0014

→ John ~~to~~ file INA/007/017 #2

STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
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355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

February 25, 1986

TO: Lowell P. Braxton, Administrator, Mineral Resource Development and Reclamation Program

FROM: JW John J. Whitehead, Permit Supervisor/Reclamation Hydrologist

RE: Analysis of Beaver Creek Coal Company's January 30, 1986 Information on Sediment Pond Approval and Permit Area Clarification, Gordon Creek #3 and #6 Mines, INA/007/017, #2, Carbon County, Utah

This memo is to recommend a course of action on the review of the January 30, 1986 letter from Beaver Creek Coal Company (BCCC) response to concerns voiced by the Inspection and Enforcement Section. The two concerns were:

1. No written agency approval of the existing sediment ponds was given.

2. A discrepancy exists in the permit boundary shown in the MRP and the existing disturbed area.

Both the above items were identified and delineated in the December 23, 1985 technical deficiency letter submitted to BCCC. Thus, both of these items are being addressed in the permitting effort presently underway for the reclamation plan at the Gordon Creek #3 and #6 Mines.

It is my feeling that to utilize any staff time to review and come up with approvals of sediment ponds which will be modified significantly during this construction season would be a waste of staff time. Additionally, the discrepancy in the permit boundary is already being addressed by the response to the Division's letter of December 23, 1985. In both cases, any compliance questions will be addressed by the permitting action and thus the ultimate goal would be achieved. In either course, it is my desire that we not allocate any staff time to either of these matters.

Would you please advise me on your concurrence on this matter, or your recommendation for alternative action.

btb
cc: Wayne Hedberg
9291R-21

John: I discussed this in the Inspection mtg 3-3-86 w/ Tom Wright & Dave Lot. Tom had read the memo, Dave L. had not. We agreed that your recommendation would be the course of action followed unless Dave Lot had a change of heart on 3-3 or 3-4-86 LPB 3-3

Wayne

Beaver Creek Coal Company
P.O. Box 1378
Price, Utah 84501
Telephone 801 637-5050

RECEIVED

JAN 30 1986

DIVISION OF OIL
GAS & MINING

January 30, 1986

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

RE: Request for Sediment Pond Approval
and Clarification of Permit Area
Gordon Creek No. 3 & 6 Mines
INA/007/017
Carbon County, Utah

Dear Mr. Braxton:

During a recent inspection, Mr. Dave Lof of the I/E staff noted 2 deficiencies in our mine plan that should be corrected. These were: (1) No written agency approval of the sediment ponds that were constructed in 1979; and (2) A discrepancy in the permit boundary shown in the M.R.P.

At his request, I am forwarding for your approval, 8 copies of the original sediment pond design and 8 copies each of corrected permit area figures for the M.R.P.

I am in the process of preparing the response to the recent Division D.O.C./T.D. on this property. The updated permit area will be shown on all applicable revised Plates and Figures at that time; however, the figures I have submitted with this letter will serve to clarify any questions on the permit area in the interim.

The sediment ponds were reconstructed in 1979. I have submitted the same Exhibit 6 that was originally sent to the Division. This was early in the history of the program, and it wasn't uncommon for an official approval not to have been issued on a pond or other structure. This area, as you know, will be reclaimed this year, and the ponds will be modified at that time. Although it may serve no useful purpose to approve the original (existing) ponds at this time, it will complete our records and eliminate an inspection and enforcement question.

I appreciate your consideration of this matter. If you have any questions, or need any further information, please let me know.

Respectfully,

Dan W. Guy
Manager of Permitting and Compliance

DWG/sb

Enclosures

cc: Jay Marshall (BCCC)
Dave Lof (DOGM)
File 4-P-7-1-1
File 4-P-7-1-6-1
IBM D3

Exhibit #6: Sediment Control Plan

Exhibit #6

Sediment Control Plan

1. General - The complete sediment control plan for this area is attached. In general, all drawings from the disturbed area, plus some natural drainage, is collected at a low point, just above the sedimentation/treatment ponds. All other natural drainage above the mine site is diverted beneath the site and ponds via a 48-inch diameter culvert (to be extended).

