

## W. DON QUIGLEY

OIL AND MINERALS CONSULTANT  
SUITE 440, 57 W. SO. TEMPLE - SALT LAKE CITY, UTAH 84101

December 12, 1980

U. S. Geological Survey  
2000 Administrative Bldg.  
1745 West 1700 South  
Salt Lake City, Utah 84104

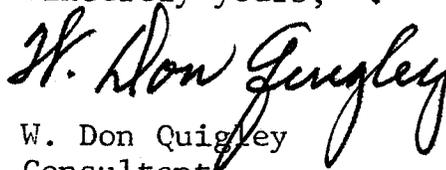
Bureau of Land Management  
Price, Utah

Dear Sirs:

Pool Oil & Gas Co., Denver, Colorado is planning to drill a well in the Horseshoe Canyon area, Emery County, Utah to test the potential production possibilities in the Hermosa (Pennsylvanian) and/or Leadville (Mississippian) formations. Two locations are currently being considered for the well. One location being considered is in SE $\frac{1}{4}$  of Section 20, T 26S, R 21E, Emery County; the other location is in the SE $\frac{1}{4}$  of Section 17, T 26S, R 21E. The final choice of the location depends on the final approved outline of the Horseshoe Canyon Unit (Federal) now under preparation, and the participation of other companies holding leases in the area. This will be decided in the near future.

Permission to survey the above location is hereby requested. The approximate locations are shown on the attached map. Your early reply will be appreciated.

Sincerely yours,



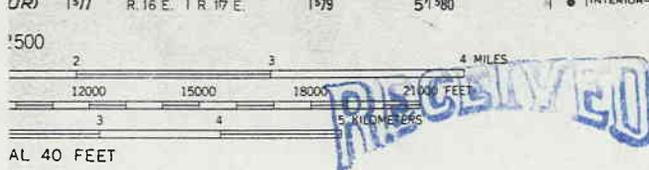
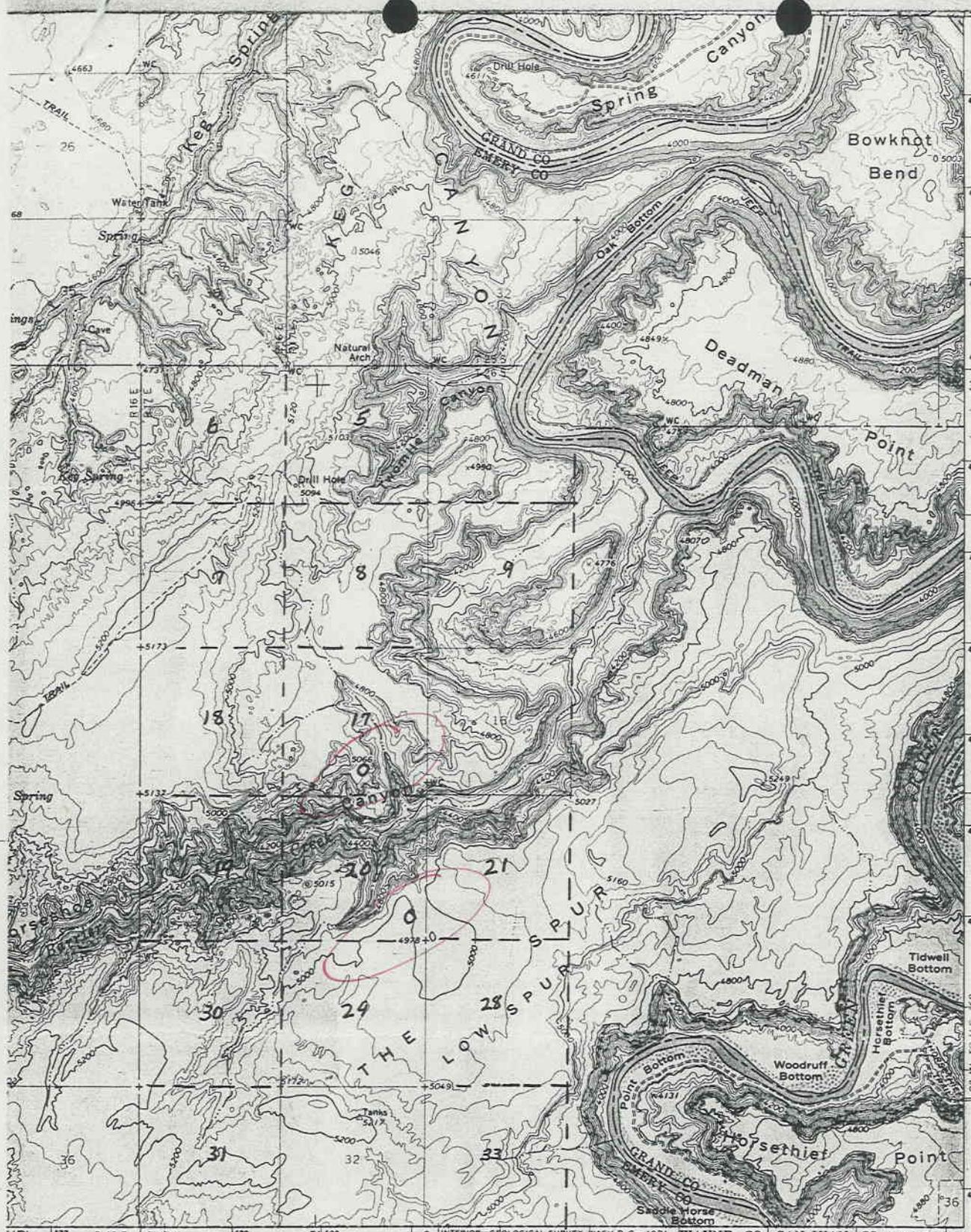
W. Don Quigley  
Consultant

Enclosure

**RECEIVED**

DEC 15 1980

DIVISION OF  
OIL, GAS & MINING



**RESERVED**

DEC 1 5 1960



ROAD CLASSIFICATION  
Unimproved dirt - - - - -

(UPHEAVAL DOME)  
1050 IV

L MAP ACCURACY STANDARDS  
COLORADO 80225, OR WASHINGTON, D. C. 20242  
AND SYMBOLS IS AVAILABLE ON REQUEST

DIVISION OF  
OIL, GAS & MINING

BOWKNOT BEND, UTAH  
N3830—W11000/15

1963  
MINOR CORRECTIONS MADE 1969  
AMS 3961 II—SERIES V797

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK  
 DRILL  DEEPEN  PLUG BACK

b. TYPE OF WELL  
 OIL WELL  GAS WELL  OTHER   
 SINGLE ZONE  MULTIPLE ZONE

2. NAME OF OPERATOR  
~~POOL OIL & GAS COMPANY~~ *Megadon*

3. ADDRESS OF OPERATOR  
 STE. 309, 817 - 17TH STREET, DENVER, COLO. 80202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*  
 At surface SE. SE. SECTION 20, T 26S, R 17E, SLM.  
 At proposed prod. zone 742' FR. E-LINE AND 742' FR. S-LINE

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
 APPROX. 55 MILES SOUTH OF GREEN RIVER, UTAH

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drig. unit line, if any)	747'	16. NO. OF ACRES IN LEASE	2501 ACRES	17. NO. OF ACRES ASSIGNED TO THIS WELL	160 ACRES
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED OR APPLIED FOR, ON THIS LEASE, FT.	NONE OTHER	19. PROPOSED DEPTH	6500'	20. ROTARY OR CABLE TOOLS	ROTARY

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
 5005' GRD; 5020' K.B.

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	NO. OF SKS	REMARKS
12 1/2"	9 5/8"	36.00#	1000'	300 SKS	
8 3/4"	5 1/2"	17-23.00#	SET THRU PAY	ZONE CEMENTED TO TOP OF SALT	

It is planned to drill a well at the above location to test the oil production possibilities of the Mississippian-Leadville Formation at a depth of approximately 6500'. The well will be drilled with rotary tools using mud and air for circulation. A short piece of conductor pipe (12 1/2") will be set at about 35 feet and cemented and then a 9 5/8" surface hole will be drilled to a depth which is below the massive and cemented to the surface. An 8 3/4" hole will then be drilled to total depth. A blowout preventer, hydril, and rotating head will be used for control equipment. In the event of production, 5 1/2" casing will be roughly cemented from the bottom up to above the salt section. A production

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. SIGNED *[Signature]* TITLE PRESIDENT FEB 19 1981

(This space for Federal or State office use)

PERMIT NO. \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_

CONDITIONS OF APPROVAL, IF ANY:

5. LEASE DESIGNATION AND SERIAL NO.  
 U-18644

6. IF INDIAN ALLOTTEE OR TRIBE NAME  
 HORSESHOE CANYON UNIT

7. UNIT AGREEMENT NAME  
 FEDERAL

8. FIELD OR LEASE NAME  
 #2-20

9. FIELD AND POOL OR SUBCAT  
 WELDCAT

10. SEC., T., R. FOR BLM OR BUREAU OF LAND SURVEY OF AREA  
 SE SE SEC. 20-26S-17E.

11. COUNTY OR PARISH STATE  
 EMERY UTAH

22. APPROX. DATE WORK WILL START\*

23. PROPOSED CASING AND CEMENTING PROGRAM

24. SIGNED [Signature] TITLE PRESIDENT FEB 19 1981

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK  
DRILL  DEEPEN  PLUG BACK

b. TYPE OF WELL  
OIL WELL  GAS WELL  OTHER   
SINGLE ZONE  MULTIPLE ZONE

2. NAME OF OPERATOR  
~~POOL OIL & GAS COMPANY~~ *Megadon Energy Corp.*

3. ADDRESS OF OPERATOR  
STE. 309, 817 - 17TH STREET, DENVER, COLO. 80202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*  
At surface  
SE. SE. SECTION 20, T 26S, R 17E, SLM.  
At proposed prod. zone 742' FR. E-LINE AND 742' FR. S-LINE

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
APPROX. 55 MILES SOUTH OF GREEN RIVER, UTAH

15. DISTANCE FROM PROPOSED\* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)  
747'

16. NO. OF ACRES IN LEASE  
2501 ACRES

17. NO. OF ACRES ASSIGNED TO THIS WELL  
160 ACRES

18. DISTANCE FROM PROPOSED LOCATION\* TO NEAREST WELL, DRILLING, COMPLETED OR APPLIED FOR, ON THIS LEASE, FT.  
NONE OTHER

19. PROPOSED DEPTH  
6500'

20. ROTARY OR CABLE TOOLS  
ROTARY

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
5005' GRD; 5020' K.B.

23. PROPOSED CASING AND CEMENTING PROGRAM:

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/2"	9 5/8"	36.00#	1000'	300 SKS
8 3/4"	5 1/2"	17-23.00#	SET THRU PAY	ZONE - CEMENTED TO TOP OF SAL

It is planned to drill a well at the above location to test the oil production possibilities of the Mississippian-Leadville Formation at a depth of approximately 6500'. The well will be drilled with rotary tools using mud and air for circulation. A short piece of conductor pipe (13 3/8") will be set at about 35 feet and cemented and then a 12 1/2" surface hole will be drilled to a depth which is below the massive sands and cemented to the surface. An 8 3/4" hole will then be drilled to total depth. A blowout preventer, hydril, and rotating head will be used for control equipment. In the event of production, 5 1/2" casing will be set and thoroughly cemented from the bottom up to above the salt section. A prognosis for the well is attached.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program if any.

24. SIGNED *Fred W. Pool* TITLE PRESIDENT DATE FEB 12 1981

(This space for Federal or State office use)

PERMIT NO. \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_

CONDITIONS OF APPROVAL, IF ANY:

DIVISION OF OIL, GAS & MINING

PROGNOSIS FOR  
 POOL OIL & GAS COMPANY  
 HORSESHOE CANYON UNIT #2-20  
 SE. SE. SECTION 20, T 26S, R 17E, SLM.  
 EMERY COUNTY, UTAH

LOCATION: SE. SE. Section 20, T 26S, R 17E, SLM, Emery County, Utah  
 (742' from E-line and 742' from S-line)

ELEVATION: 5005' Grd; 5020' K.B.

SURFACE CASING: One joint of conductor pipe (13 3/8" or equivalent) will be set and cemented manually at the surface; then a 12 1/4" hole will be drilled to a depth of 1200' for the surface casing. 1200 ft. of 9 5/8", 36.00#, K-55 casing will be set and cemented with 300 sks of reg cement w/3% CaCl, with returns to the surface. Casing will be set with a guide shoe and six (6) centralizers. A casing head, Series 900 with #10 flange, will be installed on top of the casing. The cement will be allowed 12 hours to set before nipping up.

EXPECTED FORMATION TOPS:

<u>Formation</u>	<u>Depth to Top</u>	<u>Thickness</u>	<u>Datum</u>
Navajo	Surface	500'	5020' K.B.
Kayenta	500'	20'	4520'
Wingate	520'	400'	4500'
Chinle	920'	300'	4100'
Shinarump*	1220'	80'	3800'
Moenkopi	1300'	600'	3720'
Kaibab*	1900'	60'	3120'
Coconino	1960'	600'	3060'
Wofcamp	2560'	550'	2460'
Hermosa*	3110'	1210'	1910'
Paradox Salt*	4320'	1500'	700'
Pinkerton Trail*	5820'	230'	-800'
Mississippian*	6050'	—	-1030'
TOTAL DEPTH	6400'		

\*Formations which may have hydrocarbons

1. It is planned to set and cement one jt of 13 3/8" casing for a conductor and then to drill a 12 1/2" surface hole for the surface casing to a depth of about 1000'. (This depth will be sufficient to set the casing thru the Wingate formation for the protection of possible loss-circulation in the area.) Casing, 9 5/8", 36.00#, K-55, R-3 will be run and cemented with 300 sks of cement with returns to the surface. The surface hole will be drilled with air and air mist and a deviation of no more than 2° will be maintained. A casing head, Series 600, will be mounted on top of the casing and a blowout preventer with hydraulically operated blind and pipe rams, and a hydril, will be mounted on the casing head. Fill and kill lines will be connected thru a manifold to the casing head below the blind rams. As soon as the cement plug is drilled out of the surface casing, the BOP and hydril and surface casing will be tested to 2000# for leaks.
2. A 8 3/4" hole will then be drilled below the surface casing to a depth of about 5000', using air and/or air mist for circulation. At this point, the air system may be changed over to a salt base mud to permit drilling the salt section below. All subsequent shows of hydrocarbons will be drill-stem-tested. Particular attention will be given to the Cane Creek Zone near the base of the salt section. This zone can be productive and is very susceptible to formation damage by the drilling fluids and cement. No barite (barium sulfate) is to be used at any time, if it can possibly be avoided.
3. The hole will be kept straight by stabilization or thru drilling methods. Deviation surveys will be taken at 400' intervals. Maximum deviation will be kept below 6°, if possible, and the maximum drift between surveys will be 2°.
4. Samples of the cuttings will be taken at 20-ft. intervals, beginning at 600', and continuing to a depth of about 5000' or when conversion to mud drilling is begun, then 10' samples will be taken.
5. The well will be drilled to a depth which is at least 300 ft. below the top of the Mississippian formation or to good commercial production. In the event of good production before the Mississippian is reached, the drilling may be discontinued at this point and 5 1/2" casing run to permit drilling deeper at a later date. The mud program will be supervised by the company representative.

