

Document Information Form

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Date Sent: September 3, 1982

Explanation:

Waste Water Disposal System

cc:

File in: C/015, 004, Incoming

- Refer to:
- Confidential
- Shelf
- Expandable

Date _____ For additional information

September 3, 1982

JIM

SEP 21 1982

BEAVER CREEK COAL COMPANY
WASTE WATER DISPOSAL SYSTEM
HUNTINGTON CANYON #4 MINE

File in:

- Confidential
- Shelf
- Expandable

Refer to Record No 0003 Date 9-3-82

In C/ 015 , 004 , Incoming

For additional information



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.

RECEIVED
SEP 09 1982

DIVISION OF
OIL, GAS & MINING

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:

$$100 \text{ persons} \times 35 \text{ gallons/person/day} = 3500 \text{ gallon/day}$$

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

$$V = 1125 + (0.75)(3500) = 3750 \text{ gallon/day}$$

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	<u>5,000 gallons</u>
(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) inch 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

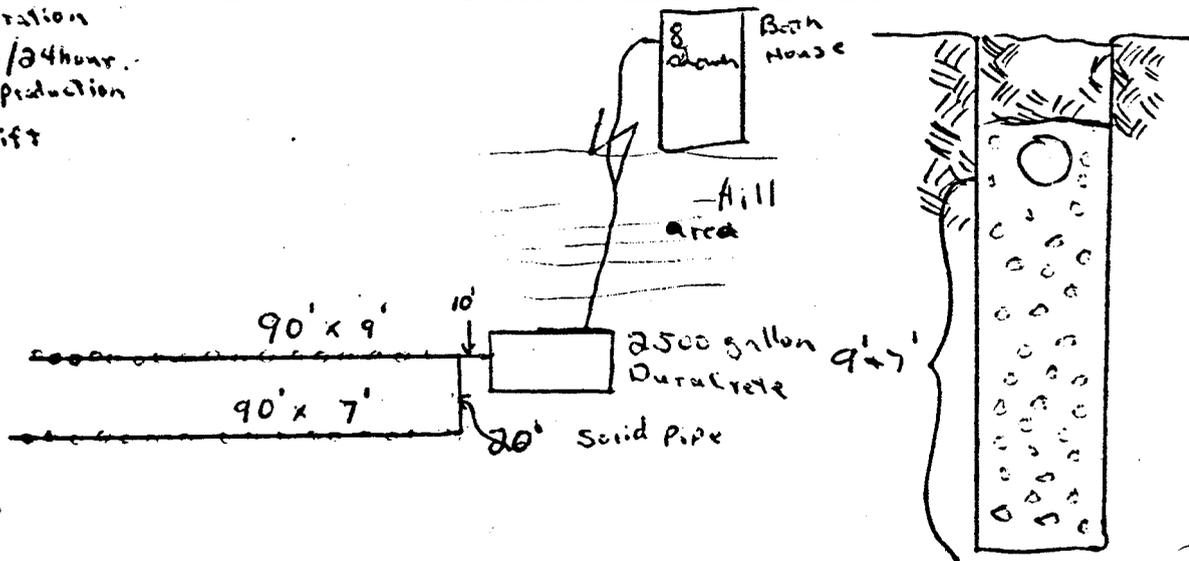
Property Address Huntington Canyon County Emery County
 Owner Swisher Coal City County Area
 Contractor Minchey Digging Case No. _____
 Number of Bedrooms ^{Men} 40 Basement No Seepage Test loam Soil
 Required Seepage Area 2500 Sq. Ft.

Water Supply: Public Private

Septic Tank Tile Disposal Field Seepage Pit

Sketch of Units:

Note: Shuter reports operation
 20 men per Section / 24 hour
 Operation 80% men/production
 Crew each 8 hour Shift



Drain 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
 under authority Section I-1 (v)
 and I-6 Utah Code Waste Disposal Reg.

Herald C. Story
 Sanitarian

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 <u>0</u> to <u>10'</u>	Total thickness <u>10'</u>
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

Date October 1976

Price Utah

Table 7
 Seepage Trench
 Minimum Absorption Area Requirements and
 Allowable Rate of Application of Wastewater
 (Based on Soil Descriptions)^{(a) (b)}

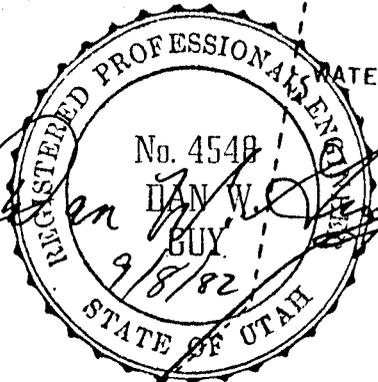
Symbol and Character of Soil by Uniform Classification System	Residential Sq. ft. of sidewall area required per bedroom (c) (d)	Commercial, Institutional, etc. Maximum rate of applica- tion in gallons per sq. ft. sidewall per day ^(e)
GW Well graded gravels, gravel-sand mix- tures, little or no fines-----	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 plas- ticity, 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 Scientist



WATER LINE

WATER LINE

WATER TANK

CUL. WATER BOD.

