

FILE NOTATIONS

Entered in NID File ✓
Entered On S R Sheet _____
Location Map Filled _____
Card Indexed _____
JWR for State or Fee Land _____

Checked by Chief _____
Copy NID to Field Office _____
Approval Letter _____
Disapproval Letter _____

COMPLETION DATA:

Date Well Completed _____
OW _____ WW _____ TA _____
GW _____ OS _____ PA _____

Location Inspected _____
Sand released _____
State of Fee Land _____

LOGS FILED

Driller's Log _____

Electric Logs (No.) _____

E _____ I _____ BI _____ GR _____ GRM _____ Misc _____

Let _____ M.L. _____ Sonic _____ Others _____

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 W. So. TEMPLE, SALT LAKE CITY, UTAH

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)*
At surface NE. SW. SECTION 34, T 27S, R 21E., S.L.M.
At proposed prod. zone 1850' fr. W-line and 2000' fr. S-line

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
10 Miles SW of Moab, Utah (60 miles by road)

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drig. unit line, if any) 530 ft.
16. NO. OF ACRES IN LEASE 520 acres
17. NO. OF ACRES ASSIGNED TO THIS WELL 80 Acres

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. 1 mile
19. PROPOSED DEPTH 8000'
20. ROTARY OR CABLE TOOLS Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
5465' Grd; 5485' K.B.
22. APPROX. DATE WORK WILL START* July 1, 1980

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 ft.	300 lbs.
8 3/4"	5 1/2"	20.00#	8000 ft.	Cemented to 100' above salt.

It is planned to drill a well at the above location to test the hydrocarbon production possibilities of all formations down to and including the Mississippian formation at a depth of about 8000'. There will be about 1000' of surface casing (9 5/8") set thru the Shinarump formation to protect possible uranium mines in the area. Hydraulically operated blow-out preventer and hydril will be mounted on top of the surface casing for control equipment. The well will be drilled with rotary tools using mud for circulation. All hydrocarbon shows will be drilled stem tested. In case of production, 5 1/2" casing will be set and cemented with sufficient cement to bring the cement above the top of salt. The well will then be completed conventionally. See attached prognosis.

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 W. Don Gungley TITLE PRESIDENT DATE May 23, 1980

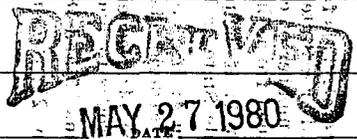
PERMIT NO. 43-037-30559 APPROVAL DATE 5/28/80