6. At total depth, the well will be logged electrically; and a Gamma-Induction log and a Gamma-Density-CNL log will be run.
7. If production is obtained in the Mississippian, casing, 5½", 23.00#, N-80, R-3 will be run from about 6500' to about 4300', and 5½", 17.00# casing will be run from 4300' to surface, and cemented with about 200 sks of RFC cement and 300 sks of Pozmix (50-50) light cement w/5% salt, 5% gilsonite, and 6% sand. Sufficient cement to cover the salt section will be used.
8. A gamma-cement bond log will be run and the production zone perforated, 2 3/8" tubing run, and completed conventionally. It may be necessary to break down the formation with a weak acid treatment which would be swabbed out immediately after treatment.
9. The drilling of this well should take about one month and completion work should take about ten days.

*H. R. G.*

## N T L - 6 P L A N R E P O R T

For

Well Name: HORSESHOE UNIT #2-20Location: SE.SE. SEC. 20-26S-17E.1. Existing Roads: (See attached Maps)

## A. Well Location: (See Plat #1)

Reference Stakes: 200' N-S-E-WPerimeter Stakes: Reference stakes also mark perimeter of well pad

## B. Route and Distance to Well Site From Reference Point: (See att. maps)

Hwy 24 is taken south from I-70 to Temple Mt. Jct. and then the Flat Top Buttes Rd. is taken SW for 45 miles to the Hans Ranger Station and then No. along the Orange Cliffs for about 25 miles to the location.

## C. Access Roads (Identify secondary roads to be used): (See att. maps)

The Flat Tops secondary road from Temple Mt. Jct. to the Hans Ranger Station is used for about 45 miles and then a very poor and rough, rocky sandy trail is used for about 25 miles to the location.

D. Roads Within 3 mile Radius: (See att. maps) All these roads are trails (former seis or range trails) and are usually rough, sandy, and rocky in spots. They are normally about 8 ft. wide and are frequently just two tracks for the wheels.

Surface type and conditions: Sandy, rough, and rocky. Natural surface - ungraded

## E. Roads Within 1 mile Radius: (See att. maps) See 1-D Above.

As Above

F. Plans for Road Improvement & Maintenance: The Orange Cliffs Rd. will have to be improved in spots, widened, and may require some ripping and/or blasting in spots to permit the passage of heavy equipment.

F. Because of the aridity of the area and the temporary nature of the operation, no great amount of work will be accomplished on this road. The amount of improvement and work accomplished must be the sole decision of the operator due to his familiarity with his needs.

2. Planned Access Roads: (See att. maps) A new road leading from the present road to the location will be constructed.

(1) Width: 25 feet wide (due to sand - may be 40 ft. wide in places)

(2) Maximum Grades: 4%

(3) Turnouts: None

(4) Drainage Design: May be crowned slightly

(5) Location and Size of Culverts, Cuts, and Fills: None

(6) Surfacing Material: Sand

(7) Gates, Cattleguards, or Fence Cuts: None

(8) All new roads have been flagged as required.

3. Location of Existing Wells: (See Map No. 1)

(1) Water Wells: None

(2) Abandoned Wells: Two

(3) Temporarily Abandoned Wells: None

(4) Disposal Wells: None

(5) Drilling Wells: None

(6) Producing Wells: None

(7) Shut-in Wells: None

(8) Injection Wells: None

(9) Monitoring or Observation Wells: None

4. Location of Existing and/or Proposed Facilities:

A. Within 1-mile radius of location show the following existing facilities owned or controlled by lessee/operator:

(1): Tank Batteries: (Size) None

(2) Production Facilities: None

(3) Oil gathering lines: None

(4) Gas gathering lines: None

(5) Injection lines: None

(6) Disposal lines: None

(7) Are lines buried? —

B. If new facilities are contemplated, in the event of production, show: (These facilities depend on the outcome of the proposed well and are really unknown at this time.) Show a general proposed plan. (See Plat No. 2)

(1) Are any facilities planned off well pad? None at this time. If gas, a pipeline would have to be constructed but this would be considered later. If oil, the crude would have to be trucked out and a tank battery would probably have to be constructed on the west side of Horseshoe Canyon. This will also be considered later.

(2) Give dimensions of facilities: See Plat #2

(3) Construction methods and materials: Tank batteries, painted light tan, will be placed on gravel pads and surrounded by a 3' high dike which is 15' from the sides of the tanks. Heter-treaters and pump jacks, if required, will be placed on concrete blocks or raised dirt and gravel pads. All pipe lines on the pad will be buried. Unused portions of the pad will be graded and reseeded. Any fluid pit will be diked and neatly contoured.

(4) Protective measures for livestock and wildlife: All open pits will be fenced with barbed wire, 4 strands, and covered with steamers to protect animals and birds. Pump jacks or rotating machinery will have guards to prevent danger of moving parts.

C. Plan for rehabilitation of disturbed areas no longer needed after drilling operations are completed: Well site will be cleaned, levelled, and graded for production equipment; pits folded-in or

C. fenced with barbed wire if full of fluid before rig is removed. While production ensues, previous areas of the well pad not needed for production operations will be restored as in Item 10 below. Cleaning the site and pit work will be done within 30 days after the well is completed, if possible.

5. Location & Type of Water Supply: (See att. maps)

A. Type of Water Supply: Sources of water are very few in the area. The closest source would be at French seep in Sec. 3-30S-16E. Since air will be used as much as possible, the amount of water needed will be kept to a minimum.

B. Method of Transporting Water: The water will be hauled by truck from the spring to the location. This is a distance of about 30 miles over rough road.

C. Is Water Well Planned? No  
If so, describe location, depth and formation: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6. Source of Construction Materials:

A. See attached map and describe: None needed  
\_\_\_\_\_  
\_\_\_\_\_

B. Identify if Federal, Indian, or Fee Land: \_\_\_\_\_

C. Describe Material: (Where from and how used) \_\_\_\_\_  
\_\_\_\_\_

D. See item 1-C and 2 above.

7. Waste Disposal:

- (1) Cuttings: Cuttings will be deposited into the reserve pit.
- (2) Drilling Fluids: In mud tanks; excess put into reserve pit.
- (3) Producing Fluids (oil or water) Oil in tanks; water in reserve pit.
- (4) Human Waste: Toilet with pit (4' deep) with lime for odor and sanitation control. Will be covered with soil (3' deep) at end of operation.

(prior to commencement  
of drilling)

(5) Garbage & Other Waste: (Burn pit will be adequately fenced with chicken wire to prevent scattering of debris by wind) Into burn pit, 14'x12'x6' deep, and burned periodically. The burn pit will be approx. placed 125' from well head.

(6) Clean-up: (See item 10 below) All garbage and unburned debris will be buried by at least 3' of cover after the drilling and completion operations are finished. The unused material and all equipment will be removed from the site and taken to supply yards or to the next drill site, as soon as the well is completed.

8. Airstrips and/or Camp Sites (Describe): There is a prior constructed air strip in Sec. 30-26S-17E, which will be used for transporting crews back and forth and for small supplies and tools.

9. Well Site Layout: (See Plat No. 3)

(1) Describe cuts or fills: No large cuts or fills required. The location is on top of a sand hill and the sand will be pushed off to all sides.

(2) Describe pits, living facilities, soil stockpiles: The reserve pit will be on the east side and will be cut in native material, sand, and probably sandstone rock for at least 1/2 of its depth. The excavated material will be piled around the sides and will be as shown on Plat #3. The burn pit will be about 15' square and 6' deep. Only sand is present on the surface and this will be pushed into piles on the north, south, (pg.7)

(3) Rig Orientation, Pipe rack, Access Road Entrance, etc.: (See Plat #3)  
As Shown

(4) Are Pits Lined? Unlined with 6' banks.

10. Plans For Restoration:

A. If Well is completed: Site will be cleaned, debris removed, pits folded-in or fenced with barbed wire if full of fluid, and site levelled for production equipment. All unused portions will be contoured, graded, scarred, and seeded with wheat and rice grass or accept- (pg7)

B. If Well is abandoned:

(1) Clean-up, levelling, folding pits-in, contouring: These items will be done as soon as possible. Clean-up will be accomplished at

- B. (1) the time the rig is removed. The reserve pit, if full of fluid, will be fenced immediately and allowed to evaporate before folding-in. Remaining work will be done within 10-60 days after wells completed.
- (2) Seeding location and access road: Site will be scarred with a dozer or spike tooth drag and the grass seed or seed mix authorized by BLM will be drilled to a depth of ½". The access road, if no longer needed, will be erased, scarred, and seeded as above. Water bars will be placed where needed. The Orange Cliffs Rd will be left in tact since it is a prior road and now used.
- (3) Will pits be fenced or covered? If any amount of fluid is in the reserve pit, it will be fenced with barbed wire on the 4th side before rig is released and remain fenced until fluid evaporates.
- (4) Is there any oil in reserve pit? Should be none  
If so, describe disposal: If any oil in pit, it will be pumped out and removed before covering the pit.
- 
- (5) When will restoration work be done? As soon as possible. Within 60 days after equipment is removed, if weather and availability of clean-up equipment permit, and will be completed within 10 days thereafter.

11. Description of Land Surface:

(1) Topography & Surface Vegetation: The location is on A sandy knoll which will be levelled off for the rig. The Navajo sandstone outcrops along the canyon walls near the well site. Black brush, cacti, sage brush and grass comprise the vegetation.

(2) Other Surface Activities & Ownership: There are no continuous activities in the area. Some cattle are grazed in the area. This is Federal land and oil and gas leases have been granted to various oil companies. Pool Oil & Gas Co. has the lease under the drill site. Some old uranium claims were staked in the area.

(3) Describe other dwellings, archaeological, historical, or cultural sites: No dwellings, cultivated land, irrigation ditches, powerlines, or telephone lines are in the area. This is desert land. There are no known historical or cultural sites nearby. Old uranium claim stakes are numerous in the area. An archaeological report will be provided. Jack rabbits constitute the major portion of the wild life in the area.

12. Operators Representative: (Address & Phone number)

W. Don Quigley, Ste. 440, 57 West So. Temple, Salt Lake City, Utah  
801-359-3575

13. Certification:

I hereby certify that I, or persons under my direct supervision, have inspected the drill site and access route; that I am familiar with the conditions which presently exist; that statements made in this plan are, to the best of my knowledge, true and correct; and that work associated with the operations proposed herein will be performed by POOL OIL & GAS COMPANY and its contractors in conformity with this plan and terms and conditions under which it is approved.

