                          :
:    Area                     =     6.4 acres                                                    :
:    Hydraulic length         =    0.00 feet                                                     :
:    Elevation change         =    60.0 feet.                                                    :
:    Concentration time       =    0.29 hours                                                    :
:    Unit hydrograph type = Disturbed                                                            :
:                                                                                                  :
:-- Total Area              =     6.4 acres                                                      :
:                                                                                                  :
:-- Storm data                                                                                    :
:    Total precipitation      =     2.1 inches                                                   :
:    Storm type               = SCS 6 hour design storm                                         :
:    Peak Discharge           =    5.59 cfs                                                      :
:    Discharge volume         =    0.64 acre ft                                                  :
:                                                                                                  :
: <press return to continue or {esc} to skip detail printout>                                     :
SDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD=
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VDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD7
:Project Title          = #4 MINE DRAINAGE-UNDISTURBED 36" CMP                                      :
:WATERSHED HYDROGRAPH                                                                              :
:     Inflow into structure #  1                                                                   :
:     Structure type:          Null                                                                :
:                                                                                                  :
:                                                                                                  :
:-- Watershed data for watershed # 1                                                               :
:     Curve number            =     75.0                                                         :
:     Area                    =     78.1 acres                                                   :
:     Hydraulic length        =     0.00 feet                                                    :
:     Elevation change        =     60.0 feet.                                                   :
:     Concentration time      =     0.07 hours                                                   :
:     Unit hydrograph type = Disturbed                                                           :
:                                                                                                  :
:-- Total Area              =     78.1 acres                                                     :
:                                                                                                  :
:-- Storm data                                                                                    :
:     Total precipitation  =      2.1 inches                                                     :
:     Storm type           = SCS 6 hour design storm                                             :
:     Peak Discharge       =    28.52 cfs                                                        :
:     Discharge volume     =     2.87 acre ft                                                    :
:                                                                                                  :
: <press return to continue or {esc} to skip detail printout>                                     :
SDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD=
```

Title of run: 36" CMP

Solving for.....=	Depth Normal

Trapedeziod

Flow depth (ft).....=	0.50
First Side slope.....=	2.0
Second Side slope.....=	2.0
Bottom width (ft).....=	4.00
Slope of diversion.....=	0.4571
Manning"s n.....=	0.040
CFS.....=	34.12
Cross section area (sqft)..=	2.49
Hydrualic radius.....=	0.40
fps.....=	13.68
Froude number.....=	3.81

Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: #4 MINE DRAINAGE