APPROVED BY _____ TITLE _____

APPROVED BY THE DIVISION OF OIL, GAS, AND MINING
DATE: 5-29-80
BY: M.J. Minder

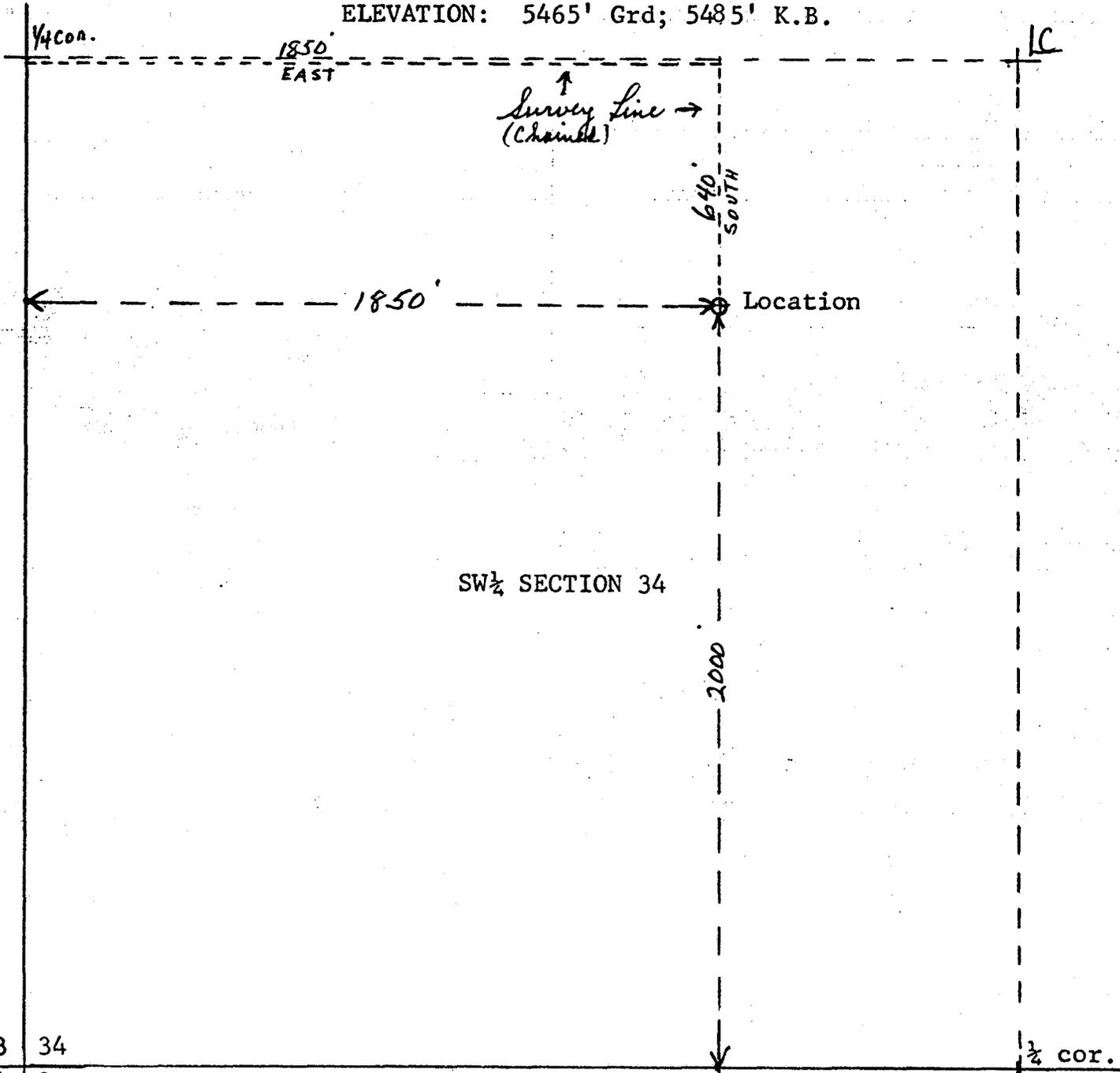
*See Instructions On Reverse Side

DIVISION OF OIL, GAS & MINING



5. LEASE DESIGNATION AND SERIAL NO. U-20308
6. INDIAN ALLOTTEE OR TRIBE NAME
7. UNIT AGREEMENT NAME
8. NAME OF LEASER NAME
9. WELL NO.
10. FIELD AND FOOT OF INTEREST
11. TWP., T., S., M. OR B.L. AND SURVEY OR AREA
