0019

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UTAH POWER & LIGHT COMPANY

1407 WEST NORTH TEMPLE STREET
P. O. BOX 899
SALT LAKE CITY, UTAH 84110

JIM

SEP 0 8 1983

September 6, 1983

Mr. Ron Daniels
Division of Oil, Gas & Mining
4241 State Office Building
Salt Lake City, UT 84114

Dear Mr. Daniels:

As you know, we are faced with an urgent problem concerning the Deer Creek Mine Waste Disposal System. We are pumping the septic tanks daily to prevent overflow, but we must install another drain field as soon as possible.

The enclosed plan, as submitted to the Bureau of Water Pollution Control, details the installation of a new drain field and discharge line.

Should you require further information, please advise.

Yours truly,

W. C. McQuay

William C. McQuay
Land Status Analyst
Mining and Exploration

WCMcQ:lh:4062
enclosure

EMERY MINING CORPORATION

A SAVAGE BROTHERS COMPANY

September 1, 1983

Mr. Don Ostler
Bureau of Water Pollution Control
P. O. Box 2500
Salt Lake City, UT 84110-2500

SUBJECT: DEER CREEK WASTEWATER DISPOSAL SYSTEM

Dear Mr. Ostler:

Enclosed please find our proposed changes to the underground waste disposal system at the Deer Creek Mine in Huntington Canyon, Emery County, Utah. This application is urgent as the existing system is not functioning and requires daily pumping to prevent overflow.

The existing septic tanks will not be changed, only the absorption system will be affected. This involves running the discharge line from the septic tanks down the canyon approximately 5,800 feet to a relatively flat area where a system of seepage pits will dissipate the wastewater.

The quantity of wastewater to be handled is calculated at a projected possible work force of 450 persons, with a daily rate of 35 gallons per person. The contractor that is presently pumping out the septic tanks is removing approximately 12,000 gallons per day, with a current work force of 407. This yields a 29.5 gallon per person daily rate.

A design based on seepage pits was decided upon to maximize the utilization of the available space. The design process is detailed on an enclosed sheet (Appendix I).

The slope of the area is gentle, between 5 and 8 percent, and consists of alluvial soils, most closely described as a poorly-graded gravelly sand. A soil sample was taken from the proposed area and a sieve analysis of the sample was conducted by Standard Laboratories, Incorporated. A copy of their report is enclosed. (Appendix II & III) A sidehill cut just opposite the proposed area indicates that the soil type is probably uniform for a considerable depth. A one hundred foot setback from the Deer Creek was maintained in the layout of the seepage pits. For layout and construction details refer to Emery Mining Corporation Drawings DS-667-C and DS-668-C (enclosed).

P.O. Box 310 • Huntington, Utah 84528 • (801) 687-9821

We feel that this proposal is the most parctical solution to this problem. We would appreciate your quick response to this request.

Sincerely,

Larry Guymon
Manager of Construction Engineering

LG/bb

Enclosures

ABSORTION FIELD SIZE COMPUTATIONS

1. QUANTITY

Currently 407 people are employed at the Deer Creek Mine. It is anticipated that 10% growth is possible within the next several years, therefore, the design will be based on 450 employees. The usage rate for design is 35 gallons per person per day.

Total Flow = 450 persons x 35 gal/person/day

= 15,750 gal/day

2. SOIL CONDITIONS

The soil type in the proposed absorption system area is a poorly graded sand and gravel with no fines (< 0.5% passing #200 sieve) (Appendix I & II). The type of absorption system will be multiple seepage pits. The application rate for fine sand is 2.67 gallons/day/square foot as per Table V-7, Code of Waste Disposal Regulations.

3. SIZE OF SEEPAGE PITS

The required side wall area of the seepage pits is:

Area = 15,750 gal/day ÷ 2.67 gal/ft^2/day

= 5,899 ft^2

A eight foot deep pit will be used, with 6 feet below the discharge pipe. This will give 12 square feet of side wall area per linear foot of seepage pit. The required length of seepage pit is:

Length = 5,899 ft^2 ÷ 12 ft^2/ft

= 492 feet

4. SEEPAGE PIT LAYOUT

The required spacing is three times the total depth of the pit, which is twenty four feet. A spacing of 36 feet will be used to improve reliability of the system. Refer to Emery Mining Corporation Drawing DS-677-C for layout details.