2. Culvert - The 48-inch culvert is sized to support the flow from a ten-year, 24-hour precipitation event. In addition, the location of the culvert inlet allows for some eight feet of head storage above the culvert before any overflow occurs. The culvert inlet will be fitted with an appropriate trash rack, and the outlet will be rip-rapped to lessen any erosion possibilities.

3. Existing Pond Discharge - The existing pond will no longer be used as a cleaning facility and will be modified to safely pass any flow from the culvert and sedimentation facility without adding to downstream sediment loading. The area below the pond was used as a filling station for the road-watering trucks, but has since been eliminated. The truck filling system will be moved onto the coal loading pad above the ponds and any spillage or runoff from this area will pass through the ponds.

Gordon Creek #3 & #6 Mines
Plan for Construction and Maintenance
Sedimentation Ponds and Diversion Structures

General Description

The combined disturbed areas of the #3 and #6 Mines total some 7.96 acres. The runoff from this area drains into an intermittent stream channel in Coal Canyon. This area drains into Gordon Creek and eventually into the Price River.

In order to minimize additional sediment loading to any stream from this area, it is proposed to by-pass the natural drainage above this area through a 48-inch culvert beneath the mine site. The runoff from the mine sites, along with any mine discharge water, will be collected into two filtering type sedimentation ponds and cleaned prior to discharge.

An overall drainage map of the area, including location of the proposed structures, is attached. Listed below are specifications for the proposed sedimentation structures:

Specifications

Location: The proposed ponds will be in the existing drainage below the #3 Mine site (see attached map). The culvert for natural drainage will be extended some 250 feet.

Alternate Location: The attached location map shows an alternate site downstream from the proposed sites. The use of this site would cause further environmental disturbance and would necessit piping the runoff and mine water some 1500 feet before discharge to the pond. The alternate site is also on private land which i owned by others.

Design: The ponds are designed to continuously settle, clean, and pass the water, rather than hold it for evaporation. The #3 Mi is discharging water, and in order to clean this discharge as pe requirements of the NPDES Permit, it is impossible to contain a this flow. The ponds will serve two purposes --- first, to clea the mine discharge water; and secondly, to clean any runoff wat from the disturbed areas of the mine sites.

Construction: The construction of the ponds will be under the direc of a licensed engineer.

Capacity: The structures will have a capacity adequate to store the runoff and sediment load from a 10-year, 24-hour precipitation event, with an overflow capacity in excess of that for a 6-hour

25-year event. The ponds shown on the attached map will have a capacity of 2.01 acre-feet.

Safety Precautions: The structure will be regularly inspected by a qualified individual as required by law. The ponds will be cleaned as necessary, and any weakness or defects in the structur will be immediately corrected.

Monitoring: The pond discharge will be monitored as per the requirements of the NPDES Permit. Additional monitoring stations will be submitted with the Water Monitoring Program for this area.

Diversions: Natural runoff will be collected in a canyon directly upstream from the substation (see map). This runoff will pass beneath the property (and ponds) via a 48-inch diameter culvert. The culvert will be extended some 250 feet from its present discharge point to allow for placement of the ponds.

Maintenance: The sedimentation ponds shall be inspected after each major storm, and the sediment cleaned as necessary. Sediment removed shall be stored adjacent to the topsoil and used for final reclamation, if the quality is found to be acceptable. If the quality is not suitable for reclamation, it can be taken underground or to an approved refuse site for final disposal.