Comment: SEDIMENT POND REMOVAL - 36" CULVERT

Solve For Full Flow Diameter

Given Input Data:

Slope.....	0.0350 ft/ft
Manning's n.....	0.025
Discharge.....	34.12 cfs

Computed Results:

Full Flow Diameter.....	2.36 ft
Full Flow Depth.....	2.36 ft
Velocity.....	7.82 fps
Flow Area.....	4.36 sf
Critical Depth....	2.00 ft
Critical Slope....	0.0331 ft/ft
Percent Full.....	100.00 %
Full Capacity.....	34.12 cfs
QMAX @.94D.....	36.70 cfs
Froude Number.....	FULL

Open Channel Flow Module, Version 3.43 (c) 1991
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VDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD7
:Project Title          = #4 MINE DRAINAGE-DISTURBED 24" CMP                                         :
:WATERSHED HYDROGRAPH                                                                                :
:     Inflow into structure #  1                                                                     :
:     Structure type:          Null                                                                  :
:                                                                                                    :
:                                                                                                    :
:-- Watershed data for watershed # 1                                                                 :
:    Curve number            =    90.0                                                               :
:    Area                    =     0.5 acres                                                         :
:    Hydraulic length        =  750.00 feet                                                          :
:    Elevation change        =    60.0 feet.                                                         :
:    Concentration time      =    0.07 hours                                                         :
:    Unit hydrograph type = Disturbed                                                                :
:                                                                                                    :
:-- Total Area              =     0.5 acres                                                          :
:                                                                                                    :