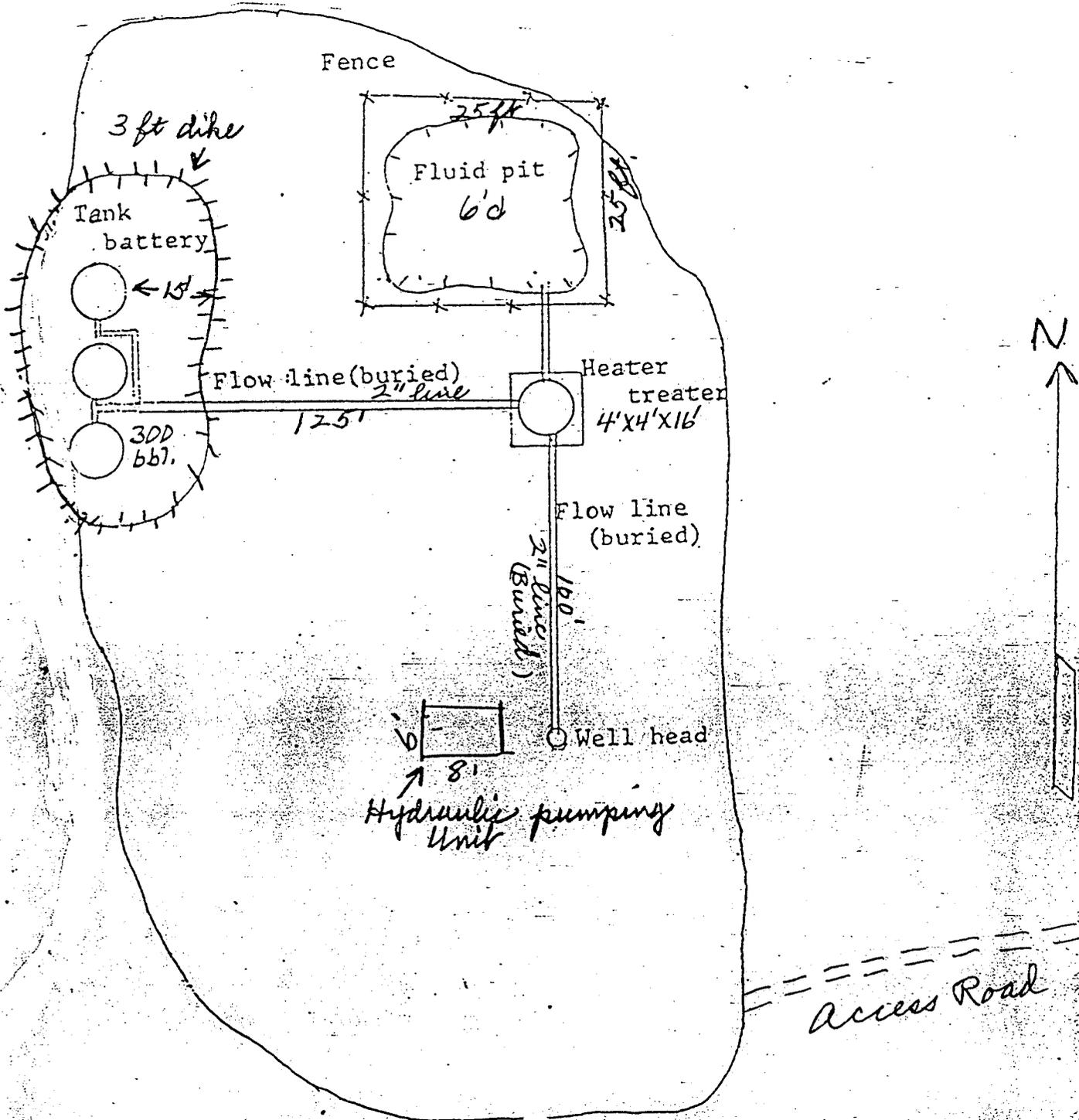
Date: FEBRUARY 12, 1981

Name: H. Row Quigley

Title: CONSULTANT

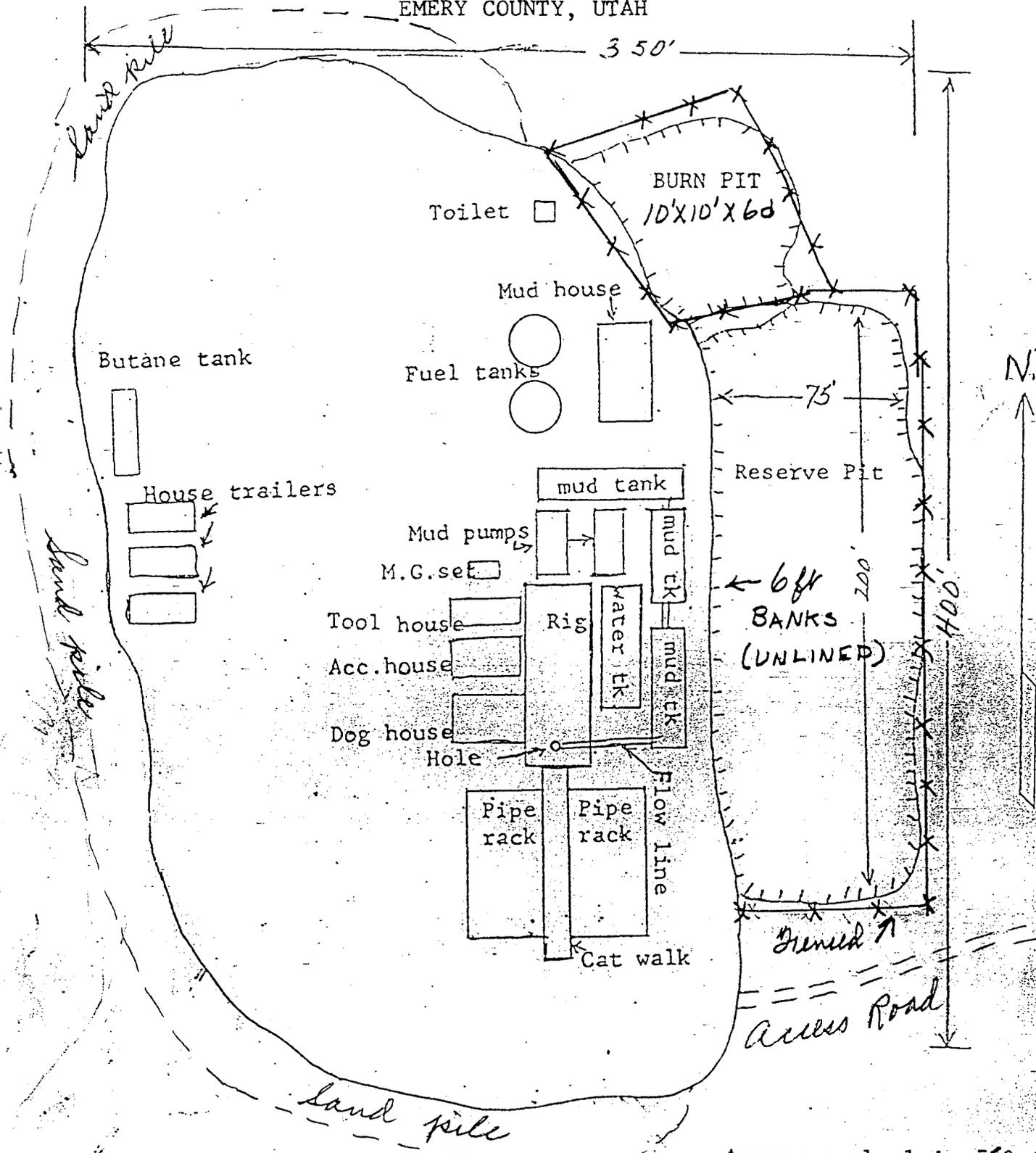
9. (2): and west sides. Two or three house trailers will be used for supervisory personnel. Reserve pit will be fenced on three sides with barbed wire (4 strands) before drilling commences. The burn pit will be fenced with chicken wire.

PLAN FOR PRODUCTION EQUIPMENT  
POOL OIL & GAS CO. HORSESHOE #2-20 WELL  
SE. SE. SEC. 20-26S-17E.  
EMERY COUNTY, UTAH



Approx. scale: 1 in. = 60 ft.

DRILLING EQUIPMENT LAYOUT  
 FOR  
 POOL OIL & GAS CO. HORSESHOE #2-20 WELL  
 SE. SE. SEC. 20-26S-17E.  
 EMERY COUNTY, UTAH



Approx. scale: 1 in. = 60 ft

PLAT NO. 3

WELL CONTROL EQUIPMENT FOR  
POOL OIL AND GAS COMPANY  
HORSESHOE CANYON UNIT  
#2-20 WELL  
EMERY COUNTY, UTAH

The following control equipment is planned for the above designated well:

1. Surface Casing:
  - A. Hole size for the surface casing is 12 $\frac{1}{4}$ ".
  - B. Setting depth for surface casing is approx. 1000'.
  - C. Casing specs. are: 9 5/8" O.D., J-55, 36.00#, 8-rd. thread, new or used.
  - D. Anticipated pressure at setting depth is approx. 700 lbs.
  - E. Casing will be run and cemented with 300 sks of cement and with returns to the surface. <sup>300</sup>
  - F. Top of casing will be at ground level.
  
2. Casing Head:

Flange size: 10"; A.P.I. Pressure Rating: 3000#; Series 600; Cameron, O.C.T., or equivalent; new or used; equipped with two 2" ports with nipples and 2", 3000# W.P. valves. Casing head and valves will be set above ground.
  
3. Intermediate Casing:

None
  
4. Blowout preventers:
  - A. Double rams; hydraulic; one set of blind rams for 4" drill pipe; 10" flange; 3000# W.P.; Series 600; equipped with mechanical wheels and rod for back-up; set on top of casing head and bolted down securely; pressure tested for leaks up to 2000#; Cameron, Shaffer, or equivalent. A hydril and rotating head will also be used.
  - B. The fill and kill line are to be connected to the 2" valve in the casing head and are to be heavy duty line pipe or tubing. The kill line will be connected to the mud pump and the flow line will be directed into the reserve pit.
  
5. Auxilliary Equipment:

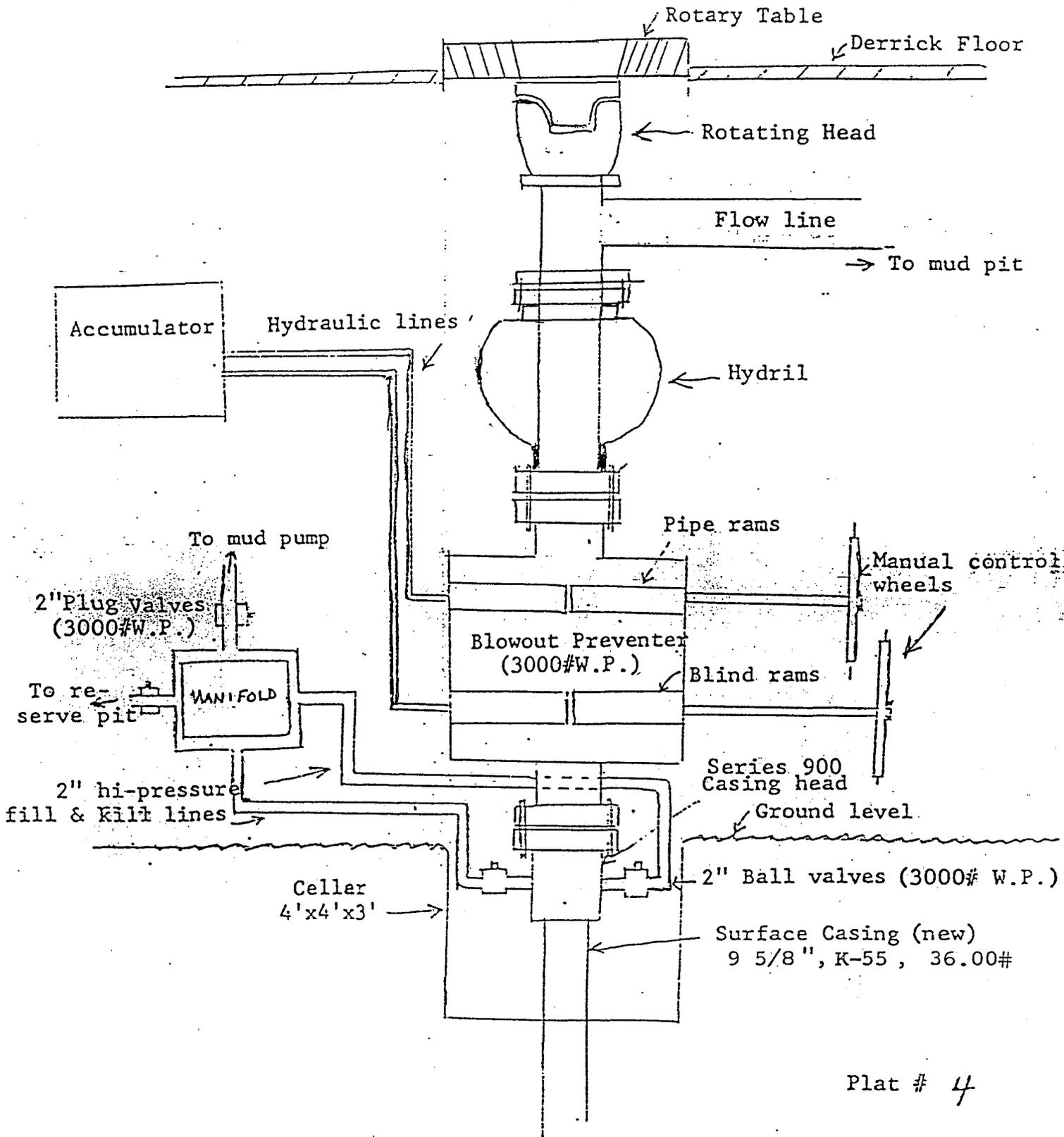
A float valve (3000# W.P.) is to be used in the bottom drill collar at all times. A kelly valve (at least 3000# W.P.) will be installed in the stand pipe and a vlave with proper sub will be available for stabbing in the drill pipe or drill collars.
  
6. Anticipated Pressures:

The shut-in pressure of the Mississippian formation at a depth of about 6500' has been recorded at about 2500#; in the general

area. . This will be the pressure that will be considered in the control program for the mud.

7. Drilling Fluids:  
Normal mud or air will be used to drill the well down to the top of the salt section of the Paradox Formation, which is expected at a depth of about 4390'. At a depth of about 5000', the air or fresh water mud may be converted to salt base mud to prevent wash-outs in the salt section. This will also give a mud weight of over 10#/gal. which will provide for a hydrostatic pressure of about 3000# at 6000', which should be sufficient over balance to hold the pressure of the potential reservoir at this depth. No toxic gases are anticipated.
8. Production Casing:
- A. Hole size for production casing is 8 3/4".
  - B. Approx. setting depth is 6500', which should be about 300' into the Mississippian formation.
  - C. Casing specs are: 5 1/2" O.D.; N-80 for lower 2000' - 23.00#; J-55 for upper 4500' - 15.50# or 17.00# which ever is available.
  - D. Casing will be run and cemented with approx. 500 sks in stages. The bottom of the casing, from 6500' to 5500', will be cemented first with about 200 sks; this will be allowed to set and then the rest of the cement will be used to cement the salt section. This will prevent undue hydrostatic pressures on the production zone. After the cement cures the casing will be set on slips in the casing head. Tubing, 2" I.D., will be run; plugs will be drilled out; tubing will be set in tubing head which is securely bolted to the casing head; and then the well will be perforated under a water cushion at the proper intervals.
  - E. Pressures involved in the production casing should not be greater than 2500# in the Mississippian Formation at about 6000' and about 3000# in the Pennsylvanian-Paradox Formation at 5000' to 6500'.

SCHEMATIC DIAGRAM  
 CONTROL EQUIPMENT FOR THE  
 POOL OIL AND GAS COMPANY  
 HORSESHOE CANYON UNIT  
 #2-20 WELL  
 EMERY COUNTY, UTAH



Identification No. 320-81

United States Department of the Interior  
Geological Survey  
2000 Administration Building  
1745 West 1700 South  
Salt Lake City, Utah 84104

NEPA CATEGORICAL EXCLUSION REVIEW

PROJECT IDENTIFICATION

Operator MEGADON ENERGY CORPORATION

Project Type OIL WELL

Project Location 742' FEL, 742' FSL, SE/4 SE/4 Sec 20 T26S, R17E

Well No. 2-20 Lease No. U-18644 (HORSHOE CANYON UNIT)

Date Project Submitted 2-17-81

FIELD INSPECTION

Date 4-1-81

Field Inspection  
Participants

SEE ATTACHED LIST

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I have reviewed the proposal in accordance with the categorical exclusion review guidelines. This proposal would not involve any significant effects and, therefore, does not represent an exception to the categorical exclusions.

4/10/81  
Date Prepared

George J. Dwachak  
Environmental Scientist

I concur

4/13/81  
Date

Ed [Signature]  
District Supervisor

Suite 440 / 57 West South Temple  
Salt Lake City, Utah 84101  
Bus. Tel: (801) 359-3575  
Res. Tel: (801) 295-1870

President: W. Don Quigley  
Vice President: Margaret Quigley  
Secretary: Sherrill L. Bateman



February 23, 1981

U. S. Geological Survey  
2000 Administrative Bldg.  
1745 West 1700 South  
Salt Lake City, Utah 84104  
Att: Diane

Re: Horseshoe Canyon #2-20

Dear Diane:

Enclosed is a new top sheet to replace the APD that was previously submitted on the above referenced well. The original application has Pool Oil & Gas as operator instead of Megadon. Therefore, would you please substitute the enclosed one for the one you already have. *Energy Corp.*

The Designation of Operator is also enclosed. *? not enclosed w/ this letter*

We would appreciate very much your rapid approval of the above application to avoid losing the drilling rig we have acquired for the drilling of this well.

Thank you!

Sincerely yours,

Sherrill L. Bateman  
Secretary/Treasurer

Enclosure

RECEIVED  
FEB 24 1981

DIVISION OF  
OIL, GAS & MINING

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK  
 DRILL  DEEPEN  PLUG BACK

b. TYPE OF WELL  
 OIL WELL  GAS WELL  OTHER  SINGLE ZONE  MULTIPLE ZONE

2. NAME OF OPERATOR  
 MEGADON ENERGY CORPORATION

3. ADDRESS OF OPERATOR  
 SUITE 440, 57 WEST SOUTH TEMPLE, SALT LAKE CITY, UTAH

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*  
 At surface SE. SE. SECTION 20, T 26S, R 17E, SLM  
 At proposed prod. zone 742' FR. E-LINE AND 742' FR. S-LINE

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
 APPROXIMATELY 55 MILES SOUTH OF GREEN RIVER, UTAH

15. DISTANCE FROM PROPOSED\* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drig. unit line, if any) 747'

16. NO. OF ACRES IN LEASE 250 1/4 ACRES

17. NO. OF ACRES ASSIGNED TO THIS WELL 160 ACRES

18. DISTANCE FROM PROPOSED LOCATION\* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. NONE OTHER

19. PROPOSED DEPTH 6500'

20. ROTARY OR CABLE TOOLS ROTARY

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
 5005' GRD; 5020' K.B.