12. COUNTY OR PARISH AND STATE
13. COUNTY OR PARISH AND STATE

SURVEY PLAT FOR
MEGADON ENERGY CORPORATION
HATCH PT. #34-1 WELL
NE. SW. SEC. 34-27S-21E.
SAN JUAN COUNTY, UTAH
(1850' fr. W-line and 2000' fr. S-line)
ELEVATION: 5465' Grd; 5485' K.B.



SW 1/4 SECTION 34

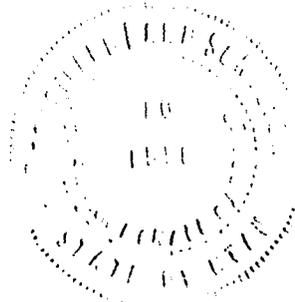
33 34

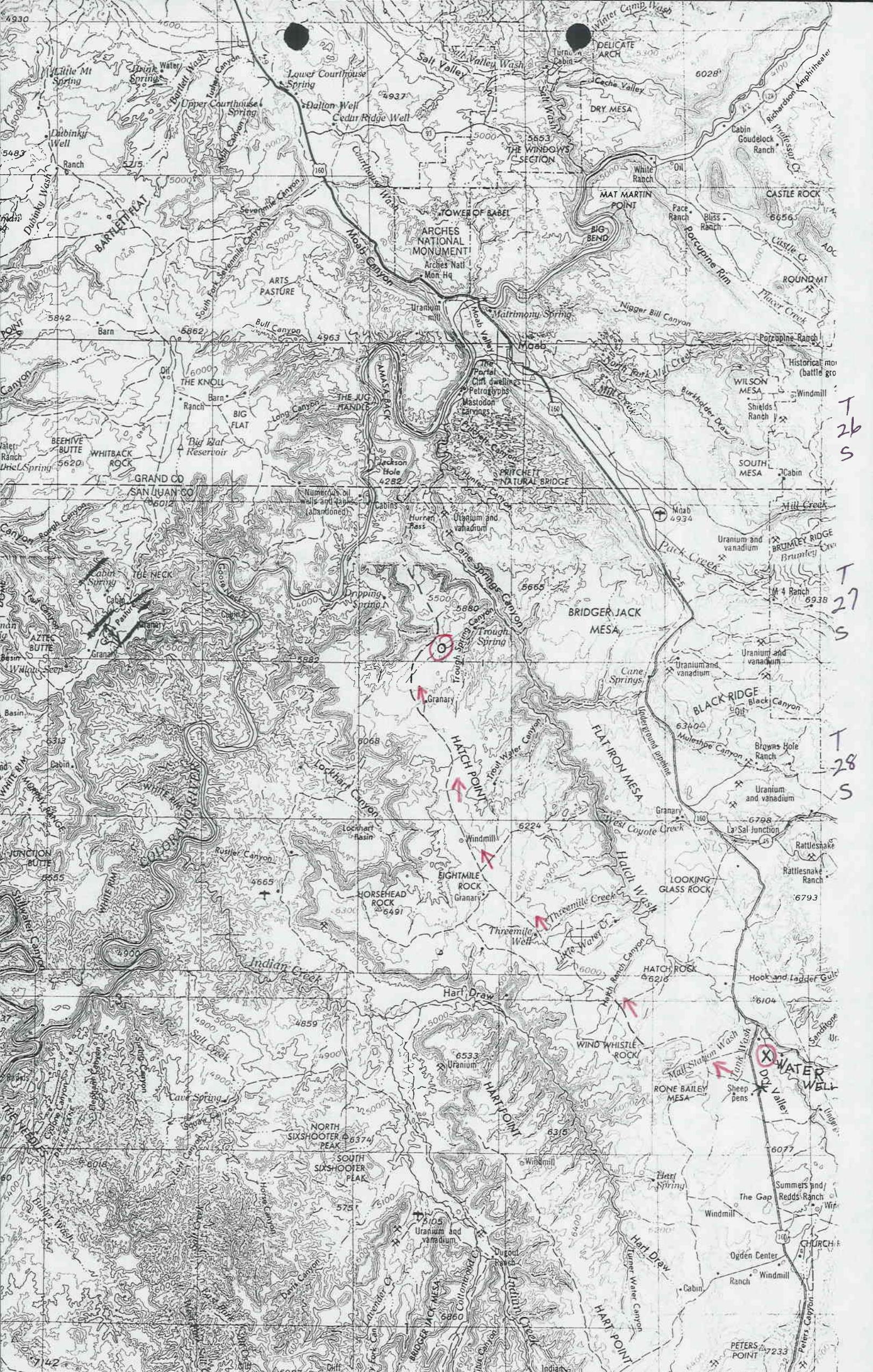
4 3 Ref. Pts: 150' N-S-E-W
Rig oriented N-S; Pit on East side.