:-- Storm data                                                                                       :
:    Total precipitation     =     2.1 inches                                                        :
:    Storm type              = SCS 6 hour design storm                                               :
:    Peak Discharge          =    0.51 cfs                                                           :
:    Discharge volume        =    0.05 acre ft                                                       :
:                                                                                                    :
: <press return to continue or {esc} to skip detail printout>                                        :
SDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD=
```

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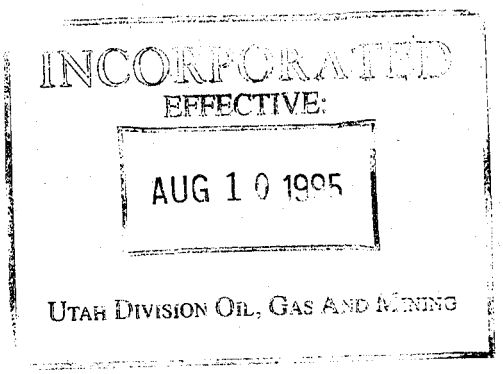
VDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD7
:Project Title          = #4 MINE DRAINAGE-UNDISTURBED 24" CMP               :
:WATERSHED HYDROGRAPH                                                          :
:      Inflow into structure #  1                                              :
:      Structure type:          Null                                           :
:                                                                              :
:                                                                              :
:-- Watershed data for watershed # 1                                           :
:     Curve number           =    75.0                                         :
:     Area                   =     6.9 acres                                   :
:     Hydraulic length       = 1050.00 feet                                    :
:     Elevation change       =   310.0 feet.                                   :
:     Concentration time     =    0.05 hours                                   :
:     Unit hydrograph type   = Disturbed                                       :
:                                                                              :
:-- Total Area             =      6.9 acres                                    :
:                                                                              :