Calculations: <u>Undisturbed Soil</u>

1. Use 2-inch figure for 10-year, 24-hour event
*2. Table A-4 p. 538 - Runoff Curve No. (CN) = 54
Cover - Oak, Aspen
Condition - Fair
Soil Group - C (Slow Infiltration Rate)
*3. Figure A-4 p. 541 - Direct Runoff = 0.03 inches
4. Drainage Area = 39.29 acres. Total runoff will be .03" x 39.29 acres = 1.18 acres inch or .10 acre feet

<u>Distrubed Area</u>

1. Use 2-inch figure
*2. Tabel A-4 p. 538 - Runoff Curve No. (CN) = 85
Cover - Herbaceous
Condition - Poor
Soil Group - C
*3. Figure A-4 p. 541 - Direct Runoff = .80 inches
4. Drainage Area = 7.96 acres. Total runoff will be .80" x 7.96 acres = 6.37 acres inch or .53 acre feet

Sedimentation Pond Size:

1. Sediment storage volume shall be .10 acre-foot per acre of disturbed area. The disturbed area is measured to be 7.96 acres; therefore, the sediment storage area must be .796 or .80 acre-feet.

2. Total storage volume shall need to be a minimum of .10 acre-feet for undisturbed area runoff, plus .53 acre-feet for disturbed area runoff, and .80 acre-feet for sediment storage, or a total of 1.43 acre-feet.

Natural Drainage:

1. Area = 907.3 acres - 47.3 acres = 860.0 acres
*2. Same CN as Undisturbed Area = .54
*3. Direct runoff = .03 inches
4. Total runoff - 860 acres x .03" = 25.8 acres inch or 2.15 acre feet
5. 2.15 acre feet x 326,700 gallons/acre-foot = 702,405 gallon runoff
6. 702,405 gallon ÷ 600 minutes = 1170 gpm during 10-hour event
7. Assume peak runoff @ 3 times average = 1170 gpm x 3 = 3510 gp
8. This amount of water can be passed through a 48-inch culvert at a velocity of less than .70 feet/second with nearly zero head loss; therefore, no buildup should occur at the inlet to the culvert. There is, however, a potential for some surg capacity at the inlet if required. The culvert is about eight feet below the ground level at the inlet point.

Discharge Structures: Energy dissapators (rip-rap, conveyor belting, or other) will be provided at the outlet of the 48-inch culvert. The ponds will allow water seepage through gravel dikes and shou need no outlet protection. Ponds will be constructed with an overflow of one foot below the top of the dike (such overflow shall be lined with rip-rap to prevent washing of the dike).

Conclusion:

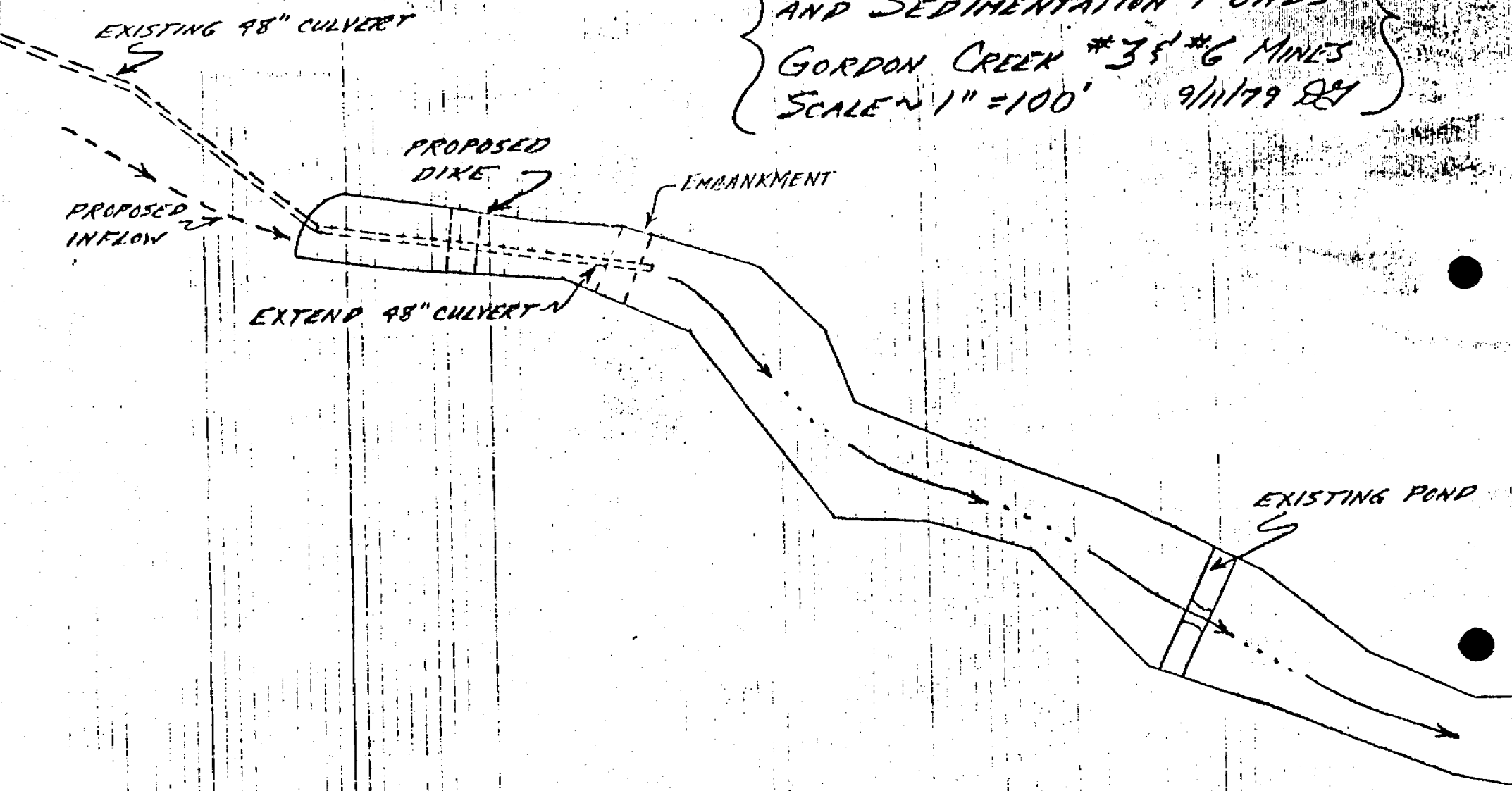
1. The capacity of the ponds will be some 2.01 acre-feet, allow for a safety factor of 1.40; however, since the ponds are a filtering type, a great portion of any inflow will be cleane and passed on which will allow a much higher factor of safet

2. The proposed sedimentation ponds will be adequate to contain and clean the runoff from a 10-year, 24-hour precipitation event in the #3 and #6 Mine area.

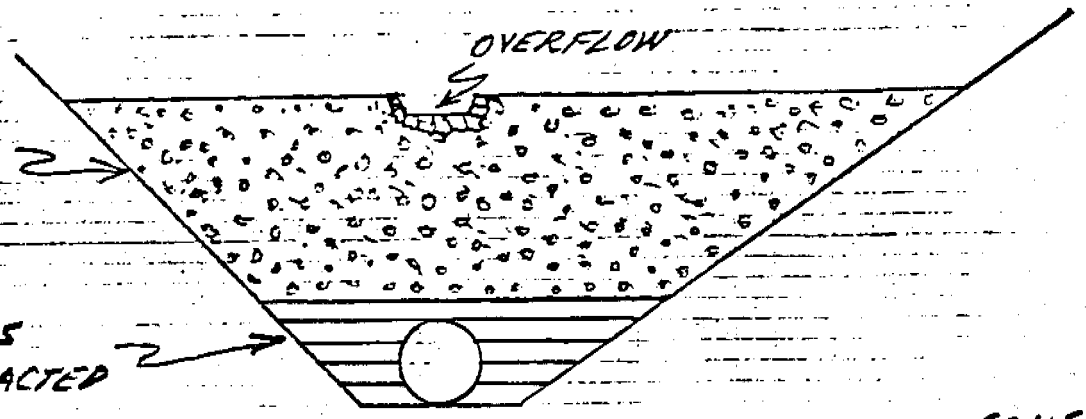
3. The existing 48-inch culvert will adequately divert the runo from the natural drainage above the mine site.

*Calculations made using the reference "Design of Small Dams" by the Bureau of Reclamation, Appendix A, 'Estimating Rainfall Runoff from Soil and Cover Data'.