22. APPROX. DATE WORK WILL START\*

5. LEASE DESIGNATION AND SERIAL NO.  
 U-18644

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME  
~~HORSESHOE CANYON UNIT~~

8. FARM OR LEASE NAME  
 FEDERAL

9. WELL NO.  
 #2-20

10. FIELD AND POOL, OR WILDCAT  
 WILDCAT

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA  
 SE. SE. SEC. 20-26S-17E SLM

12. COUNTY OR PARISH EMERY

13. STATE UTAH

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4"	9 5/8"	36.00#	1000'	300 SKS <i>Cement</i>
8 3/4"	5 1/2"	17-23.00#	SET THRU PAY	ZONE; CEMENTED TO TOP OF SALT

It is planned to drill a well at the above location to test the oil production possibilities of the Mississippian-Leadville Formation at a depth of approximately 6500'. The well will be drilled with rotary tools using mud and air for circulation. A short piece of conductor pipe (13 3/8") will be set at about 35 feet and cemented and then a 12 1/4" surface hole will be drilled to a depth which is below the massive sands and cemented to the surface. An 8 3/4" hole will then be drilled to total depth. A blowout preventer, hydril, and rotating head will be used for control equipment. In the event of production, 5 1/2" casing will be set and thoroughly cemented from the bottom up to above the salt section. A prognosis for the well is attached.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. SIGNED *H. Don Gingley* TITLE PRESIDENT DATE FEB. 19, 1981

(This space for Federal or State office use)

PERMIT NO. \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_

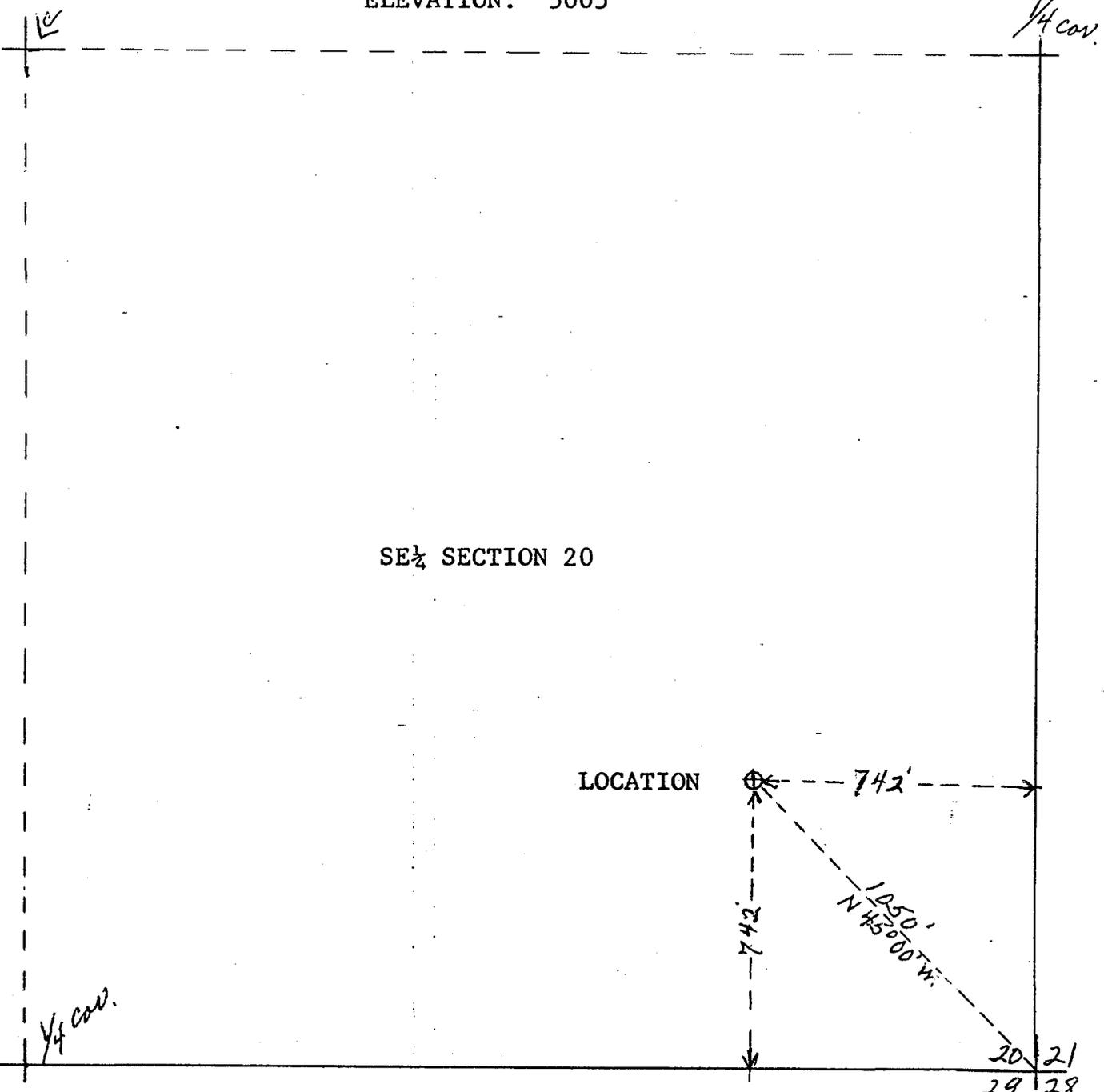
DIVISION OF  
OIL, GAS & MINING

APPROVED BY THE DIVISION  
OF OIL, GAS, AND MINING

DATE: 3/3/81  
BY: *[Signature]*

\*See Instructions On Reverse Side

LOCATION PLAT FOR  
~~POOL OIL & GAS CO.~~ *Megadon*  
 HORSESHOE #2-20 WELL  
 SE. SE. SEC. 20-26S-17E.  
 EMERY COUNTY, UTAH  
 ELEVATION: 5005'



SE 1/4 SECTION 20

LOCATION

742'

742'

1050'  
N 45°00' W

20 21  
29 28

REFERENCE PTS: 200' N-S-E-W

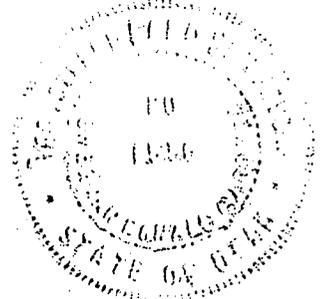
SCALE: 1" = 400 ft.

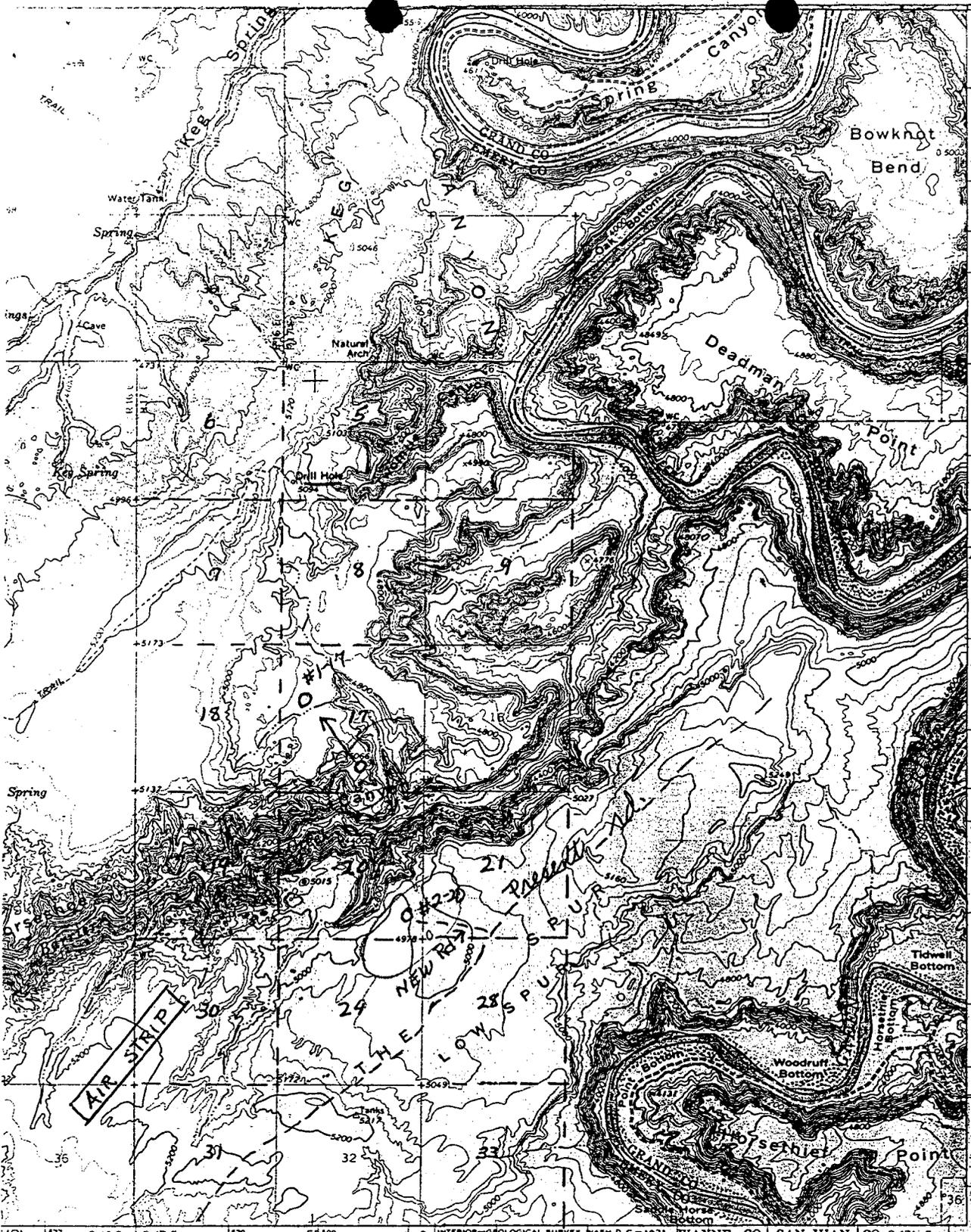
DATE: FEBRUARY 12, 1981

I, Sherman D. Gardner, do hereby certify that this plot was plotted from notes of a field survey made under my direct responsibility, supervision, and checking on February 8, 1981.

*Sherman D. Gardner*

Registered Land Surveyor  
 State of Utah #1556

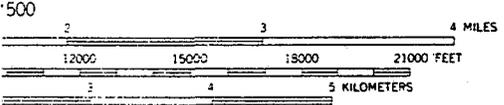




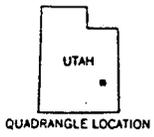
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INTERIOR-GEOLOGICAL SURVEY, WASH. D. C. - 1971 WAYNE CO | SAN JUAN CO R. 17 1/2 E. 110° 00'



AL 40 FEET  
SEA LEVEL



ROAD CLASSIFICATION  
Unimproved dirt .....

Map # 2

BOWKNOT BEND, UTAH  
N3830-W11000/15

L MAP ACCURACY STANDARDS  
COLORADO 80225, OR WASHINGTON, D. C. 20242  
NO SYMBOLS IS AVAILABLE ON REQUEST

1963  
MINOR CORRECTIONS MADE 1969  
AMS 3961 II-SERIES V797

UPHEAVAL DOME  
4000 N



\*\* FILE NOTATIONS \*\*

DATE: Feb. 25, 1981  
 OPERATOR: Megadon Energy Corporation  
 WELL NO: Federal # 2-20  
 Location: Sec. 20 T. 26S R. 17E County: Emery

File Prepared:  Entered on N.I.D.:   
 Card Indexed:  Completion Sheet:

API Number 43-015-30078

CHECKED BY:

Petroleum Engineer: M.S. Minder 3/4/81

Director: OK C-3

*ok as per spacing*  
 Administrative Aide: C-3 spacing (Wite) - ok on bndrys - ok on other oil & gas wells

APPROVAL LETTER:

Bond Required:  Survey Plat Required:

Order No. \_\_\_\_\_ O.K. Rule C-3

Rule C-3(c), Topographic Exception - company owns or controls acreage within a 660' radius of proposed site

Lease Designation Feed Plotted on Map

Approval Letter Written

Hot Line  P.I.

March 4, 1981

Megadon Energy Corporation  
Suite 440, 57 West South Temple  
Salt Lake City, Utah 84101

Re: Well No. Federal #2-20  
Sec. 20, T. 26S, R. 17E, SE SE,  
Emery County, Utah

Insofar as this office is concerned, approval to drill the above referred to oil well is hereby granted in accordance with Rule C-3, General Rules and Regulations and Rules of Practice and Procedure.

Should you determine that it will be necessary to plug and abandon this well, you are hereby requested to immediately notify the following:

MICHAEL T. MINDER - Petroleum Engineer  
Office: 533-5771  
Home: 876-3001

Enclosed please find Form OGC-8-X, which is to be completed whether or not water sands (aquifers) are encountered during drilling. Your cooperation in completing this form will be appreciated.

Further, it is requested that this Division be notified within 24 hours after drilling operations commence, and that the drilling contractor and rig number be identified.

The API number assigned to this well is 43-015-30078.

Sincerely,

DIVISION OF OIL, GAS, AND MINING

Michael T. Minder  
Petroleum Engineer

MTM/ko  
cc: USGS

**DUPLICATE**

SUBMIT IN DUPLICATE\*  
(Other Instructions on reverse)

Form approved  
Budget Bureau No. 42 R1425.

DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

**APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK**

1a. TYPE OF WORK  
 DRILL  DEEPEN  PLUG BACK

b. TYPE OF WELL  
 OIL WELL  GAS WELL  OTHER  SINGLE ZONE  MULTIPLE ZONE

2. NAME OF OPERATOR  
 MEGADON ENERGY CORPORATION

3. ADDRESS OF OPERATOR  
 SUITE 440, 57 WEST SOUTH TEMPLE, SALT LAKE CITY, UTAH

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*  
 At surface SE. SE. SECTION 20, T 26S, R 17E, SLM  
 At proposed prod. zone 742' FR. E-LINE AND 742' FR. S-LINE

5. LEASE DESIGNATION AND SERIAL NO.  
 U-18644

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME  
 HORSESHOE CANYON UNIT

8. FARM OR LEASE NAME  
 FEDERAL

9. WELL NO.  
 #2-20

10. FIELD AND POOL, OR WILDCAT  
 WILDCAT

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA  
 SE. SE. SEC. 20-26S-17E SLM

12. COUNTY OR PARISH  
 EMERY

13. STATE  
 UTAH

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
 APPROXIMATELY 55 MILES SOUTH OF GREEN RIVER, UTAH

15. DISTANCE FROM PROPOSED\* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)  
 747'

16. NO. OF ACRES IN LEASE  
 2501 ACRES

17. NO. OF ACRES ASSIGNED TO THIS WELL  
 160 ACRES

18. DISTANCE FROM PROPOSED LOCATION\* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.  
 NONE OTHER

19. PROPOSED DEPTH  
 6500'

20. ROTARY OR CABLE TOOLS  
 ROTARY

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
 5005' GRD; 5020' K.B.

22. APPROX. DATE WORK WILL START\*

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
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**RECEIVED**

APR 13 1981

DIVISION OF  
OIL, GAS & MINING

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give date on recent productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and reservoirs and the vertical depths. Give blowout preventer program, if any.

24. SIGNED W. Don Giegley APR 13 1981 TITLE PRESIDENT DATE FEB. 19, 1981

PERMIT NO. \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_  
 APPROVED BY W.P. Mouton FOR E. W. GUYNN DISTRICT ENGINEER DATE APR 13 1981  
 CONDITIONS OF APPROVAL, IF ANY:

NOTICE OF APPROVAL

CONDITIONS OF APPROVAL ATTACHED  
TO OPERATORS COPY  
\*See Instructions on Reverse Side

FLARING OR VENTING OF  
GAS IS SUBJECT TO NTL 4-A  
DATED 1/1/80

Utah State O&G.