:-- Storm data                                                                 :
:     Total precipitation    =     2.1 inches                                  :
:     Storm type             = SCS 6 hour design storm                         :
:     Peak Discharge         =    2.47 cfs                                     :
:     Discharge volume       =    0.25 acre ft                                 :
:                                                                              :
: <press return to continue or {esc} to skip detail printout>                  :
SDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD=
```

Title of run: 24" CMP

Solving for	Depth Normal

Trapedeziod

Flow depth (ft)	0.29
First Side slope	2.0
Second Side slope	2.0
Bottom width (ft)	2.00
Slope of diversion	0.0800
Manning"s n	0.040
CFS	2.98
Cross section area (sqft)	0.76
Hydrualic radius	0.23
fps	3.94
Froude number	1.45



Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: #4 MINE DRAINAGE

Comment: SEDIMENT POND REMOVAL - EXISTING 24" CULVERT

Solve For Full Flow Diameter

Given Input Data:

Slope.....	0.0400 ft/ft
Manning's n.....	0.025
Discharge.....	2.98 cfs

Computed Results:

Full Flow Diameter.....	0.92 ft
Full Flow Depth.....	0.92 ft
Velocity.....	4.47 fps
Flow Area.....	0.67 sf
Critical Depth.....	0.75 ft
Critical Slope.....	0.0404 ft/ft
Percent Full.....	100.00 %
Full Capacity.....	2.98 cfs
QMAX @.94D.....	3.21 cfs
Froude Number.....	FULL

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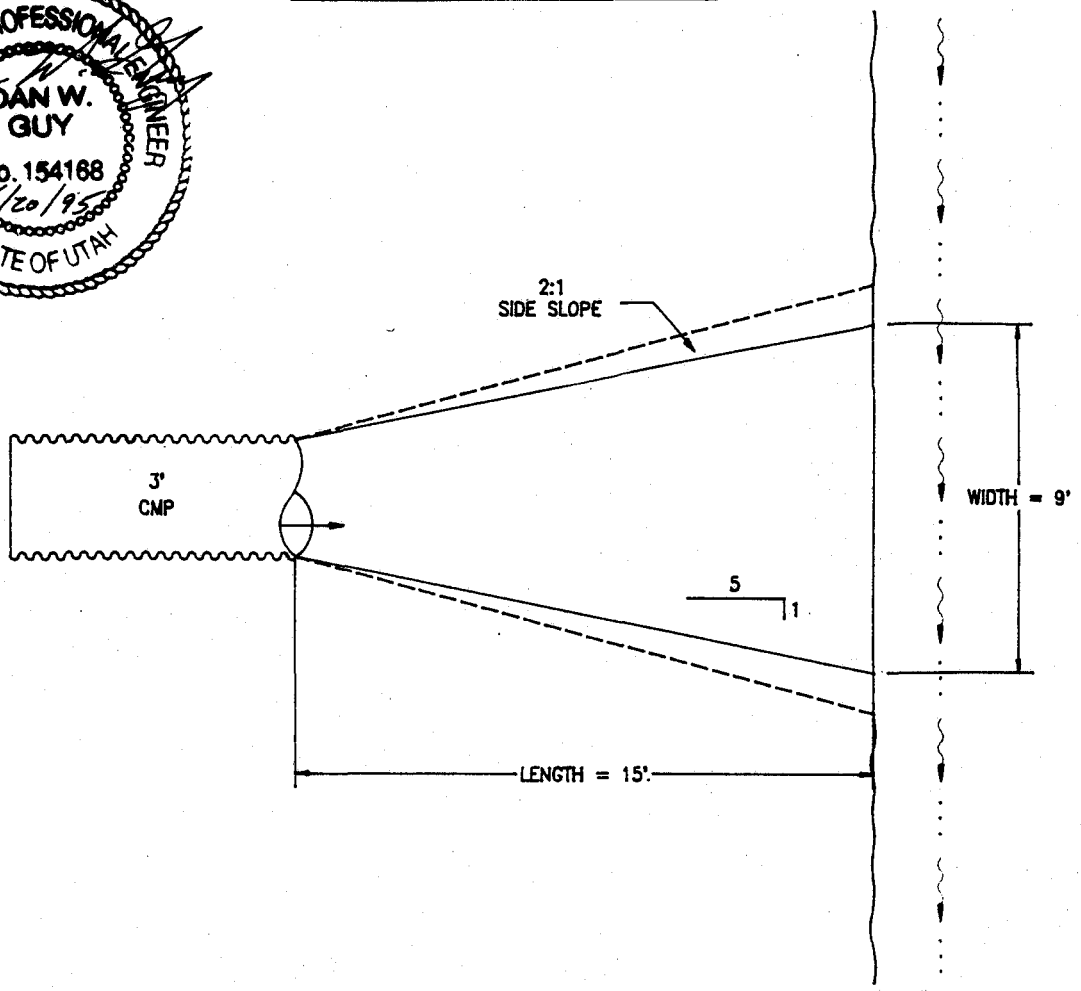
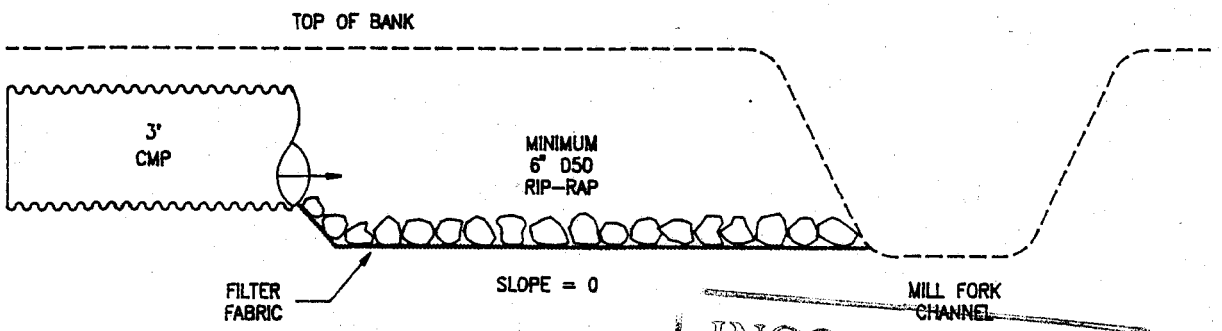
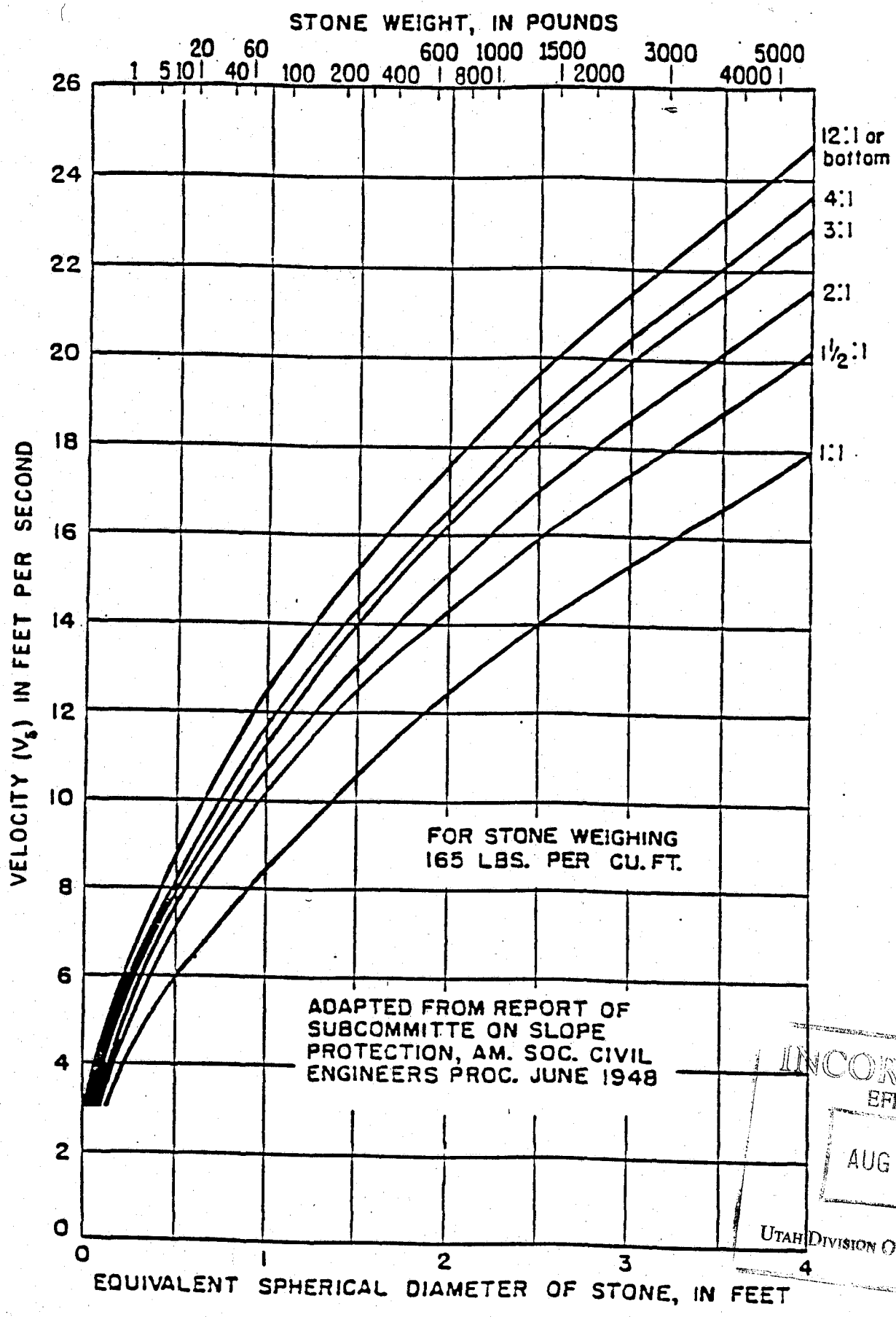
PROPOSED RIP-RAP APRON

REGISTERED PROFESSIONAL ENGINEER
DAN W. GUY
No. 154168
6/20/95
STATE OF UTAH



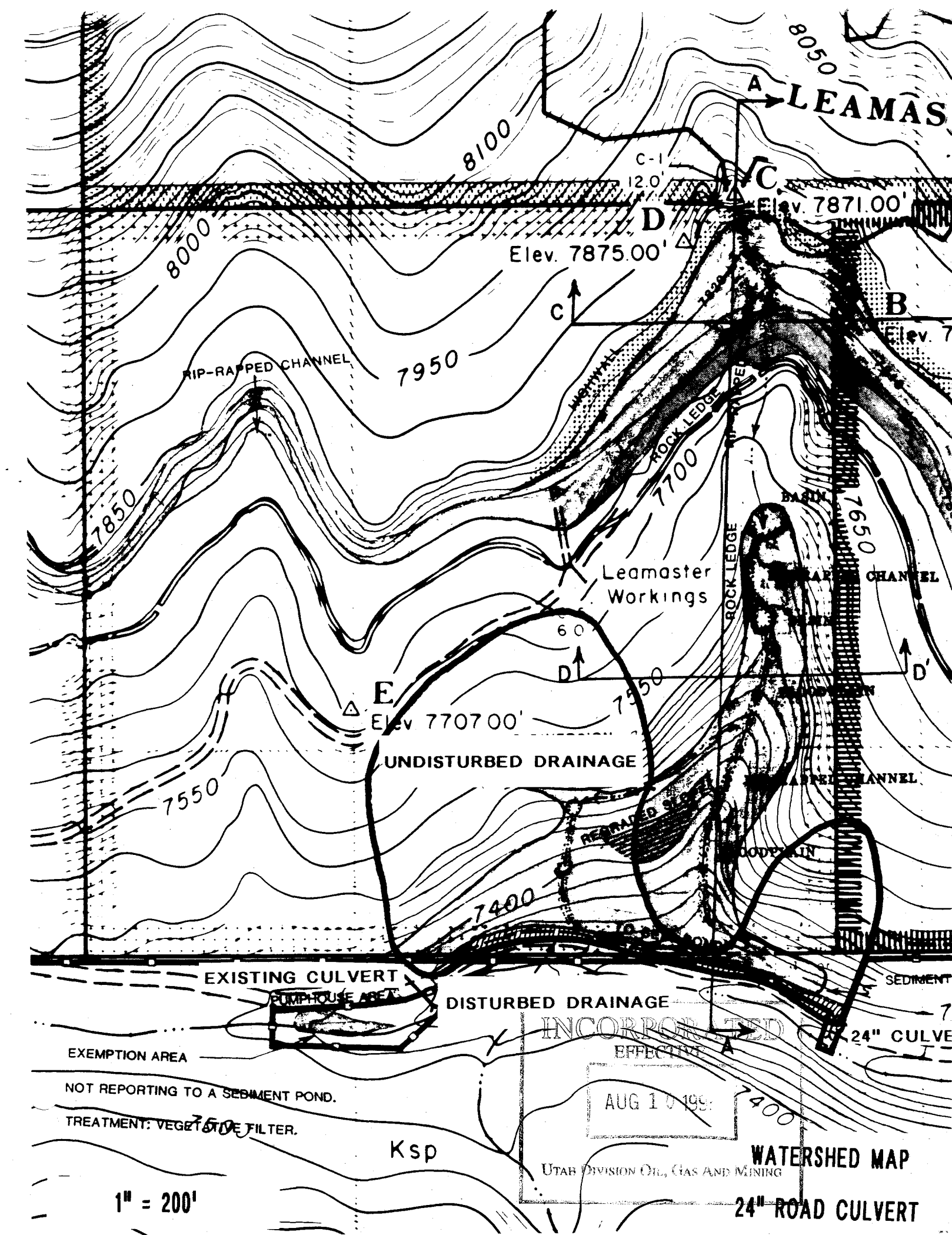


* DESIGN BASED ON FIGURE 7-26, DESIGN OF OUTLET PROTECTION - MAXIMUM TAILWATER CONDITION, "APPLIED HYDROLOGY AND SEDIMENTOLOGY FOR DISTURBED AREAS", BARFIELD, WARNER & HAAN, 1983.

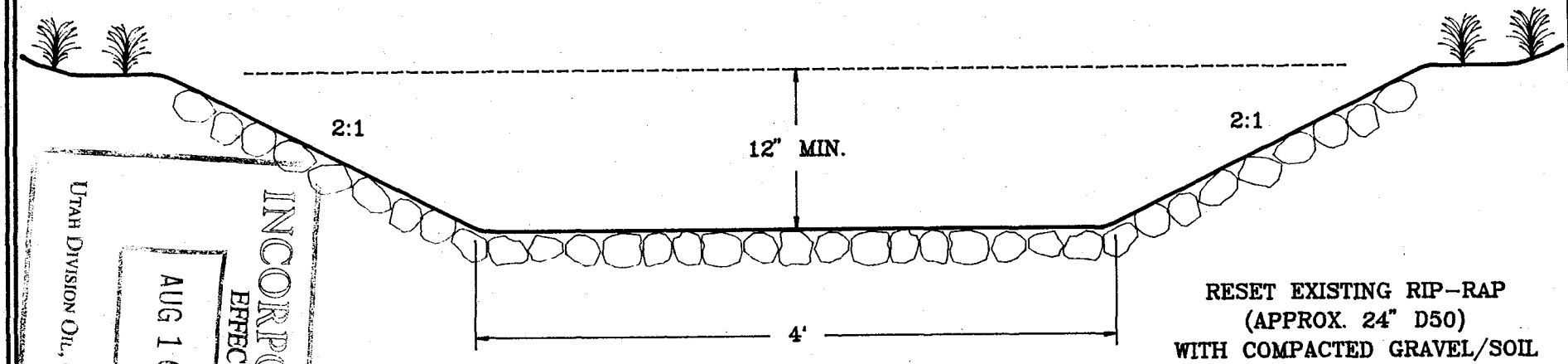


SIZE OF STONE THAT WILL RESIST DISPLACEMENT FOR VARIOUS VELOCITIES AND SIDE SLOPES

Figure 2
Rip Rap Chart



TYPICAL SECTION
BASIN INLET DITCH



RESET EXISTING RIP-RAP
(APPROX. 24" D50)
WITH COMPACTED GRAVEL/SOIL
IN VOIDS.