PROPOSED FILTERING DIKES
AND SEDIMENTATION PONDS
GORDON CREEK #3 & #6 MINES
SCALE ~ 1" = 100' 9/11/79

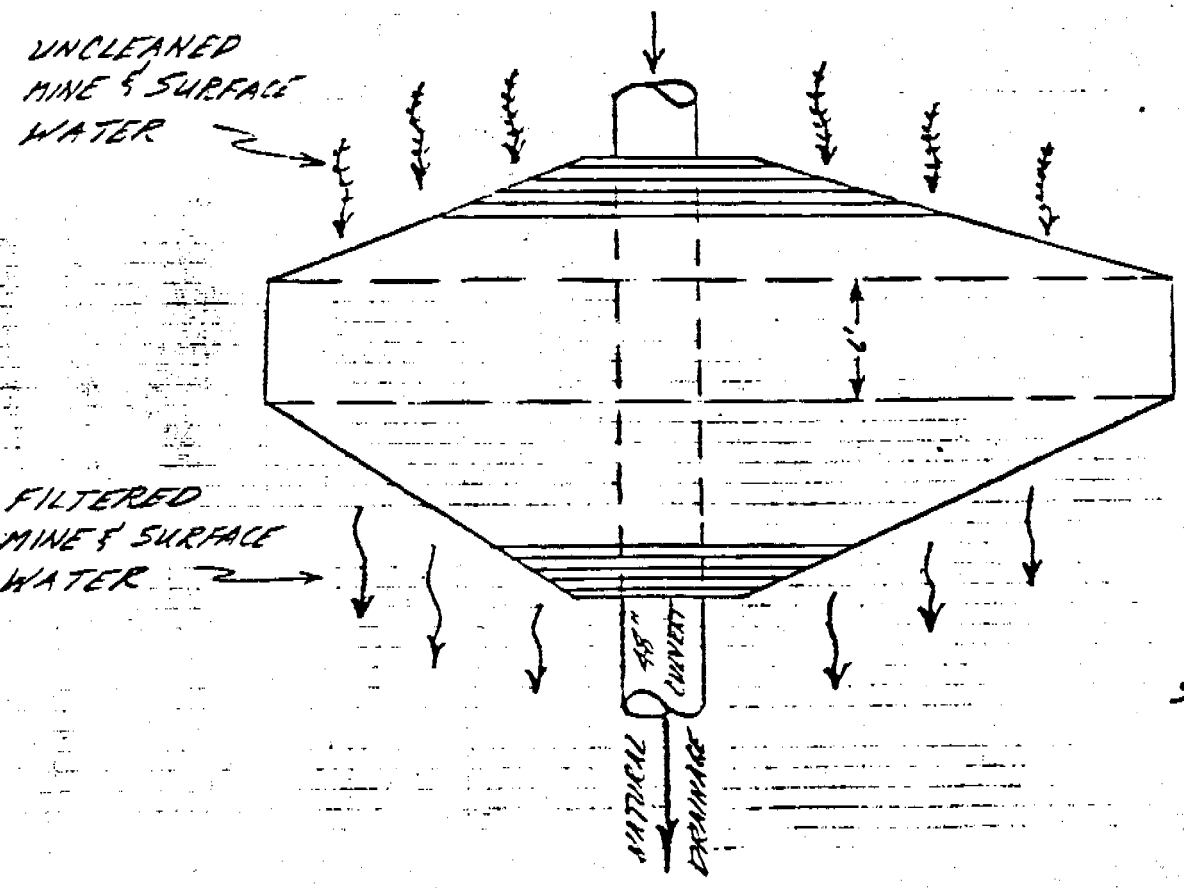


PROPOSED DIKE
TYPICAL



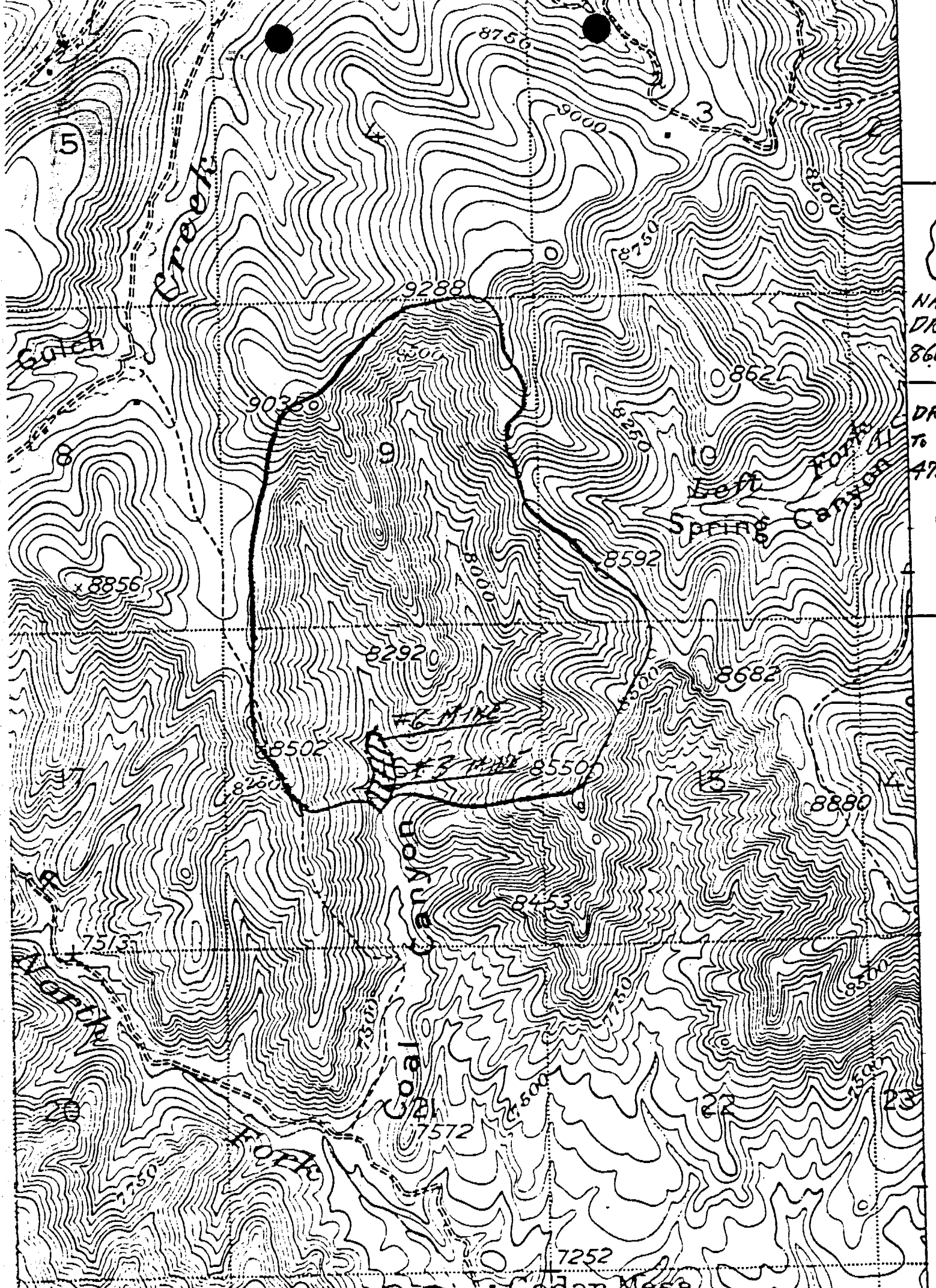
SCALE ~ 1" = 10'

END VIEW



SCALE ~ 1" = 10'

TOP VIEW



Creek
Gulch
Left Fork
Spring Canyon
Coal Canyon
North Fork
#6 MINE
#3 MINE
9288
9035
8592
8292
8502
8550
8682
8880
8453
8856
8750
9000
8500
8250
8000
7513
7572
7252
7750
7500