ONSITE PARTICIPANTS

<u>NAME</u>	<u>REPRESENTING</u>
GEORGE DIWACHAK	USGS
LARRY GERHART	BLM HANKSVILLE
CHARLOTTE WALRATH	" "
MERVIN MILES	BLM PRICE
LAUREL HUGHES	" "
IRVIN MORTENSON	NATIONAL PARK SERVICE
JOHN RITENOUR	" " "
PAUL KIRKLAND	" " "
RON SUTTON	" " "
GEORGE PHILLIPS	" " "
DON QUIGLEY	MEGADON ENERGY CORP.
LARRY STORY	CRC - COLORADO WELLS INC.
CARL HUNT	HUNT'S SERVICE

RECEIVED

APR 13 1981

DIVISION OF  
OIL, GAS & MINING

CATEGORICAL EXCLUSION REVIEW INFORMATION SOURCE

Criteria 516 DM 2.3.A	Federal/State Agency			Local and private corre- spondence (date)	Previous NEPA	Other studies and reports	Staff expertise	Onsite inspection (date)	Other
	Corre- spondence (date)	Phone check (date)	Meeting (date)						
1. Public health and safety	1							6-(4/1/81)	4,8,9
2. Unique charac- teristics	1				11			6,	4,8,9
3. Environmentally controversial	1							6,	4,8,9
4. Uncertain and unknown risks								6	4,8,9
5. Establishes precedents	1				11		6	6	4,8
6. Cumulatively significant	1							6	4,8
7. National Register historic places	1								
8. Endangered/ threatened species	1								
9. Violate Federal, State, local, tribal law							6	6	4

SUMMARY OF ENVIRONMENTAL IMPACT EVALUATION

Operator Megadon  
ENERGY CORP

Well No. 2-20  
 Sec. 20 T. 26S R. 17E  
 Lease No. U-18644  
 County EMERY  
 EA No. CER-320-81

- KEY
- 0 - Enhances
  - 1 - No Impact
  - 2 - Minor Impact
  - 3 - Moderate Impact
  - 4 - Major Impact
  - 5 - N/A

	Construction				Pollution				Drilling Production				Transport Operations			Accidents		Other
	Roads, bridges, crossings	Drill pad, pits	Transmission lines, pipelines	Others (pump stations, compressor stations, etc.)	Burning, trash disposal, sewage	Noise/Obstruction of Scenic Views	Subsurface disposal	Others (toxic gases, noxious gas, air pollutants, etc.)	Well drilling	Fluid removal (Prod. wells, facilities)	Secondary Recovery	Mineral processing (ext. facilities)	Others	Trucks	Pipelines	Others	Spills and Leaks	Operational failure

Land Use	Forestry	5																	
	Grazing	0	2	5	5	2	2	5	2	2	2	5	5	2	5	-	2	2	
	Wilderness	3	3	3	3	2	3	5	2	3	3	5	5	3	3	-	3	2	
	Agriculture	5																	
	Residential-Commercial	5																	
	Mineral Extraction	5																	
	Recreation	0	2	3	2	2	3	1	2	3	2	5							
	Scenic Views																		
	Parks, Reserves, Monuments	5																	
	Historical Sites	5																	
Flora & Fauna	Unique Physical Features	5	2	5	2	2	3	1	3	3	3		3	3		3	3		
	Birds	2	2	2	2	2	2	1	2	2	2		2			2	2		
	Mammals	2																	
	Reptiles	2																	
	Fish	5																	
	Endangered Species	1																	
	Vegetation	2	2	2	2	2	1	1	2	2							2	2	
	Surface Water	2	2	2	2	2	1	1	2	2							2	3	
	Ground Water	1	2	1	1	1	1	3		2							2	2	
	Air Quality	2	2	5	2	1	5	5	2	2							2	2	
Phy. Char.	Erosion	2	2	2	2	2	5	5	5	2						2	2		
	Soils	2	2	2	2	5	5	5	5	5							3	2	
	Land Stability	2	2	2	2	5	5	5	5	5							5	5	
	Other Minerals	5	5	5	5	5	5	5	5	2							5	2	
	Effect on Local Economy	2																	
	Cumulative Impacts	2																	
	Safety & Health	2																	
	Others	5																	

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 APR 13 1981  
 DIVISION OF OIL, GAS & MINING

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CATEGORICAL EXCLUSION REVIEW COMMON REFERENCE LEGEND

1. Surface Management Agency Input - INCLUDING NPS - SPECIAL USE PERMIT AND BLM, HANKSVILLE Right. OF WAY (SMA STIPS INCLUDED)
2. Reviews Reports, or information received from Geological Survey (Conservation Division, Geological Division, Water Resource Division, Topographic Division)
3. Lease Stipulations/Terms
4. Application for Permit to Drill
5. Operator Correspondence
6. Field Observation / INCLUDING FIELD NOTES
7. Private Rehabilitation Agreement
8. SUMMARY OF ENVIRONMENTAL IMPACT EVALUATION
9. RECOMMENDED STIPULATIONS (USGS)
10. EA No 221-81 - ENVIRONMENTAL ASSESSMENT FOR APD, EVERGREEN OIL CORP. WELL No. 1, SEC 24, T. 31S, R. 12E GARFIELD COUNTY, UTAH LEASE U-18861, USGS, SLIC
11. A. BUREAU OF LAND MANAGEMENT, 1979, INITIAL WILDERNESS INVENTORY PROPOSALS, UTAH: USDI, BLM, SLIC, UT 115 p.
- B. BUREAU OF LAND MANAGEMENT, 1979. INTERIM MANAGEMENT POLICY AND GUIDELINES FOR LANDS UNDER WILDERNESS REVIEW: USDI, BLM, WASHINGTON, D.C., 32 p.
- C. BUREAU OF LAND MANAGEMENT, 1980 INTENSIVE WILDERNESS INVENTORY, FINAL DECISION ON WILDERNESS STUDY AREAS, UTAH: USDI, BLM, SLIC, UT. 405 p.

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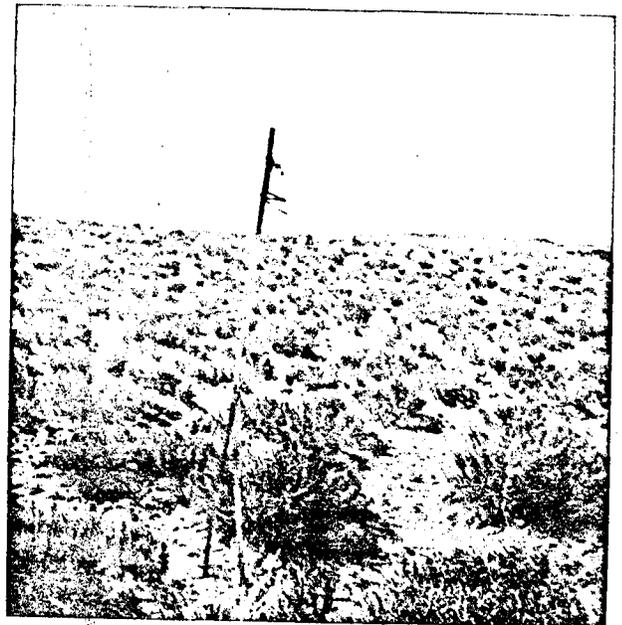
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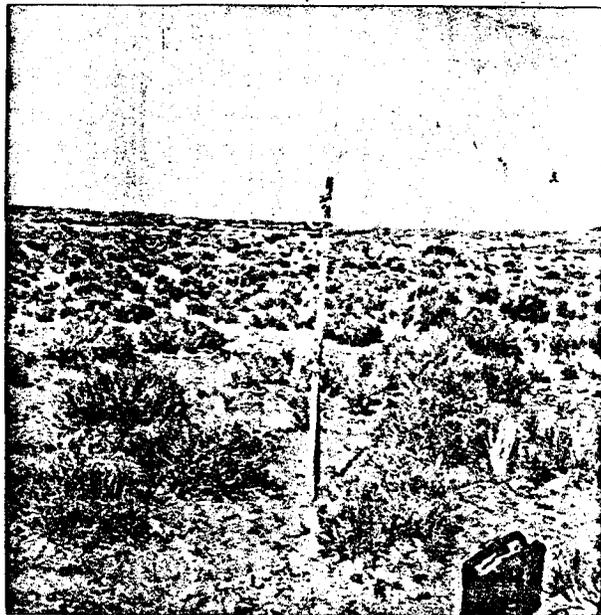
MEGADON  
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## RECOMMENDED STIPULATIONS

1. SEE STIPULATIONS IN ATTACHED MEMORANDUM TO DISTRICT ENGINEER, FROM AREA MANAGER, SAN RAFAEL (PRICE) DATED APRIL 7, 1981
2. ALL STIPULATIONS IN THE NATIONAL PARK SERVICE SPECIAL USE PERMIT SHALL BE ADHERED TO FOR THE USE, UPGRADING AND MAINTENANCE OF THE ORANGE CLIFFS ROAD THROUGH GLEN CANYON NATIONAL RECREATION AREA
3. ALL STIPULATIONS IN THE BLM, HANKSVILLE RIGHT-OF-WAY PERMIT SHALL BE ADHERED TO FOR THE USE, UPGRADING AND MAINTENANCE OF THE ORANGE CLIFFS ROAD FROM THE BOUNDARY OF GLEN CANYON NATIONAL RECREATION AREA TO THE EMERY COUNTY LINE (UNIT BOUNDARY). THE RIGHT-OF-WAY CONDITIONS SHALL ALSO APPLY TO THE WATER HAUL ROUTE TO ROOST SPRINGS IN SEC 21, T28S, R14E.
4. OFF ROAD VEHICLE TRAVEL IS PROHIBITED
5. AN AGREEMENT MUST BE REACHED WITH A. C. ECKER FOR PURCHASE OF WATER FROM ROOST SPRINGS
6. NO OFF SITE PRODUCTION FACILITIES ARE APPROVED. FLOWLINES AND OTHER FACILITIES MUST BE APPLIED FOR LATER IF THE WELL IS PRODUCTIVE

7. THE RESERVE PIT SHALL BE TERRACED BELOW THE DRILL PAD SO THAT AT LEAST ONE-HALF OF ITS DEPTH IS IN CUT MATERIAL IN CLAYEY SUBSOILS.

*George*

FROM : DISTRICT GEOLOGIST, SALT LAKE CITY, UTAH

TO : DISTRICT ENGINEER, O&G, SALT LAKE CITY, UTAH

SUBJECT: APD MINERAL EVALUATION REPORT

LEASE NO. U-18644

OPERATOR: Megadon

WELL NO. 2-20

LOCATION: C SE 1/4 SE 1/4 sec. 20, T. 26S, R. 17E, SLM

Emergy County, Utah

1. Stratigraphy:

Navajo	surface		
Kayenta	500'	Wolfcamp	2560'
Wingate	520'	Hermosa	3110'
Chinle	920'	Paradox	4320'
Shinarump	1220'	Pinkerton Trail	5820'
Moenkopi	1300'	Mississippian	6050'
Kaibab	1900'	<u>TD</u>	<u>6400'</u>
Cocconino	1960'		

2. Fresh Water:

Fresh water is probable to the Chinle. It may also be present in Cutler sandstones (~ 2200' to 3000').

3. Leasable Minerals:

NaCl in the Paradox

Oil/Gas: Shinarump, Kaibab, Hermosa, Paradox, Pinkerton Trail, Mississippian

4. Additional Logs Needed: Adequate

5. Potential Geologic Hazards: None expected

6. References and Remarks:

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Signature: Gregory W. W...

Date: 3-19-81



# United States Department of the Interior

IN REPLY REFER TO

BUREAU OF LAND MANAGEMENT

Moab District  
San Rafael Resource Area  
P. O. Drawer AB  
Price, Utah 84501

3100  
U-18644  
(U-067)

April 7, 1981

## MEMORANDUM

To: District Engineer, USGS

From: Area Manager, San Rafael

Subject: Additional Surface Management Requirements for APD's -  
Megadon Energy Corp. - Well 2-20,  
Sec. 20, T. 26 S., R. 17 E.

Following the onsite inspection held April 1, we would like to have the following stipulations made part of the approved permit to drill:

1. The BLM San Rafael Resource Area will be notified 48 hours before beginning any construction (phone 801-637-4584; 748-2249 after hours).
2. Construction and maintenance for surface use approved under this plan should be in accordance with the surface use standards as set forth in the BLM/GS/USFS oil and gas brochure entitled "Surface Operating Standards for Oil and Gas Exploration and Development". This includes but is not limited to such items as road construction and maintenance, handling of topsoil, rehabilitation, etc.
3. Soil to a depth of six inches (approximately 3,000 cu. yds.) shall be stockpiled. When drilling is completed, land will be returned to original contour before topsoil is respread.
4. Seeding shall take place from October 15 to February 15. Seeding method shall be as proposed in the application and shall be repeated until vegetation is successfully established unless otherwise approved in writing by the Authorized Officer. The following seed mixture shall be used:

### Grass

### Rate

Oryzopsis hymenoides, Indian ricegrass      9 lbs per acre

5. The proposed air strip may be bladed within the original perimeters. Rehabilitation shall consist of pulling the berms back over the disturbed area and reseeded as above.
6. All vehicle travel will be confined to existing roads. Off road travel is prohibited.

7. No burning of trash will be allowed. Trash will be contained in a wire cage or drum and hauled to an approved dump site.
8. A chemical toilet shall be provided at the drill site. Pit toilets will not be allowed.
9. Existing road shall be a single lane road not to exceed 24 feet wide except for designated turnouts.
10. The new access road shall be a single lane road and shall not exceed 24 feet in width. Any additional width needed because of sandy problem areas will be as jointly agreed upon by San Rafael Resource Area Authorized Officer and the applicant.

The sand may be windrowed and used to rehabilitate the road after it has been brought to contour.

11. The Holder shall follow accepted engineering practices in constructing roads and avoid excessive scarring or removal of vegetation.
12. Drainages shall not be plugged by roadbeds. Drainage crossings shall be constructed so as not to cause siltation or accumulation of debris. Where siltation or accumulation of debris occurs, the drainage crossing shall be reworked or relocated.
13. Broad-based drainage dips shall be constructed on long, steep road grades. Dips may be installed after temporary roadbeds have been constructed or during construction of permanent roads.
14. Low water crossings shall be used in temporary roads where road locations are more than one-half mile below the head of a drainage.
15. Access roads to well site shall be rehabilitated as shown in the Surface Use Standards and as required by the surface management agency's Authorized Officer. The sand windrowed during construction of the new road shall be pulled back over the disturbed road area and reseeded as above.

16. If the road becomes a permanent road, the following shall apply.
  - a. All permanent roads shall be constructed and maintained in good condition for vehicles. Roadway grades and widths for permanent roads must be approved.

- b. Only one permanent road will be allowed to the lease area with one permanent road to each well.

An archeological evaluation was done by Archeological-Environmental Research Corporation for Megadon Energy Corporation. We have not received the report as yet but the archeologist verbally advised us that no cultural resources were observed or recorded in the field and no National Register status sites will be affected by the drilling program. The cultural clearance is granted with the following stipulations:

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OIL, GAS & MINING

1. All vehicular traffic, personnel movement, and construction be confined to the locations examined and to access roads leading into these locations.
2. All personnel refrain from collecting individual artifacts or from disturbing any cultural resources in the area.
3. Should cultural remains from subsurface deposits be exposed during construction work or if the need arises to relocate or otherwise alter the construction area, the BLM will be notified immediately.

No threatened or endangered plant or animal species are known to inhabit the area.

The drilling area is no longer subject to the Wilderness Interim Management guidelines. However Wilderness Study Area UT-060-045/UT-050-237 which is nearby could be affected by future actions.

If the well is a dry hole but water is found, we would like to be advised of the depth the water is found and determine if we would like the water developed.

Samuel R. Rowley

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

SUBMIT IN TRIPPLICATE  
(Other instructions on reverse side)

Form approved,  
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.  
U-18644

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

7. UNIT AGREEMENT NAME  
HORSESHOE CANYON UNIT

8. FARM OR LEASE NAME  
FEDERAL

1. OIL WELL  GAS WELL  OTHER  PLUG AND ABANDONMENT

2. NAME OF OPERATOR  
MEGADON ENTERPRISES

3. ADDRESS OF OPERATOR  
57 WEST SOUTH TEMPLE, SALT LAKE CITY, UTAH 84101

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.)  
At surface

SE. SE. SECTION 20-26S-17E, SLM.  
742' FR. E-LINE AND 742' FR. S-LINE

9. WELL NO.  
HS. #2-20

10. FIELD AND POOL, OR WILDCAT  
WILDCAT

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA  
SE. SE. SEC. 20-26S-17E, SLM.