BATH HOUSES

LOWER YARD
ELEV. 7398.1

TRAILER

SEPTIC TANK

(90' x 9')

(90' x 7')

DRAIN FIELD
ELEV. 7375.5

TOP SOIL
STORAGE

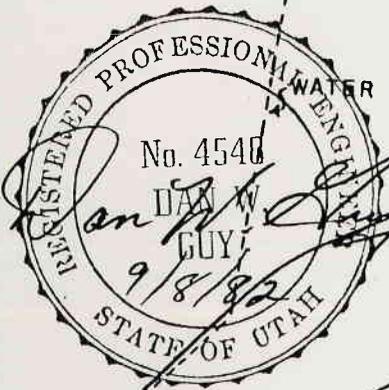
BEAVER CREEK COAL
EXISTING WASTE WATER
DISPOSAL SYSTEM
SCALE 1"=50' 8-23-82

POND

POND

MILL FORK

PUMP HOUSE
ELEV. 7458.0



WATER LINE

WATER LINE

WATER TANK

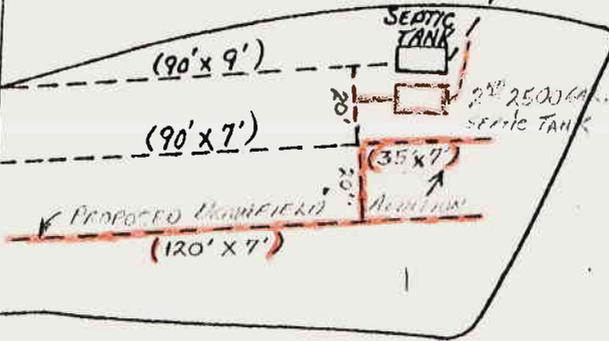
CUL. WATER BLD.

BATH HOUSES

LOWER YARD
ELEV. 7398.1

TRAILER

TOP SOIL STORAGE



BEAVER CREEK COAL
PROPOSED DRAINFIELD
ADDITION
SCALE 1"=50' 8-25-82

POND

POND

MILL FORK

ELEV. 7458.0

PUMP HOUSE

WATER LINE



WATER LINE

WATER TANK

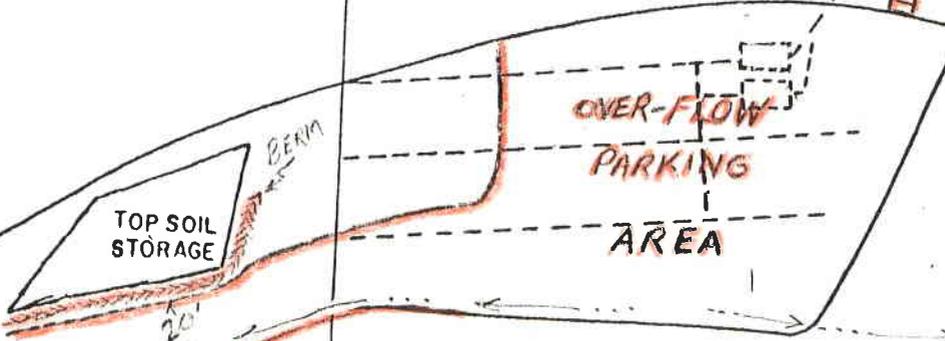
CUL. WATER BLD.

BATH HOUSES

LOWER YARD
ELEV. 7398.1

TRAILER

STEPS TO
BATH HOUSE LEVEL



BEAVER CREEK COAL
 PROPOSED SURFACE
 ADDITIONS

SCALE 1"=50' 8-2 32

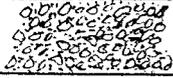
POND

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)

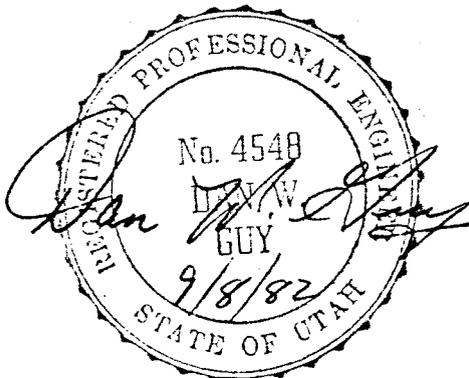
1/2" x 2 1/2"
DRAIN ROCK

STRAW?