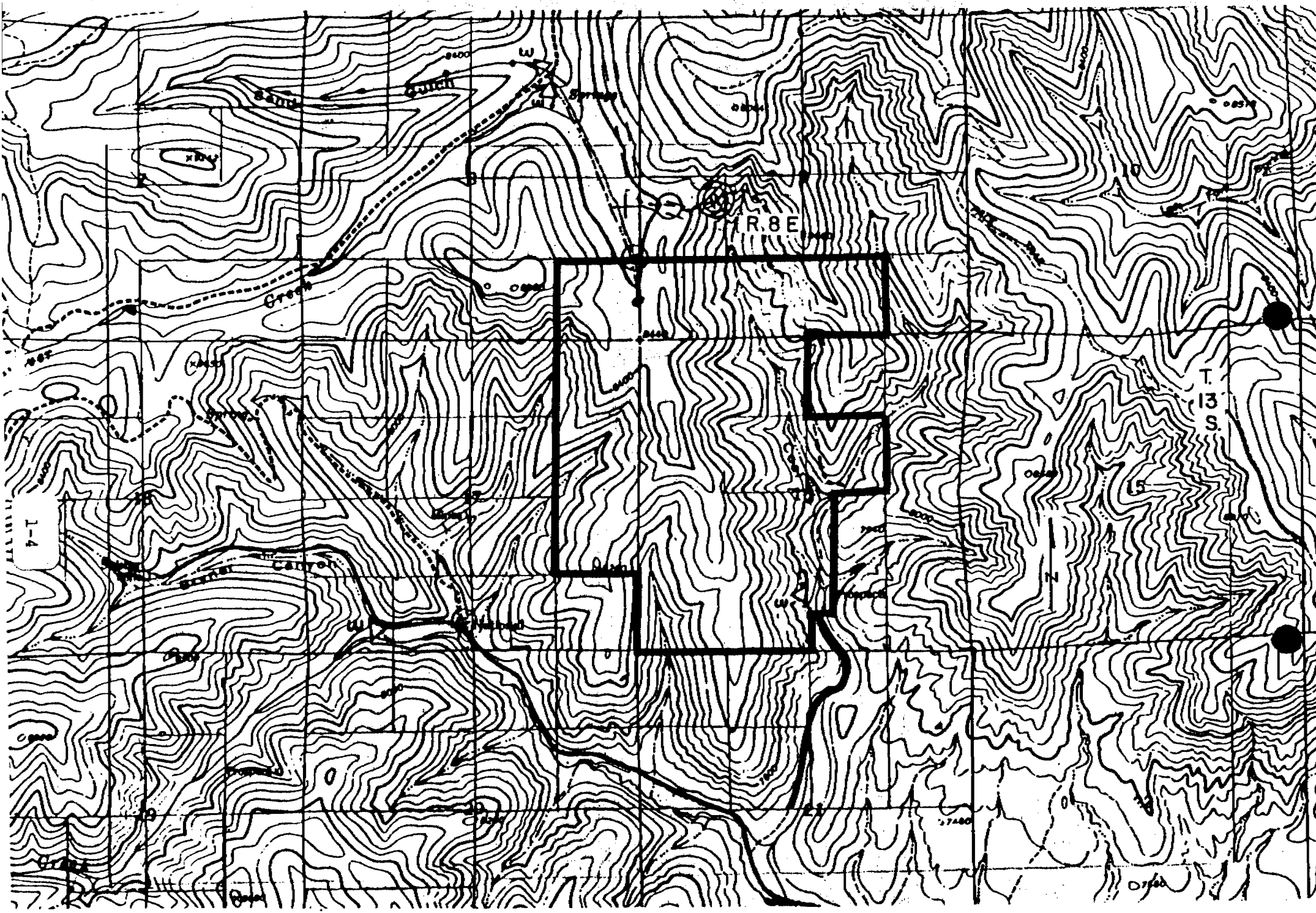
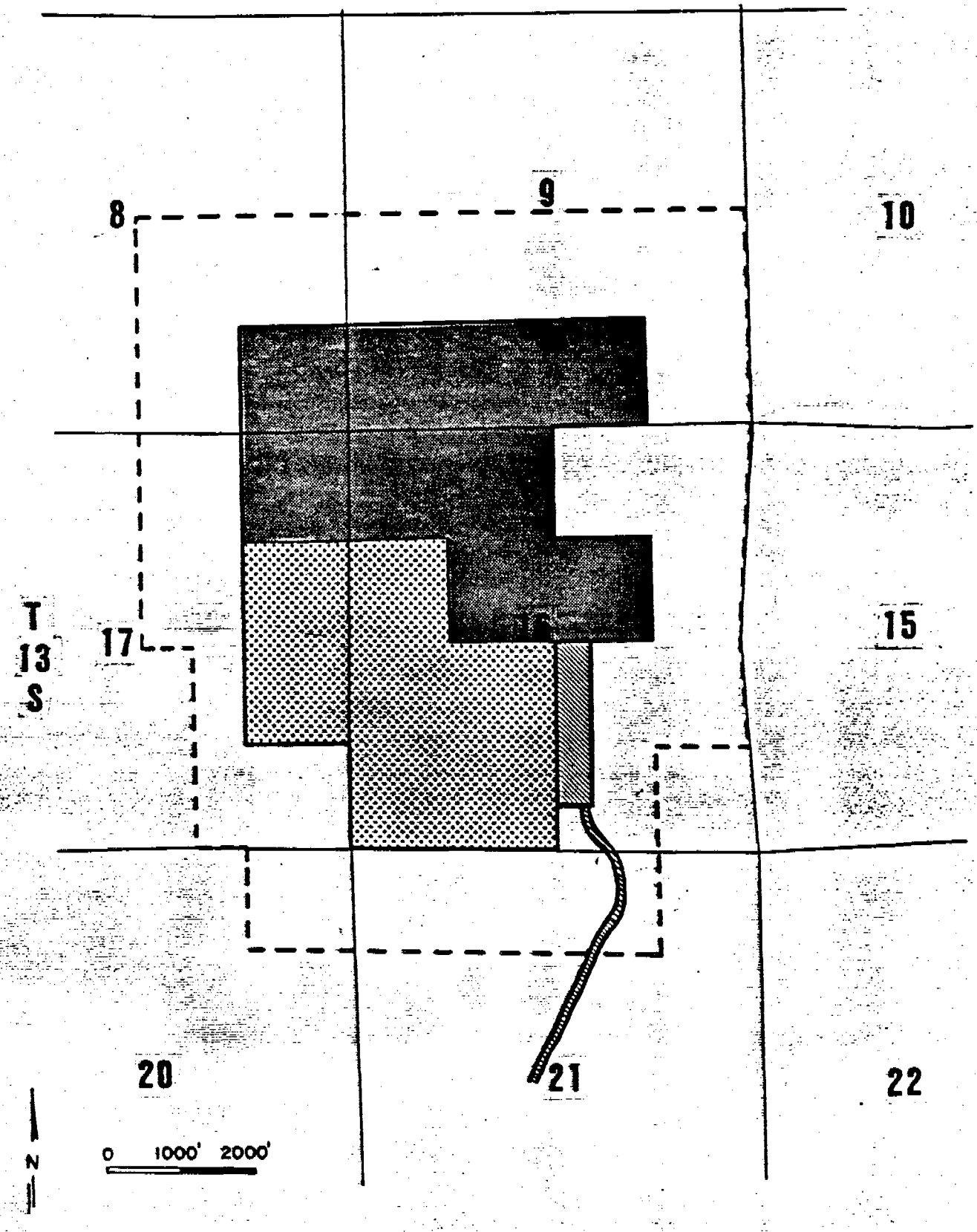


FIGURE I-2 Gordon Creek No 3 & 6 Mines Permit Area.

GORDON CREEK #3 AND #6 MI
LEGAL RIGHTS TO ENTER
FIGURE 4-3



Coal leased by Beaver Creek Coal Company (Including Rights to Use Surface)

Coal Owned by Beaver Creek Coal Co.

Permit Area

Contiguous to Permit Area

Surface Use Agreement