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, GR, etc.)

5005' GRD; 5020' K.B.

12. COUNTY OR PARISH  
EMERY

13. STATE  
UTAH

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

SUBSEQUENT REPORT OF:

TEST WATER SHUT-OFF

PULL OR ALTER CASING

WATER SHUT-OFF

REPAIRING WELL

FRACTURE TREAT

MULTIPLE COMPLETE

FRACTURE TREATMENT

ALTERING CASING

SHOOT OR ACIDIZE

ABANDON

SHOOTING OR ACIDIZING

ABANDONMENT

REPAIR WELL

CHANGE PLANS

(Other)

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

THE SUBJECT WELL WAS SPUDDED IN ON APRIL 20, 1981 BY CRC COLORADO RIG #88, AND DRILLED TO 40' AND SET ONE JT. OF 13 3/8" CSG. AND CEMENTED WITH 25 SKS CEMENT, FOR CONDUCTOR PIPE. THE WELL WAS THEN DRILLED TO A DEPTH OF 1263' AND RAN SURFACE CSG: 39 JTS OF 9 5/8" 36#, K-55 CSG. AND LANDED AT 1263' AND CEMENTED WITH 300 SKS OF CLASS "C" CEMENT W/3% CaCl. DID NOT GET RETURNS TO SURFACE DUE TO LOSS CIRCULATION ZONE. THE SUBJECT WELL WAS THEN DRILLED TO TOTAL DEPTH OF 6836' AT WHICH TIME IT WAS DECIDED TO PLUG AND ABANDON THE WELL. THE WELL WAS PLUGGED IN THE FOLLOWING MANNER:

- PLUG #1: 6836-6680' - 50 sks cement
  - PLUG #2: 4550-4350' - 75 sks cement
  - PLUG #3: 3500-3300' - 75 sks cement
  - PLUG #4: 1800-1500' - 100 sks cement
  - PLUG #5: 1100-1300' - 75 sks cement
- WELL MARKER WILL BE PLACED AT SURFACE

APPROVED BY THE STATE  
OF UTAH DIVISION OF  
OIL, GAS, AND MINING  
DATE: 7/21/81  
BY: *[Signature]*

DRY HOLE MARKER HAS BEEN SET. PITS HAVE BEEN FENCED.

18. I hereby certify that the foregoing is true and correct

SIGNED *[Signature]* SECRETARY/TREASURER

DATE: JUNE 22, 1981

(This space for Federal or State office use)

APPROVED BY \_\_\_\_\_  
CONDITIONS OF APPROVAL, IF ANY:

TITLE \_\_\_\_\_

DATE \_\_\_\_\_

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE

(See instructions on reverse side)

Form approved.  
Budget Bureau No. 42-R355.

16

WELL COMPLETION OR RECOMPLETION REPORT AND LOG \*

1a. TYPE OF WELL: OIL WELL  GAS WELL  DRY  Other \_\_\_\_\_

b. TYPE OF COMPLETION: NEW WELL  WORK OVER  DEEP-EN  PLUG BACK  DIFF. RESVR.  Other D & A

2. NAME OF OPERATOR  
MEGADON ENTERPRISES, INC.

3. ADDRESS OF OPERATOR  
57 WEST SOUTH TEMPLE, SALT LAKE CITY, UTAH 84101

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)\*  
At surface SE. SE. SEC. 20, T 26S, R 17E, SLM.  
At top prod. interval reported below 742' FR. E-LINE AND 742' FR. S-LINE  
At total depth \_\_\_\_\_

5. LEASE DESIGNATION AND SERIAL NO.  
U-18644

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME  
HORSESHOE CANYON UNIT

8. FARM OR LEASE NAME  
FEDERAL

9. WELL NO.  
#2-20

10. FIELD AND POOL, OR WILDCAT

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA  
SE. SE. SEC. 20-26S-17E. SLM.

14. PERMIT NO. 43-015-300781 DATE ISSUED 3-3-81

12. COUNTY OR PARISH  
EMERY

13. STATE  
UTAH

15. DATE SPUDDED 4-21-81 16. DATE T.D. REACHED 6-3-81 17. DATE COMPL. (Ready to prod.) 6-6-81 18. ELEVATIONS (DF, RKB, RT, GR, ETC.)\* 5005 GRD; 5020' K.B. 19. ELEV. CASINGHEAD \_\_\_\_\_

20. TOTAL DEPTH, MD & TVD 6836' 21. PLUG, BACK T.D., MD & TVD \_\_\_\_\_ 22. IF MULTIPLE COMPL., HOW MANY\* \_\_\_\_\_ 23. INTERVALS DRILLED BY ROTARY TOOLS 0-6836' CABLE TOOLS \_\_\_\_\_

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD & TVD)  
NONE

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25. WAS DIRECTIONAL SURVEY MADE  
NO

26. TYPE ELECTRIC AND OTHER LOGS RUN  
DUAL-LATEROLOG; GAMMA-DENSITY-CNL

JUL 07 1981

27. WAS WELL CORED  
NO

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	AMOUNT PULLED
9 5/8"	36.00#	1263'	12 1/4"	NONE

DIVISION OF OIL & GAS & MINING

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)
	NONE			

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)

31. PERFORATION RECORD (Interval, size and number)

NONE

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
NONE	

33.\* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)	WELL STATUS (Producing or shut-in)
NONE	NONE	P & A

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)

TEST WITNESSED BY \_\_\_\_\_

35. LIST OF ATTACHMENTS  
DRILLING HISTORY AND SAMPLE LOG

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records.

SIGNED H. Ron Gungley TITLE PRESIDENT DATE JULY 2, 1981

\*(See Instructions and Spaces for Additional Data on Reverse Side)

# INSTRUCTIONS

**General:** This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 33, below regarding separate reports for separate completions.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 18: Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments. Items 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s), and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

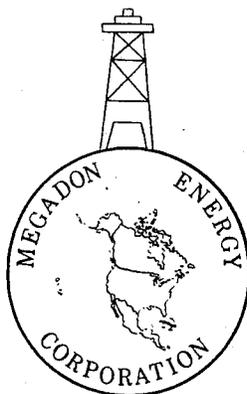
Item 29: "Sacks Cement": Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool. Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

37. SUMMARY OF POROUS ZONES:  
 SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF; CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.
NAVAJO	SURFACE	570'	SANDSTONE
KAYENTA	570'	610'	SANDSTONE AND SHALE
WINGATE	610'	910'	SANDSTONE
CHINLE	910'	1190'	SHALE AND SILTSTONE
SHINARUMP	1190'	1200'	CONGLOMERATE
MOENKOPI	1200'	1640'	RED SILTSTONE AND SHALE
COCONINO	1640'	2180'	HARD SANDSTONE
ORGAN ROCK	2180'	2720'	RED SANDSTONE, SILTSTONE (CALC)
WOLFCAMP	2720'	3245'	GRAY SDY. LIMESTONE
ERMOSA	3245'	4476'	BRN. CHERTY LIMESTONE AND DOLOMITE
PARADOX SALT	4476'	6353'	SALT, ANHYDRITE, BLK SHALE
PINKERTON	6353'	6602'	SILTSTONE, LIMESTONE, AND SHALE
MOLAS	6602'	6706'	RED AND GREEN SHALE, AND SILTY LMS
MISS-LEADVILLE	6702'	6830'	T. D. LIMESTONE

## GEOLOGIC MARKERS

NAME	TOP	
	MEAS. DEPTH	TRUE VERT. DEPTH



May 6, 1981

DRILLING HISTORY  
OF  
HORSESHOE #2-20 WELL  
EMERY COUNTY, UTAH

- Apr. 14-19: Move Colorado Well Service Rig 88 from Tennile #1-26 well to location. Had lots of delay due to getting road right-of-way cleared thru BLM. Rig was also off loaded at wrong place. Trucks got stuck in sand. Had to haul lots of water on the road.
- Apr. 20: Waited on 17½" bit and power swivel for 6 hrs. Drilled conductor hole and set joint of 13 3/8" casing (40') and cemented casing w/25 sks cement. Drilled mouse hole and rat hole. Waited on rotating head for 3½ hrs due to truck stuck on road.
- Apr. 21: Drilled 40' to 303' (263'). Drilling 12¼" hole using air for circulation. Drilling at rate of 40'/hr. Hit some moisture at 260' and had to convert to air-mist. Survey at 127' was ½°. Waited 7 hrs. on rotating head.
- Apr. 22: Drilled 303-734' (431'). Survey at 310' was ¼°; at 557' was ½°. Drlg. at rate of 20 ft/hr. in sand (Navajo and Wingate). Made rd-trip at 570' for new bit. Bit #1 (Reed Y-12J) made 530' (40' to 570') in 21½ hrs. (25 ft/hr. )
- Apr. 23: Drilled 734' to 1202' (468'). Survey at 804' was ½°. Made rd-trip at 969' for new bit. Bit #2 (Reed Y-12J) made 399' (570' to 969') in 19¼ hrs. Drilled at avg. rate of 21 ft/hr. Est top of Chinle formation at 910'; top of Shinarump at 1190'; and top of Moenkopi at 1200'.
- Apr. 24: Drilled 1202' to 1263' (61'). Survey at 1263' was ¾°. Bit #3 (Security S3J) made 294' (969' to 1263') in 25½ hrs. Drilled at avg. rate of 12 ft/hr. Circulated hole and came out to run surface casing dry. Ran 39 jts of 9 5/8", 36#, K-55 casing and landed at 1263'. Cemented casing with 300 sks of Class C cement w/3% CaCl. Plug down at 11:00 A.M. Did not get returns to surface due to loss circulation zone. Sand packed casing at top down to cement. Waited on cement for 9 hrs. Cut off casing and nipped up BOP.
- Apr. 25: Finished nipping up BOP and choke manifold. Wait on change over spool (Series 900 to 1500). Tested BOP rams and hydril to 2000#. Installed rotating head and blewie line.

Went in hole with 8 3/4" bit (Bit #4). Topped cement at 1120'. Unloaded hole and drilled out cement. Dried up hole.

- Apr. 26: Drilled 1263' to 1925' (662'), Survey at 1742' was 1/2°. Drilling at avg. rate of 35 ft/hr. Hole got wet at 1400' and had to convert to air-mist drilling. Est top of Cocconino at 1640'.
- Apr. 27: Drilled 1925' to 2509' (584'), Survey at 2265' was 1°. Drilling in Coconino sand at rate of 30 ft/hr. Had lots of water. Washed out pit. (Had accident on rig due to sudden air-pressure release. Man was air-borne off rig floor and got hurt; was sent to hospital by helicopter.) Hole making about 100 bbl water per hour. Est top of Organ Rock-Cutler at 2180'.
- Apr. 28: Drilled 2509' to 3113' (604'), Survey at 2821' was 1/4°. Est. top of Hermosa at 2750'. Booster broke down and was down 3/4 hrs. for repairs. Drlg in lms., shale, and hard sandstone at avg rate of 30 ft/hr.
- Apr. 29: Drilled 3113' to 3259' (146'). Hole making so much water and couldn't keep hole clean so converted to mud at 3259'. Came out of hole to remove rotating head and nipple up flow line. Bit #4 (Reed HS51J) made 1996' (1263' to 3259') in 64 3/4 hrs. Drilled at avg rate of 31 ft/hr, wit air-mist. Filled hole with water and didn't get returns. Mixed mud (35 Visc) and LCM and finally got returns. Went back in hole and began reaming and washing 500 ft back to bottom.
- Apr. 30: Drilled 3259' to 3460' (201'). Drlg ahead with mud at rate of 10 to 20 ft/hr. Survey at 3340' was 1°. Began drlg ahead at 0930 AM.
- May 1: Drilled 3460-3683' (223'), Drilling at rate of 10 ft/hr, in Hermosa limestone and dolomite. Mud wt, is 8,8, Vixc is 34 and w. l, is 56, Drilling with 25,000# on bit and 65 RPM.
- May 2: Drilled 3683' to 3920' (237'), Survey at 3671' was 1°. Drlg rate about the same. Began mixing salt and change over to salt mud,
- May 3: Drilled 3920' to 4036' (116'). Mixing more salt in mud. Mud wt, is now 9,9, visc is 40 and w.l, is 146,
- May 4: Drilled 4036' to 4147' (111'), Drlg rate now at 4 ft/hr, in dolomite and anhydrite. Suspect that upper part of salt section is anhydrite and dolomite rather than salt. Survey at 4008' was 1°.

- May 5: Drilled 4147 to 4200' (53'). Made rd-trip at 4165' for new bit. Bit #5 (Reed FP51) made 906' (3259' to 4165') in 10 hrs. Drilled at avg. rate of 82 ft/hr. Drilling in dolomite and anhydrite of salt section.
- May 6: Drilled 4200' to 4288' (88'). Drlg at rate of 3-4 ft/hr. in dolomite and anhydrite of upper salt section.
- May 7: Drilled 4288' to 4370' (82'). Drlg at avg rate of 4 ft/hr. Still no salt.
- May 8: Drilled 4370 to 4444' (74'). Survey at 4351' was  $\frac{1}{2}^{\circ}$ . Drilling in dolomite, anhydrite, and black shale. Still no salt.
- May 9: Drilled 4444' to 4564' (120'). Encountered some salt at 4480'. Thin salt beds.
- May 10: Drilled 4564' to 4663' (99'). Survey at 4596' was  $\frac{3}{4}^{\circ}$ . Drilling at avg. rate of about 5 ft/hr. Had some thin salt beds. Mud wt. is 10.4, visc. is 38, and w.l. is 26. Drilling with 30,000# wt. on bit at 60 RPM. Made rd trip at 4633' for new bit. Bit #6 (Reed FP53) made 468' (4165' to 4633') in 111 hrs. Drilled at avg. rate of 4 ft/hr.
- May 11: Drilled 4663' to 4795' (132'). Drlg in salt, dolomite, anhydrite, and black shale of Paradox section of the Hermosa formation. No significant oil shows.
- May 12: Drilled 4795' to 5088' (307'). Drlg. mostly in salt. Survey at 4878' was  $1^{\circ}$ .
- May 13: Drilled 5088' to 5284' (196'). Survey at 5096' was  $1\frac{1}{2}^{\circ}$ . Drlg in salt and dolomite, anhydrite, and black shale.
- May 14: Drilled 5284' to 5508' (224'). Survey at 5286' was  $1\frac{1}{4}^{\circ}$ . Drlg with 20,000# on bit at 70 RPM in salt, anhydrite, and dolomite. No good oil shows in samples.
- May 15: Drilled 5508' to 5590' (81'). Survey at 5576' was  $4^{\circ}$ . Made rd-trip at 5546' for new bit. Bit #7 (Security S86F) made 953' (4633' to 5546') in 112 $\frac{1}{2}$  hrs. Drilled at an avg. rate of 8 $\frac{1}{2}$  ft/hr. Drilling in black shale, anhydrite and dolomite of Paradox section.
- May 16: Drilled 5590' to 5764' (174'). Survey at 5701' was  $4^{\circ}$ . Drilling with 12,000 to 15,000# wt. on bit at 70 RPM. Mud wt. is 10.8, Visc. is 39, w.l. is 26. Drlg in salt and anhydrite.
- May 17: Drilled 5764' to 5932' (168'). Drilling in salt, shale, and anhydrite. Salt beds are thin (40-60') and clastic zones are fairly thick. No shows of hydrocarbons.