Scale: 1" = 400'
Date: May 23, 1980

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 May 18, 1980.

Sherman D. Gardner
Registered Land Surveyor
State of Utah #1556





T 26 S

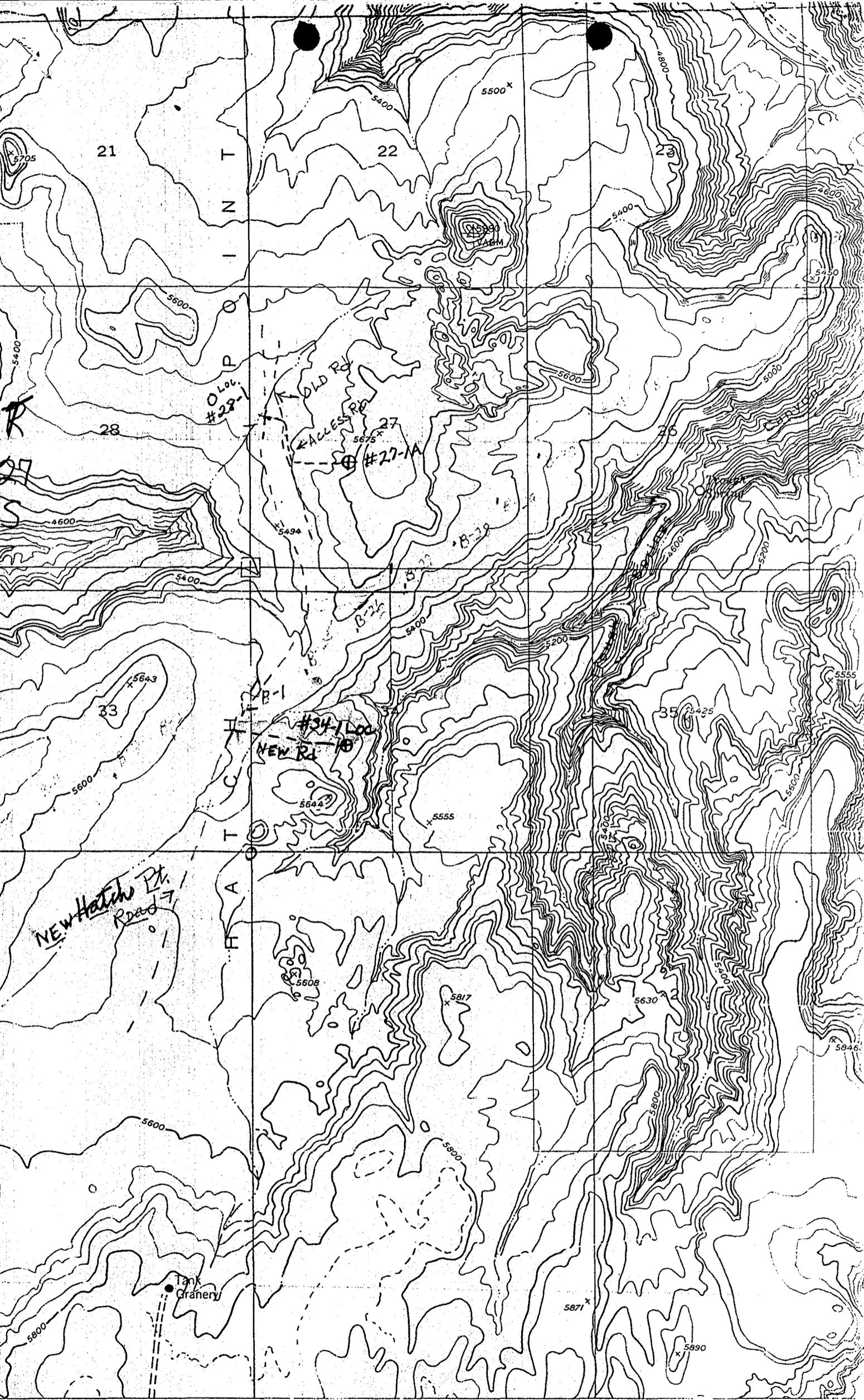
T 27 S

T 28 S

800 000 FEET (COLO. SOUTH)

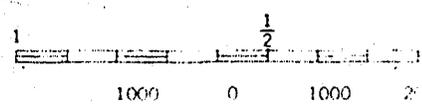
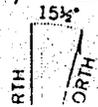
2 600 000 FEET (UTAH CENTRAL)

Map # 1 MONTICELLO 9 MI.



ed by the Geological Survey 1954
 aphy by multiplex methods from
 photographs taken 1953

R21E 35' MAP #2



WELL CONTROL EQUIPMENT
FOR
MEGADON ENERGY CORPORATION
HATCH PT. #34-1 WELL
NE. SW. SEC. 34-27S-21E.
SAN JUAN COUNTY, UTAH

1. Surface Casing:

- A. Hole size for surface casing is 12½".
- B. Setting depth for surface casing is approx. 1000 ft.
- C. Casing specs. are: 9 5/8" O.D., K-55, 36.00#, LTC, R-3.
- D. Anticipated pressure at setting depth is approx. 400#.
- E. Casing will be run using six centralizers and a guide shoe, and will be cemented with 300 sks of cement with returns to the surface.
- F. Top of casing will be about 18" below ground level.

2. Casing Head:

Flange size: 10; API Pressure Rating: 5000# W.P.; Series 00; Cameron, OCT, or equivalent; new or used; equipped with two 2" ports with high pressure nipples and 5000# W.P. ball valves.

3. Intermediate Casing: Probably none.

4. Blowout Preventer:

- A. Double rams, hydraulic, one set of blind rams and one set of pipe rams for 4" drill pipe; 10" flange, 5000# W.P.; Series 900; equipped with mechanical wheels and rod for back-up; set on top of casing head flange and securely bolted down. Initially rams will be pressure tested for not less than 2000# for leaks and will be checked and closed once a day while drilling operations are underway.
- B. Fill and kill lines (2" tubing or heavy duty line pipe) with manifold are to be connected to the 2" valves on the casing head.

5. Auxilliary Equipment:

A float valve is to be used in the bottom drill collar at all times. The standpipe valve will be kept in good working condition, and a safety valve that can be stabbed into the top of the drill pipe or drill collars will be kept on the derrick floor in a handy position at all times.

6. Anticipated Pressures:

The shut-in pressures of the potential pay zones found in

the Hermosa, Paradox, and Mississippian formations at the corresponding depths are as follows:

Hermosa	----- 3900'	----- 2000#
Paradox	-----6200'	-----4500#
Mississippian	----- 7400'	----- 3000#

*These pressures are based on DST's taken on other wells in the Lisbon area.

7. Drilling Fluids:

Air and air mist will be used to a depth of about 6000', and then the mud system will be changed to salt base mud. The mud weight will be kept at about 10.1 lbs/gal; and the viscosity will be kept around 35, and the water loss kept below 20 cc., if possible. This weight and associated hydrostatic pressure should usually keep the well under control. Abnormal pressures are known in the Paradox in the area, and care must be taken in this section to keep the well under control. There has been no indication of sour gas in the nearby wells.