Broken Code
(see reverse)

Lab. No. 38718

Date Rec'd. 8-25-83

Date Sampled # 8-16-83

Sampled By UPL

STANDARD LABORATORIES, INC

RECEIVED
AUG 25 1983
EMERY MINING CORP.
ENGINEERING

Utah Power & Light Co.
P. O. Box 899
Salt Lake City, Utah 84110

Sample ID: Emery Mining Corp. Dirt Sample

Screen Analysis:	% Retain	% Pass
+½"	34.62	65.38
½" x #4	13.66	51.72
#4 x #10	10.58	41.14
#10 x #18	17.91	23.23
#18 x #50	20.54	2.69
#50 x #60	1.24	1.45
#60 x #100	0.76	0.69
#100 x #200	0.27	0.42
#200 x 0	0.42	-----

August 25, 1983

As we do not have a
US Standard Seive size 20 and
40, Sizes 18 and 50
were substituted

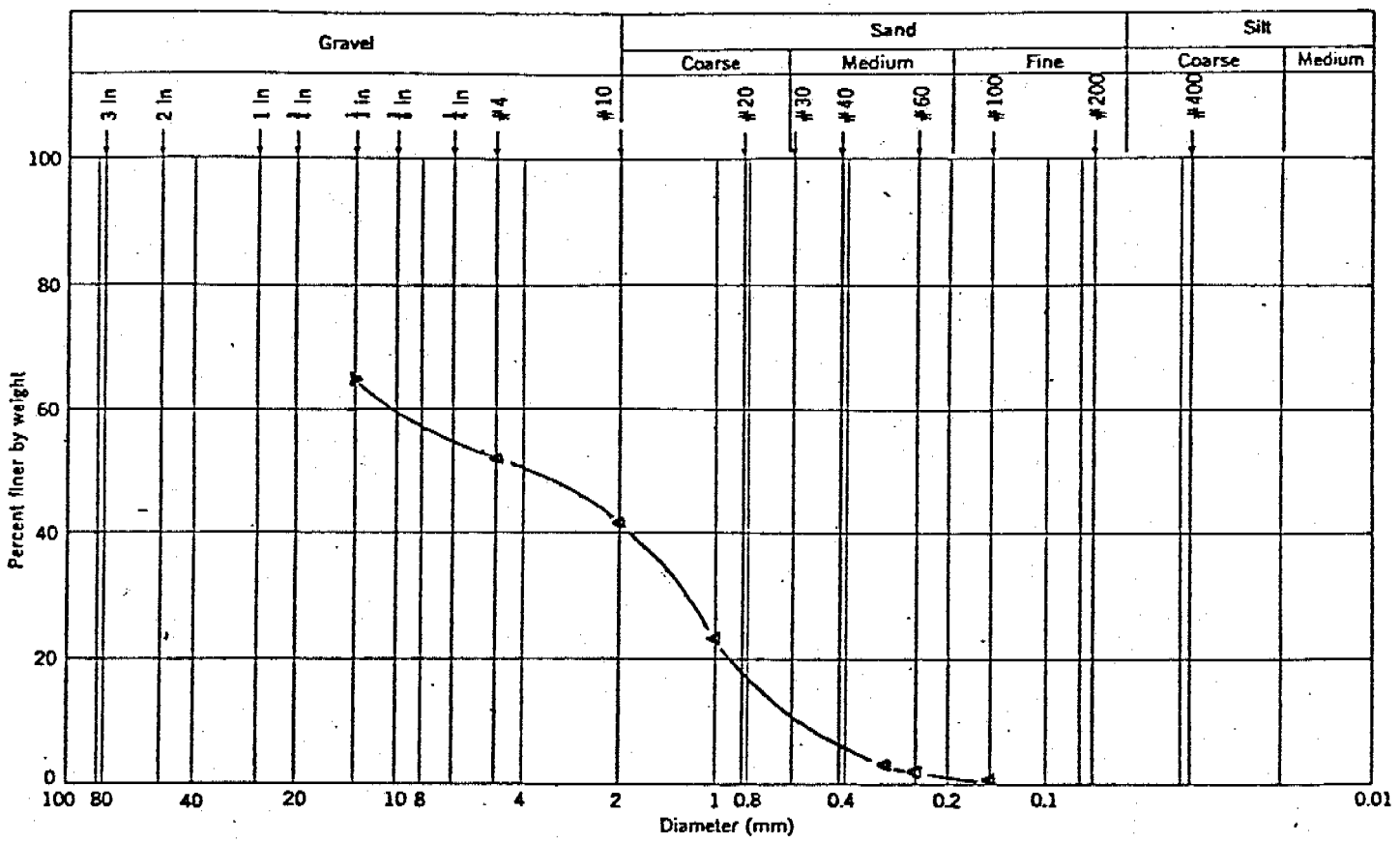
APPENDIX I

Respectfully Submitted,

DEER CREEK SOIL SAMPLE

FROM PROPOSED ABSORPTION SYSTEM AREA

DATE SAMPLED 8-18-83



D_{10} = 0.58 mm

D_{30} = 1.35 mm

D_{60} = 10.0 mm

$$C_u = \frac{D_{60}}{D_{10}} = 17.2$$

$$C_c = \frac{D_{30}^2}{D_{10} \times D_{60}} = 0.31$$

APPENDIX II