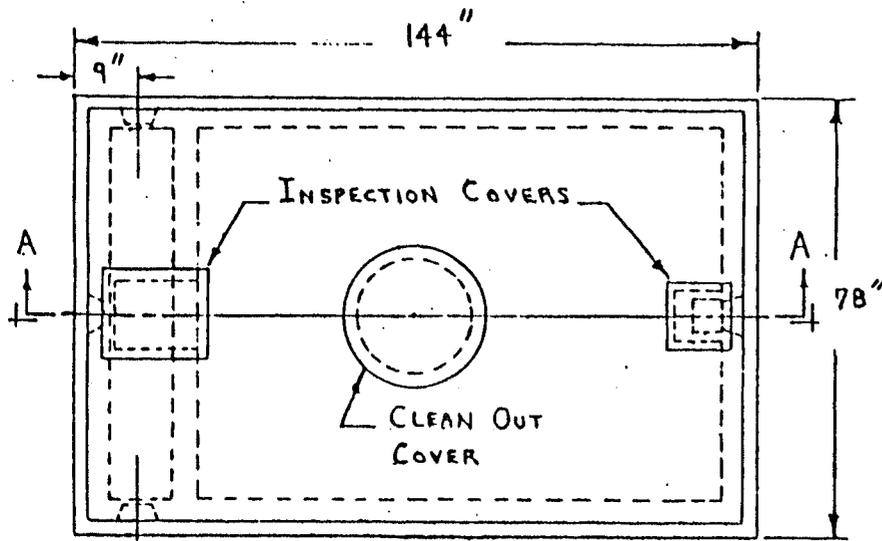
4" PERF PIPE

7'

2'

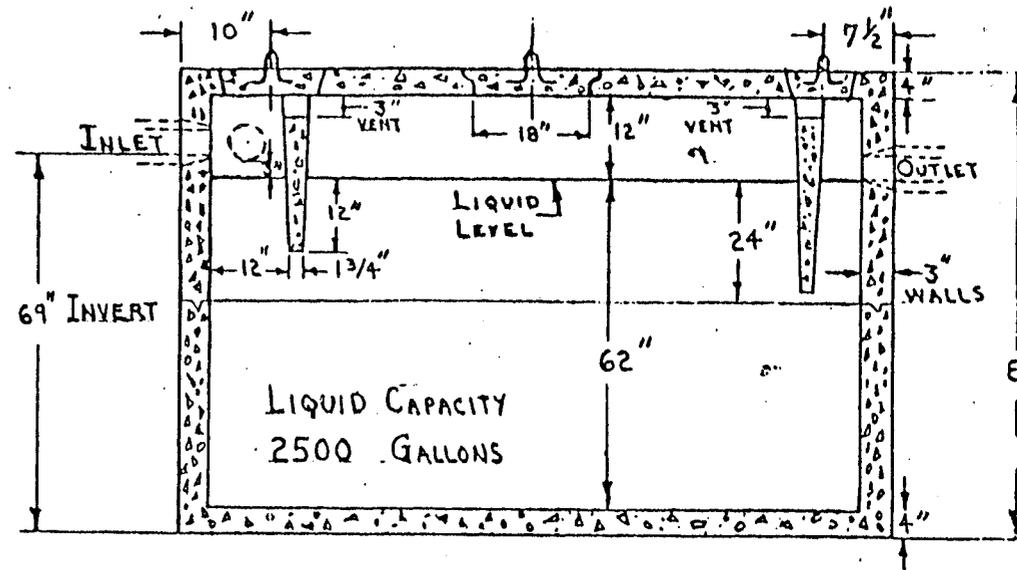


TRENCH DETAIL
SCALE 3/4" = 1' 9-3-82



ALT. INLET
KNOCKOUTS 3 PLACES

TOP VIEW

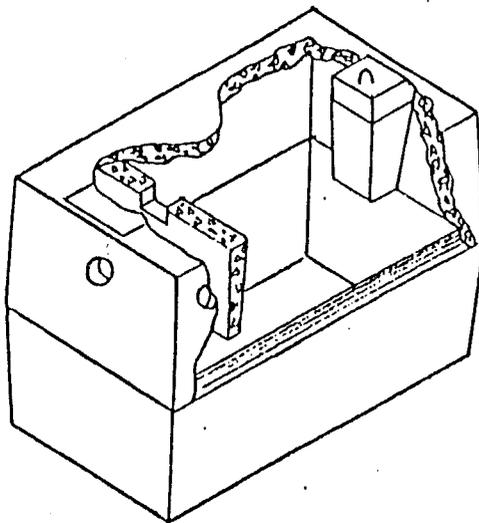


SECTION A-A

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



CUTAWAY ISOMETRIC

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