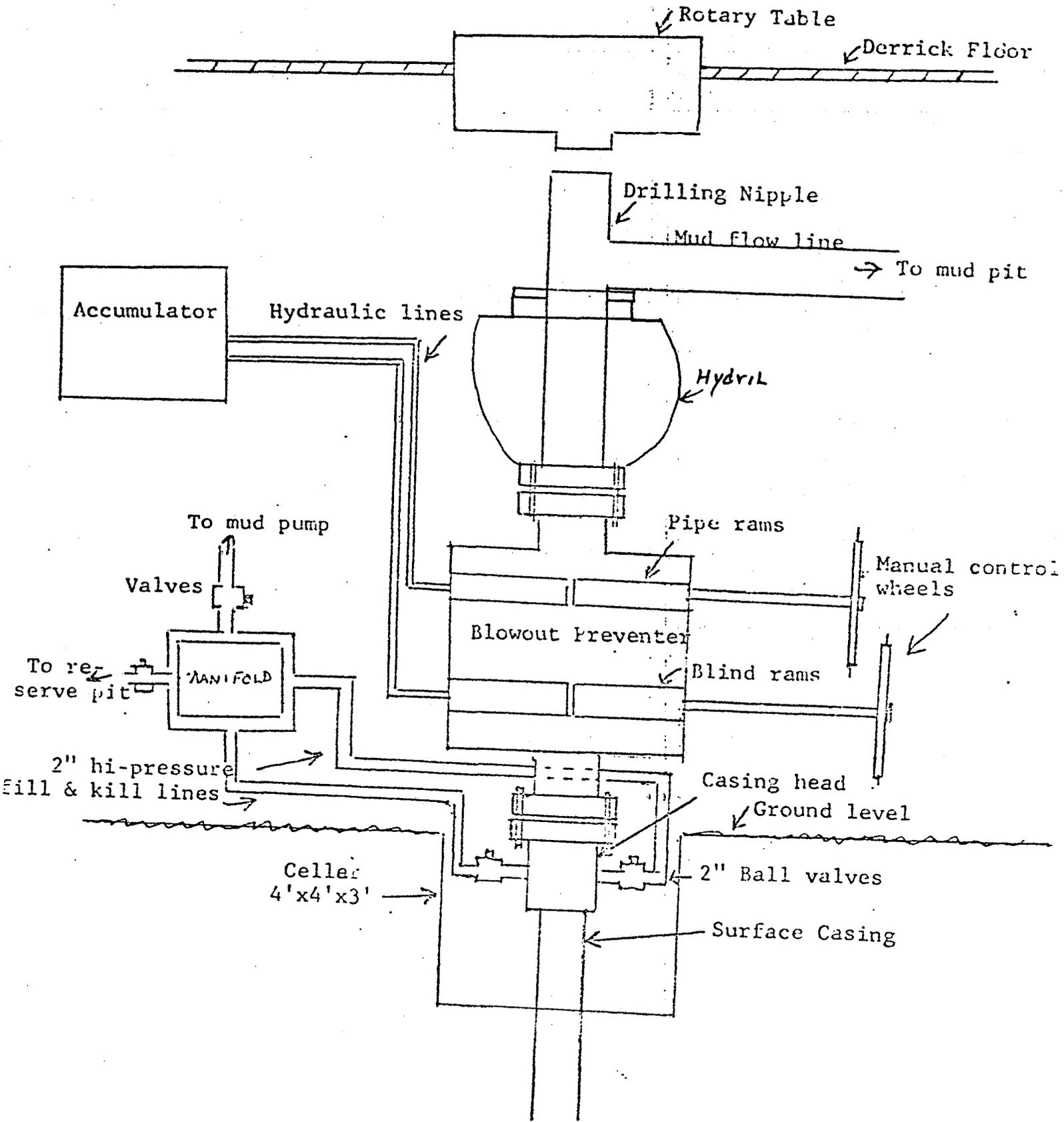
8. Production Casing:

- A. Hole size for the production casing will be 8 3/4".
- B. Approx. setting depth will be about 8000'.
- C. Casing specs. are: 8000' of 5½" O.D., 20.00#, N-80, R-3 casing, with guide shoe and float collar and about 12 centralizers, D.V. tools, and cement baskets at the proper places, cemented with 1200 sks of RFC, and Pozmix light cement.
- D. The anticipated pressure at setting depth should not be greater than 3600#.