- May 18: Drilled 5932' to 6169' (237'). Survey at 5940' was 4°. Basal salt bed was about 150' thick. Base of salt is estimated at about 6150'. This is about 200 ft. low to the Superior well in Section 5 to the north.
- May 19: Drilled 6169' to 6254' (85'). Drlg. slow in shale, anhydrite, and dolomite of Pinkerton Trail section of Hermosa formation. Drlg. at rate of 3-4 ft/hr. Survey at 6196' was 4 3/4°. Keeping wt. on bit at 15,000# and RPM at 75 to keep hole straight.
- May 20: Drilled 6254' to 6310' (56'). Drilling real slow at rate of 2 to 3 ft/hr. in dolomite, soft bentonitic shale and anhydrite. Increased wt. on bit to 20,000# to improve drlg rate.
- May 21: Drilled 6310' to 6373' (63'). Still drlg. slow. Pinkerton Trail section may be thickening some over the Superior well.
- May 22: Drilled 6373' to 6440' (67'). Survey at 6416' was 5 1/4°. Encountered light gray to pink bentonitic shale at 6420'. This is the probable top of the Molas formation.
- May 23: Drilled 6440' to 6470' (30'). Had slight drilling break at 6445'. Rate increased from 3 ft/hr. to 5 ft/hr. Samples changed to white fractured chalky limestone, brown limestone with minute fractures - with live oil stain along fractures. Had good light blue fluorescence and slight oil cut in samples. Estimate top of Mississippian - Leadville formation at 6445'. Will drill about 100 ft. below top and test.
- May 24: Drilled 6470' to 6539' (69'). Drlg at rate of 3 to 4 ft/hr in siltstone and dolomite. Decided that limestone section drilled above might not be the Mississippian-Leadville due to underlying siltstone and shale; but limestone had fluorescence and slight stain so will have to test probably.
- May 25: Drilled 6539' to 6560' (21'). Decided to run DST to test limestone sections. Circulated for 3 1/2 hrs and conditioned mud. Made short-trip and circulated another 1 1/2 hrs. Came out of hole and picked up test tools.
- May 26: Went in hole with test tool and ran DST #1 as follows:  
Interval: 6450-6560' (110')  
Init. Open: 15 min.  
Initial Shut-in: 1 hr.  
Final Flow: 1 1/2 hr.  
Final Shut-in: 2 hr.  
Blow: Very weak blow initially and dead thru-out final flow period.  
Rec.: 10 ft. of drilling mud.

Pressures:

IHP = 3745#	FHP = 3742#
IFP = 75-77#	FFP = 75-75#
ISI = 85#	FSI = 93#
BHT = 118° F	

No recovery in sample chamber. Laid down test tools and went back in hole with Bit #9. Drilled 6549' (corrected depth to 6553').

- May 24: Drilled 6553' to 6612' (59'). Drilling real slow in siltstone, and limestone of Pinkerton Trail section. Had a 58 minute foot at 6603'. This could be the top of the Molas formation instead of the 6420' depth previously estimated. Samples were red and green shale typical of Molas.
- May 28: Drilled 6612' to 6660' (48'). Drlg at rate of 2 ft/hr. in red-soft shale with 25,000# on bit at 65 RPM. Pump pressure = 1450#. Mud wt. is 10.8#, Visc. is 39, and W.L. is 20.
- May 29: Drilled 6660' to 6700' (40'). Still in Molas - soft red and green shale. Drlg at 1½' to 2'/hr. rate. Put 30,000# on bit without any increase in drlg. rate.
- May 30: Drilled 6700' to 6758' (58'). Drlg rate increased at 6700' to about 4 ft/hr. and samples contained white chalky limestone with fluorescence. This is probable top of Miss-Leadville formation. Survey at 6713' was 2°.
- May 31: Drilled 6758' to 6773' (16'). Bit #9 gave up so had to make rd-trip for Bit #10. Bit #9 (Smith F3RR) made 307' in 133¼ hrs. Drilled at an avg. rate of about 2½ ft/hr. Had tight hole at 5500' to 5350' and took 12 hrs to work up thru tight section and ream it out again.
- June 1: Drilled 6773' to 6804' (31'). Decided to run DST to test shows in top of Miss-Leadville. Circulated for 2 hrs and made short trip. Circulated for 1½ hrs. and came out of hole and picked up test tools.
- June 2: Went in hole with test tool and ran DST #2 as follows:  
Interval: 6710 to 6804' (94')  
Init Open: 15 min.  
Init. Shut-in: 1 hr.  
Final Flow: 1½ hr.  
Final Shut-in: 1½ hr.  
Blow: Strong blow initially and continuing during final flow but decreasing gradually (Built up to 20# and then gradually died).  
Rec.: 5246' of black saline water.  
Sample Chamber: 2500 cc. of black saline water (Resistivity was .08 ohms at 100°F with 196,000 PPM chlorides).

Pressures:

IHP = 3838#	FHP = 3806#
IFP = 1370-2625#	FFP = 2646-2643#
ISIP = 2635#	FSIP = 2645#
BHT = 112°	

- June 3: Laid down test tool and went back in hole with Bit #10 to drill rat hole for logs. Drilled 6806' to 6836' (30'). Circulated for 2 hrs. and came out of hole for logging. Bit #10 (Reed FP52) made 63' (6773' to 6836') in 14 hrs. Drilled at avg rate of 4½ ft/hr.
- June 4: Logged hole. Ran Gamma-Density-CNL log first since Dual-Laterolog tool wouldn't work. Had to wait for another tool. Went in hole with Dual-Laterolog. Wited on tool for 10 hrs.
- June 5: Ran Dual-Laterolog. Got stuck at 2930' and worked for 10 hrs. to get unstuck. Finally called Grayco Fishing Co. to fish out tool. Cut cable and stripped in drill pipe to tool and caught fish. Came out of hole with logging tool. Laid down drill collars and went in hole with drill pipe to plug and abandon well.
- June 6: Waited on cementers for 3 hrs. Set cement plugs in hole as follows:
- |          |       |    |       |        |     |     |   |   |
|----------|-------|----|-------|--------|-----|-----|---|---|
| Plug #1: | 6836' | to | 6680' | (156') | 50  | sks | - | Bottom of hole                            |
| Plug #2: | 4550' | to | 4350' | (200') | 75  | sks | - | Across top of salt                        |
| Plug #3: | 3500' | to | 3300' | (200') | 75  | sks | - | Across top of Hermosa                     |
| Plug #4: | 1800' | to | 1500' | (300') | 100 | sks | - | Across Coconino                           |
| Plug #5: | 1300' | to | 1100' | (200') | 75  | sks | - | Across bottom of surface casing           |
| Plug #6: | 15'   | to | 0'    | (15')  | 10  | sks | - | at top of surface casing with well marker |

Laid down drill pipe and began rigging down.

June 7-8: Rig down and moved out.

Total Estimated Cost: \$843,000.

GEOLOGIC COMMENT:

The subject well was obviously located on the down-thrown side of a fault which trends northwest across the Horseshoe Canyon structure. This fault apparently was existent in Paleozoic times and was probably growing from time to time, since the Molas formation was much thicker than in adjacent

MEGADON ENERGY CORPORATION  
HORSESHOE #2-20 WELL  
CONTINUED DRILLING HISTORY

PAGE 7

wells. Since it was approximately 104' thick, likewise the Cane Creek to Pinkerton Trail section was thicker than normal; because of this, the Mississippian formation was likewise low and contained water.

The structure of the Horseshoe Canyon feature is probably much higher on the north side of the fault. The exact position of the fault will be determined by geophysical data, and this data may show that a prospective site on the structure exists on the north side of the fault.



W. DON QUIGLEY  
PRESIDENT

RECEIVED

JUL 07 1971

DIVISION OF  
OIL, GAS & MINING

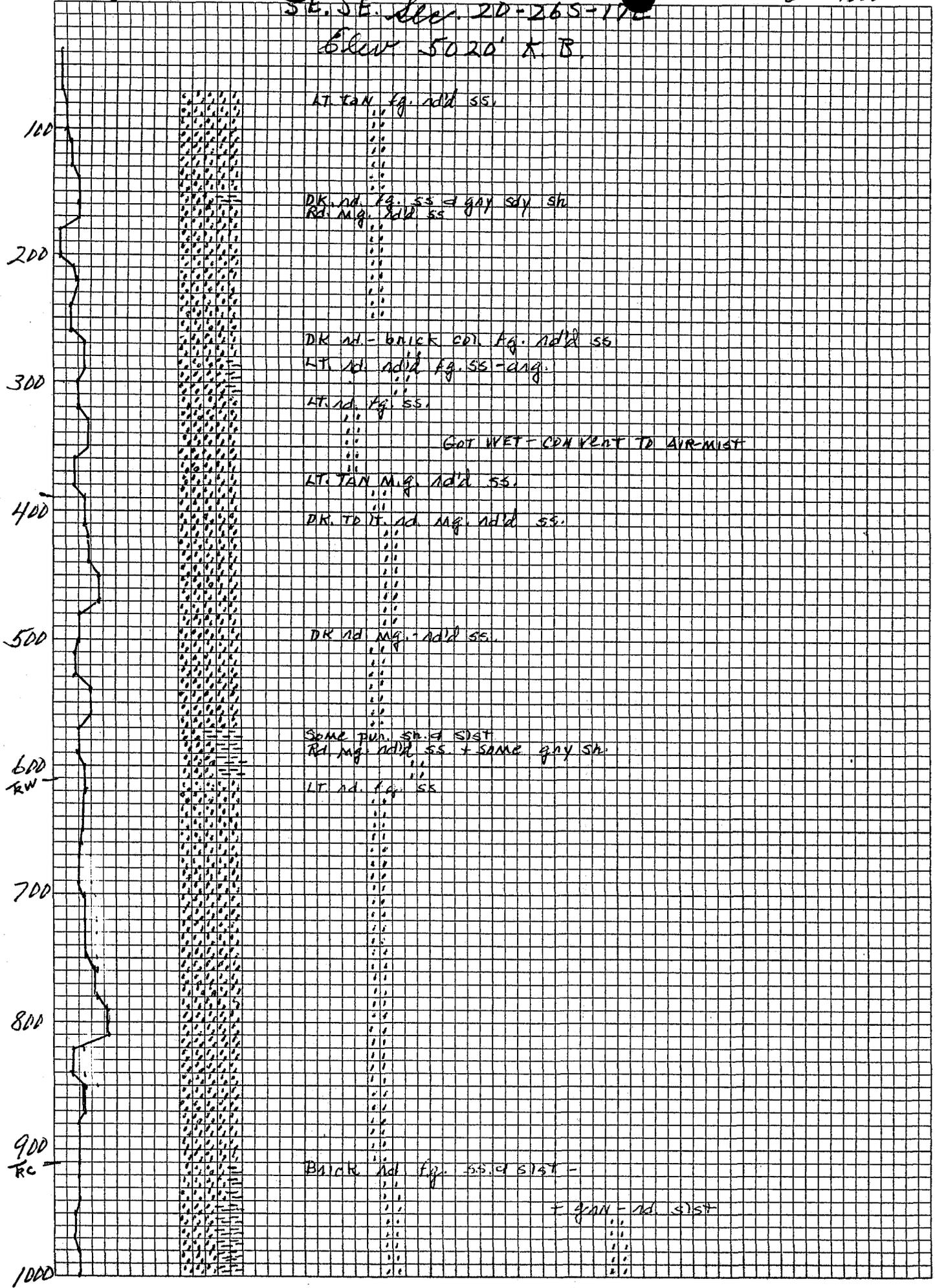
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Dr. # 2-20  
SE. SE. Sec. 20-26S-17E  
Blow 5020' K.B.

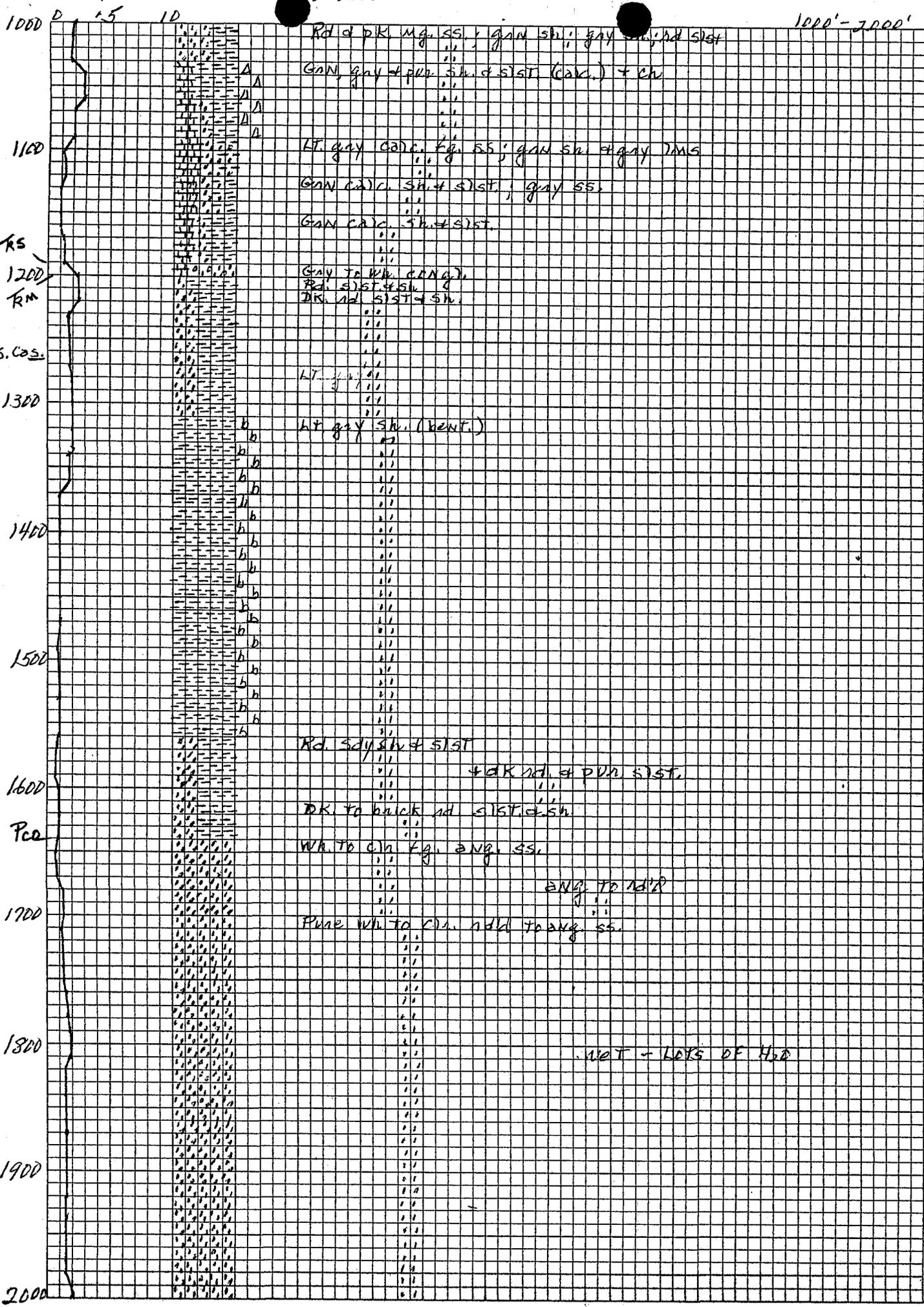
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KEUFFEL & ESSER CO. MADE IN U.S.A.