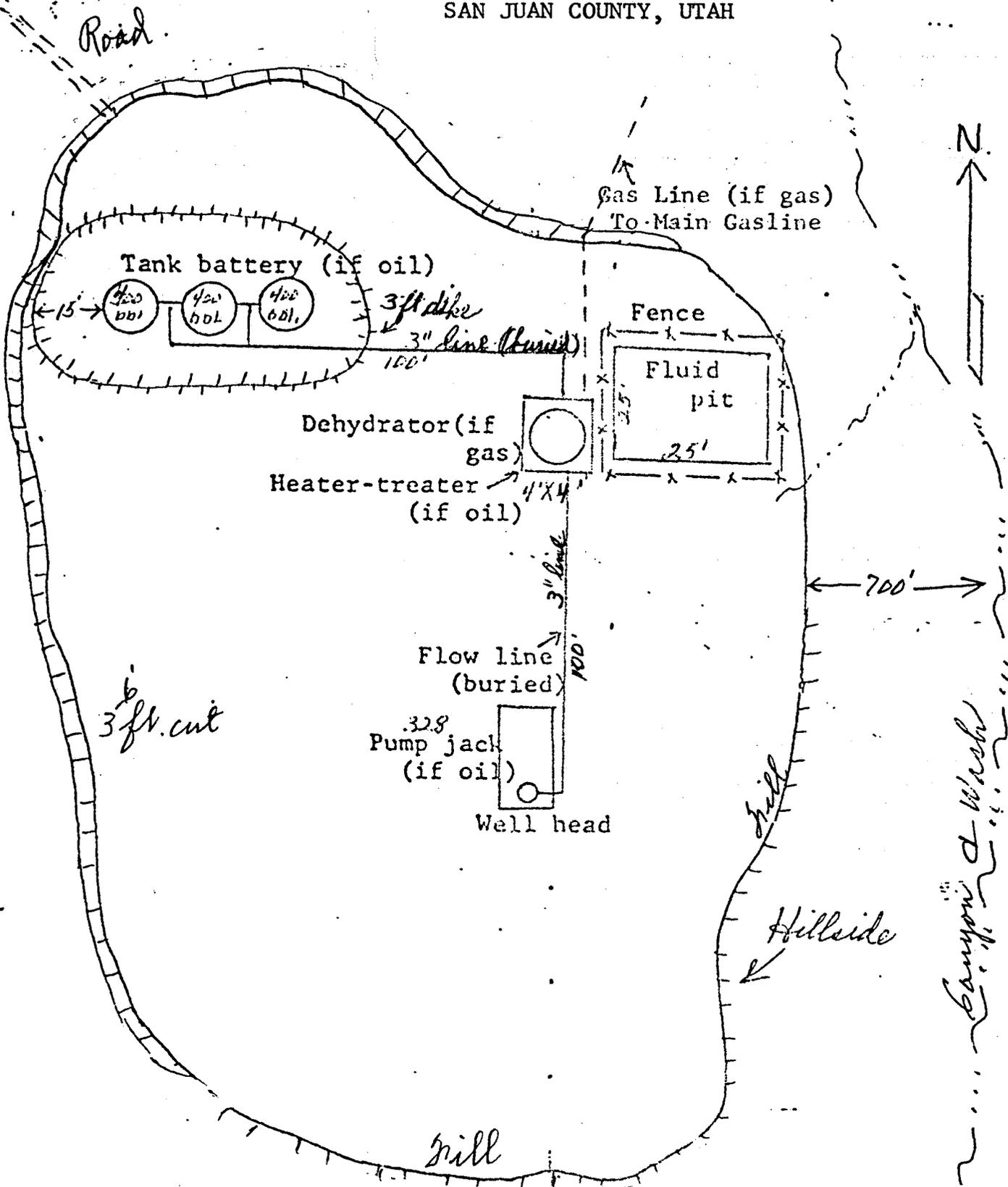
W. Don Quigley

W. Don Quigley
President
MEGADON ENERGY CORPORATION

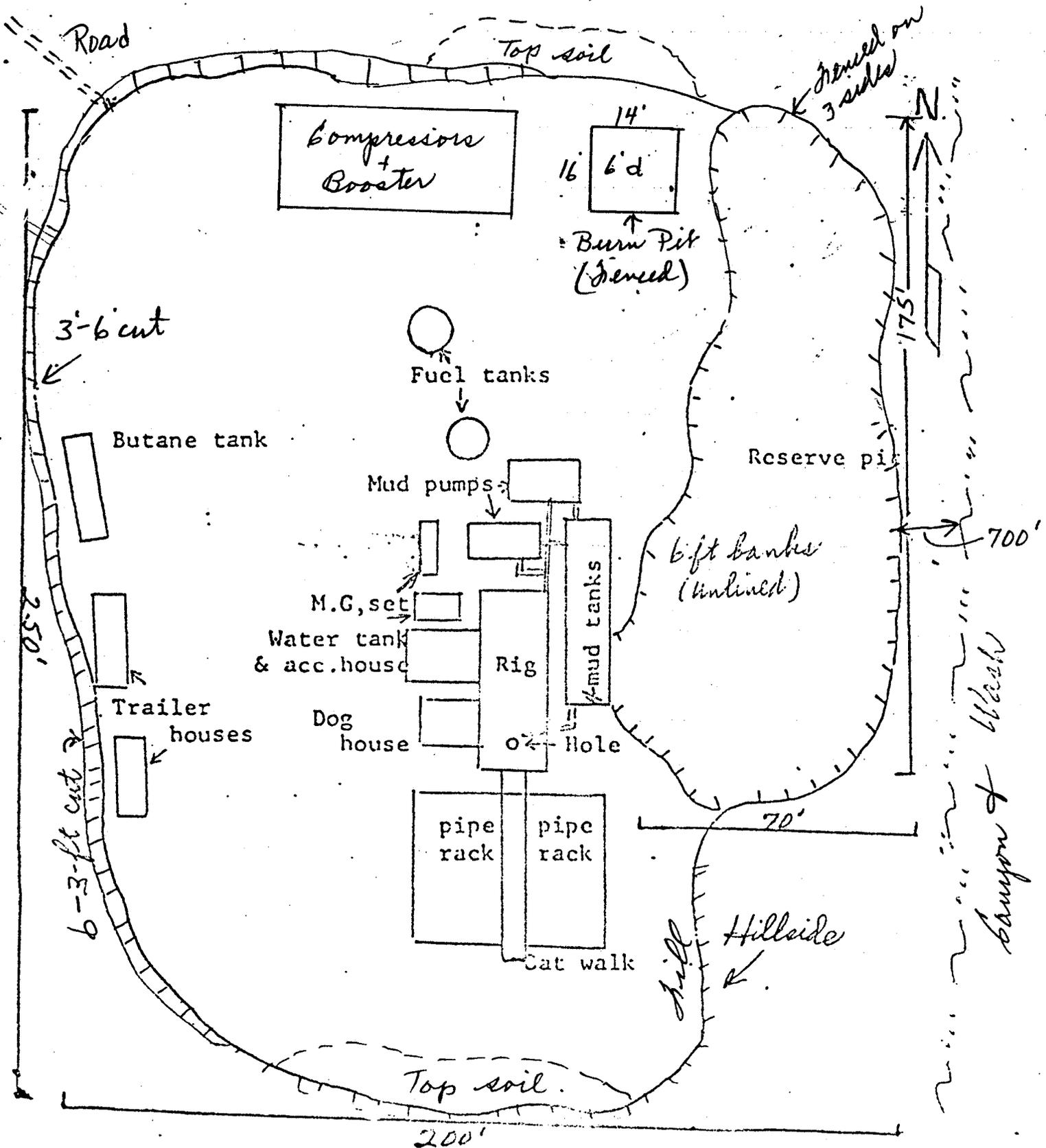
SCHEMATIC DIAGRAM OF
 CONTROL EQUIPMENT FOR THE
 MEGADON ENERGY CORPORATION
 HATCH PT. #34-1 WELL
 NE. SW. SEC. 34-27S-21E.
 SAN JUAN COUNTY, UTAH



PLAN FOR PRODUCTION EQUIPMENT
MEGADON ENERGY CORPORATION
HATCH PT. #34-1 WELL
NE. SW. SEC. 34-27S-21E.
SAN JUAN COUNTY, UTAH



LOCATION PLAN FOR
 MEGADON ENERGY CORPORATION
 HATCH PT. #34-1 WELL
 NE. SW. SEC. 34-27S-21E.
 SAN JUAN COUNTY, UTAH



Scale: 1 in. = approx. 35 ft.

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

For

Well Name: Hatch Pt. #34-1 WellLocation: NE SW Sec. 34-27S-21E, S.L.M., San Juan County, Utah1. Existing Roads: (See attached Maps)

A. Well Location: (See Plat #1)

Reference Stakes: 150 ft. 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)

Take Hwy 163 south from Moab for 31 miles to Canyon Rim Road, thence northwest on Canyon Rim Road for 29 miles, thence ½ mile E. on new rd to location.

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

The Canyon Rim Road is an improved all weather road and is less than ½ mile from the well site. All other roads in the area are unimproved trails and have a natural base of sand, gravel and rock.

D. Roads Within 3 mile Radius: (See att. maps) See above. The last ½ mile of access road will be new and will be a 20-ft. wide dozed path across natural surface. All other roads in the 3-mile radius (except the Canyon Rim Rd) are trails and unimproved.

Surface type and conditions: The surface of the new road will be sand, silt, and some gravel. The main road (Canyon Rim Rd) is gravelled ditched, and is an all-weather road.

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

See Above

F. Plans for Road Improvement & Maintenance: No improvement or maintenance is required initially. In the event of production, the new access road will be ditched, crowned, and gravelled if required for

F. all weather use. Drain-outs will be provided where needed, and the road will be cut to the bottom of the shallow washes.

2. Planned Access Roads: (See att. maps) Approx. 1/2 mile of new road - built across fairly flat ground.

(1) Width: Maximum disturbed width of 20 ft.

(2) Maximum Grades: 6% or less

(3) Turnouts: None required

(4) Drainage Design: None required initially

(5) Location and Size of Culverts, Cuts, and Fills: No deep cuts or fills will be required. The road will be cut to the bottom of shallow washes. (Maximum cut is 2 ft.), if present.

(6) Surfacing Material: Natural surface of sand, silt, and gravel

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

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

3. Location of Existing Wells: (See Map No. 2) None within 2-mile radius

(1) Water Wells: None

(2) Abandoned Wells: Several within a six-mile radius

(3) Temporarily Abandoned Wells: None

(4) Disposal Wells: None

(5) Drilling Wells: None

(6) Producing Wells: One well, #27-1A, located one mile north.

(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) One tank battery (2 - 400 bbl) located on pad for #27-1A well, 1 mile north.

(2) Production Facilities: One well head and Xmas tree at #27-1A.