Wellsite # 2-20-00



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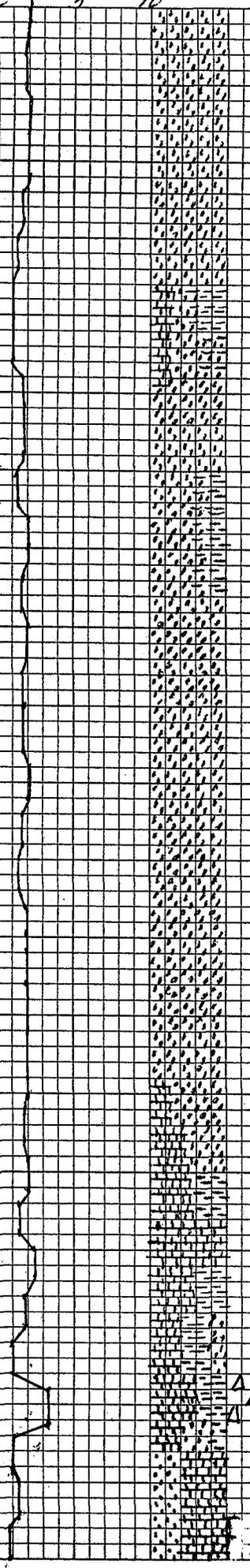
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2000' 1/2" 10

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KEUFFEL & ESSER CO. MADE IN U.S.A.

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DK rd. fg. ss.

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LT. gray ms.

+ blk calc. sh.

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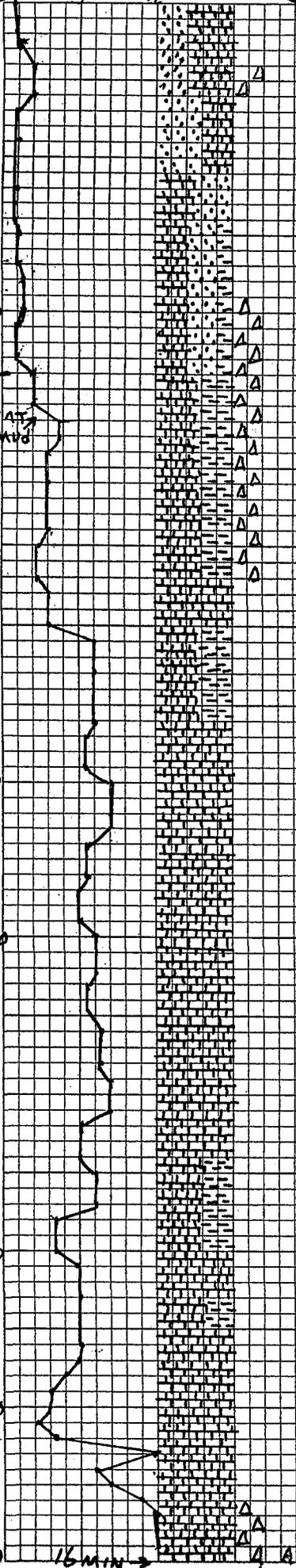
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Howell ... # 2-20 ...

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4000



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 Bn chty to sdy lms & lt. gray vfg. hd calc. mica ss  
 + dk gray calc sh  
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KEUFFEL & ESSER CO. MADE IN U.S.A.

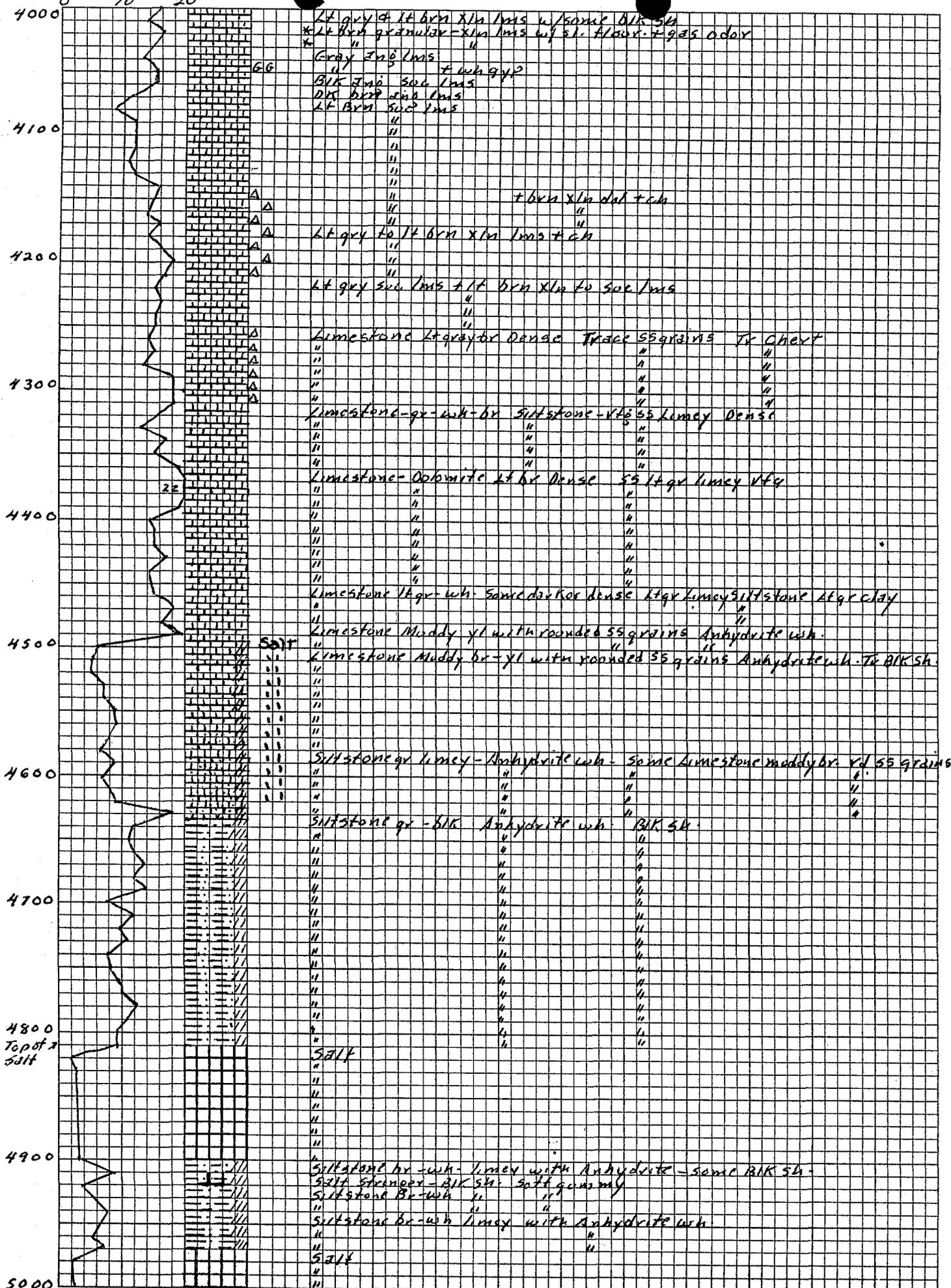
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Horseshoe # 2-20

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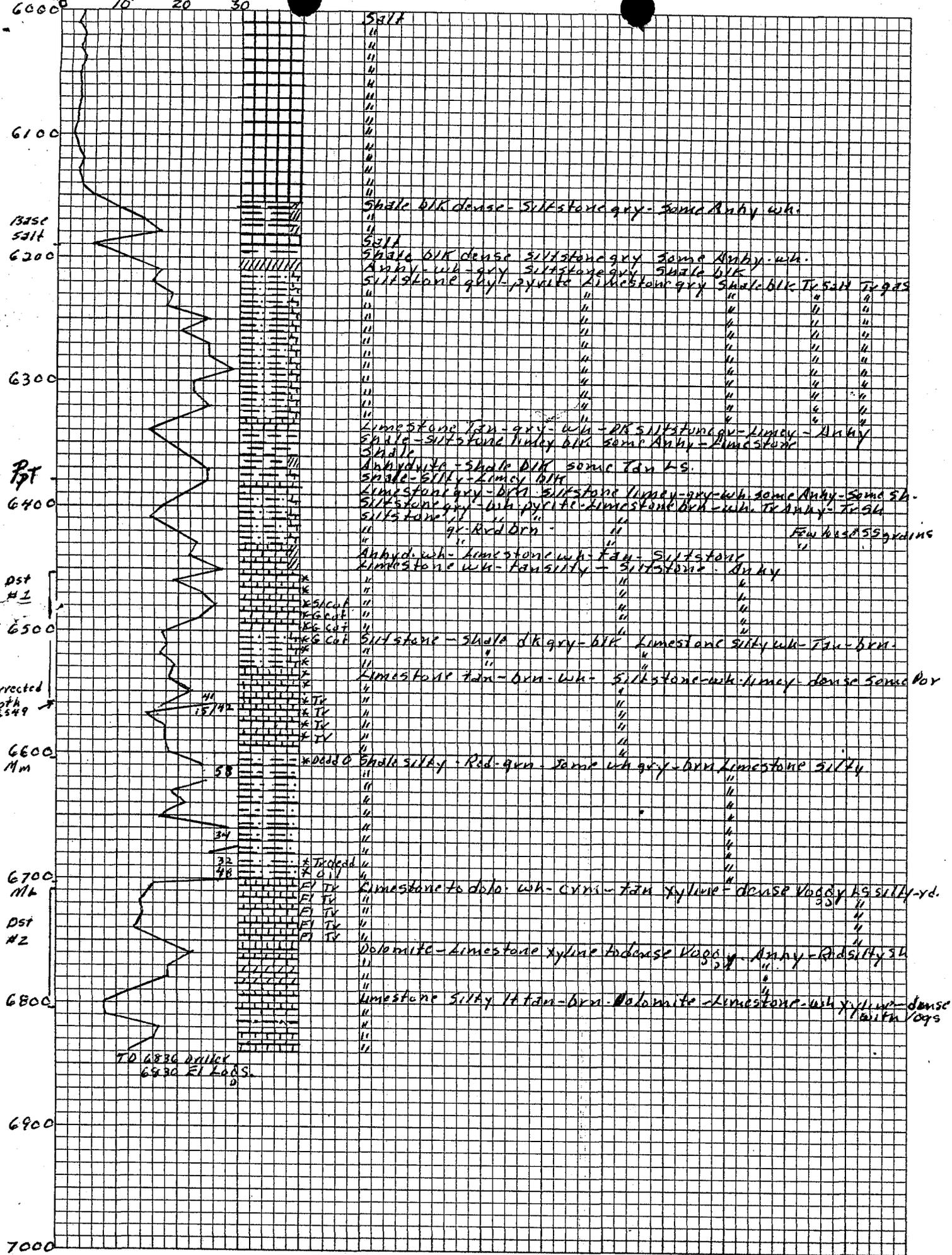


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5 X 5 TO 1/2 INCH \* 7 X 10 INCHES KEUFFEL & ESSER CO. MADE IN U.S.A.



July 31, 1981

Megadon Enterprises, Inc.  
57 West South Temple  
Salt Lake City, Utah 84101

Re: Well No. Horseshoe Canyon Unit Federal  
#2-20  
Sec. 20, T. 26S, R. 17E  
Emery County, Utah

Gentlemen:

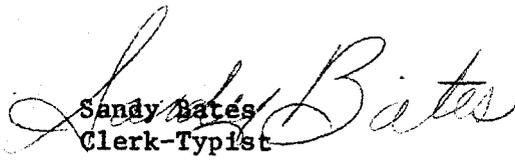
According to our records, a "Well Completion Report" filed with this office 7-27-81, from above referred to well indicates the following electric logs were run: Dual-Laterolog, Gamma-Density-CNL. As of today's date this office has not received these logs.

Rule C-5, General Rules and Regulations and Rules of Practice and Procedure, requires that a well log shall be filed with the Commission together with a copy of the electric and radioactivity logs.

Your prompt attention to the above will be greatly appreciated.

Sincerely,

DIVISION OF OIL, GAS, AND MINING

  
Sandy Bates  
Clerk-Typist

/lm

P&A file

HUNT OIL COMPANY  
SUITE 1330, ONE DENVER PLACE  
999 EIGHTEENTH STREET  
DENVER, COLORADO 80202

April 23, 1982

EXPLORATION MANAGER  
OIL AND GAS DIVISION

(303) 893-8030

State of Utah  
Division of Oil, Gas, & Mining  
1588 West, North Temple  
Salt Lake City, Utah 84116

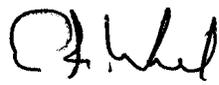
Gentlemen:

Please send any information available, including copies of electric logs, on the following well:

Megadon Energy 2-20 Federal  
SESE 20-T26S-R17E  
Emery County, Utah

If it is not possible to send copies of the logs, please copy the bottom 4000' of the logs, along with the heading. We will reimburse you for all materials as soon as we receive the cost information.

Sincerely,



E. G. Mickel

EGM/ak

RECEIVED  
APR 26 1982

DIVISION OF  
OIL, GAS & MINING



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

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

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

April 28, 1982

Megadon Energy, Corp.  
57 West South Temple  
Salt Lake City, Utah 84101

Re: Well No. Horseshoe Canyon Unit Federal #2-20  
Sec. 20, T. 26S, R. 17E.  
Emery County, Utah

Gentlemen:

Our office contacted you on July 31, 1981, requesting that you send in the electric logs for the above referred to well.

According to our records, a "Well Completion Report" filed with this office July 2, 1981, from above referred to well indicates the following electric logs were run: Dual Laterolog & Gamma-Density-CNL. As of today's date, this office has not received these logs.

Rule C-5, General Rules and Regulations and Rules of Practice and Procedure, requires that a well log shall be filed with the Commission together with a copy of the electric and radioactivity logs.

\*\*You are in violation with the above rule. If we do not received the above logs within fifteen (15) days, we will turn this file over to the Attorney at the Division of Oil, Gas and Mining for legal action and we will not approve any more applications from your company.

Your prompt attention to the above will be greatly appreciated.

Sincerely,

DIVISION OF OIL, GAS AND MINING

Cari Furse  
Clerk Typist



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

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

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

May 11, 1982

Mr. Don Quigley  
Megadon Energy Corporation  
57 West South Temple  
Salt Lake City, Utah 84101

RE: Non-Compliance with the Rules and Regulations of the  
Division of Oil, Gas and Mining

Dear Mr. Quigley:

Records maintained by the Division of Oil, Gas and Mining indicate that Megadon Energy Corporation has failed to respond to at least two requests for electric logs run on the Horseshoe Canyon Unit Federal 2-20 Well located in Emery County, Utah.

Please tender all electric logs run on the aforementioned well on or before May 20, 1982.

There maybe serious consequences for failing to comply with the Division's regulations. Accordingly, if the requested logs are not submitted in a timely manner I shall schedule an Order to Show Cause before the Board of Oil, Gas and Mining. Among the measures I would ask the Board to approve is a moratorium of all your future drilling applications and operations.

It is my wish that this matter be resolved without compelling you to appear before the Board of Oil, Gas and Mining. Therefore, please do not hesitate to contact me.

Very truly yours,

DIVISION OF OIL, GAS AND MINING

Carolyn Driscoll  
Special Assistant Attorney General

CD/as