(3) Oil gathering lines: 3" lines (buried) on well pad,

(4) Gas gathering lines: None

(5) Injection lines: None

(6) Disposal lines: None

(7) Are lines buried? Yes

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. In the event of gas production, a pipeline leading to the main gas line at Lisbon will have to be constructed, but this will be applied for at a later date.

(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. Heater-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: Water well. A water well about 1 mile north of the intersection of the Canyon Rims rd. and Hwy. 63 will be used for the water supply. (See Map #1) This is a private well, owned by Cecil Fowler at La Sal Junction.

B. Method of Transporting Water: The water will be hauled by truck from the water well. This is a distance of about 30 miles.

C. Is Water Well Planned? No new water well.

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): None needed.

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

(1) Describe cuts or fills: The location is on a gentle slope which slopes to the east. The east and south sides are the low sides and these sides will be built up by about 3'. The north and west sides will be cut by about 3-6' & pushed to the S. and E. sides. The location is underlain by a (pg 7)

(2) Describe pits, living facilities, soil stockpiles: The surface soil (12") will be piled at the north and south sides of the location. The reserve pit will be on the east side and excavated material will be piled around the sides. A high bank will be placed on the east side of the pit to prevent fluids getting into the canyon. Two or three house trailers will be provided for supervisory personnel.

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

(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 woven 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 acceptable seed mix authorized by BLM. This seed will be drilled & sown at a depth of

B. If Well is abandoned: _____ $\frac{1}{2}$ "

(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. The rest of the 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 $\frac{1}{2}$ ". The access road, if no longer needed, will be erased, scarred, and seeded as above. Water bars will be placed where needed.

(3) Will pits be fenced or covered? If there is any amount of fluid in the reserve pit, it will be fenced with barbed wire before rig is released and remain fenced until the fluid evaporates.

(4) Is there any oil in reserve pit? Should be none.

If so, describe disposal: If there is any amount of oil in the 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: Location is on a gentle slope with a deep canyon on the east side. The surface is sand and gravel. The surface is sand and gravel. The vegetation is shad scale, sage brush and sparse brass, with a few juniper and cedar trees in the general area.

(2) Other Surface Activities & Ownership: There are no continuous activities in the area. Occasional site-seers and tourists visit the camp grounds and Anticline Lookout at the end of Hatch Pt. This is federal land and oil and gas leases have been granted to various oil companies. Diamond Shamrock has the lease under the drill site.

(3) Describe other dwellings, archaeological, historical, or cultural sites: Tourist attractions are in the nearby area. These are the Hatch Pt. Camp sites and Anticline Lookout. There are no known archaeological sites or exhibits on or near the drill site. Some cattle grazing by local ranches have been allowed in the past. Other wells have been drilled in the general area in the past. One other well is currently operating. An archaeological report is being prepared and will be submitted separately. A few antelope, deer, coyotes, jack rabbits, and bull snakes constitute most (pg7)

12. Operators Representative: (Address & Phone number)

W. Don Quigley, Ste. 440, 57 West South Temple, SLC., Utah 84101
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 MEGADON ENERGY CORPORATION and its contractors in conformity with this plan and terms and conditions under which it is approved.

Date: May 23, 1980

Name: H. Don Guigley

Title: PRESIDENT

#9. (1): sandstone ledge and thus has a minimum of moveable cover.

#11. (3): of the wild life in the area.

PROGNOSIS FOR
 MEGADON ENERGY CORPORATION
 HATCH PT. #34-1 WELL
 NE. SW. SECTION 34-27S-21E.
 SAN JUAN COUNTY, UTAH

LOCATION: NE. SW. Section 34, T 27S, R 21E., S.L.M., San Juan County, Utah (1850' from W-line and 2000' from S-line)

ELEVATION: 5465' Grd; 5485' K.B.

SURFACE CASING: One joint of conductor pipe (13 5/8" or equivalent) will be set and cemented manually at the surface; then a 12½" hole will be drilled to a depth of 1000' for the surface casing. 1000 ft. of 9 5/8", 3600#, 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 Texas shoe and six (6) centralizers. A casing head, Series 900 with No. 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	70'	5485' K.B.
Kayenta	70'	10'	5415'
Wingate	80'	420'	5405'
Chinle	500'	365'	4985'
Shinarump	865'	40'	4620'
Moenkopi	905'	890'	4580'
Cutler	1795'	810'	3690'
Rico	2605'	395'	2880'
Hermosa (Upper)*	2900'	1450'	2585'
Paradox Salt*	4350'	3135'	1135'
Pinkerton Trail*	7485'	165'	3000'
Molas	7650'	10'	3165'
Mississippian*	7660'	—	3175'
Total Depth	8000'		

*Formations with possible hydrocarbons present.

1. It is planned to set and cement one jt of 13 5/8" casing for a conductor and then to drill a 12 1/4" surface hole for the surface casing to a depth of about 1000'. (This depth will be sufficient to set the casing thru the Shinarump formation for the protection of possible uranium mines 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 900, 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 B.O.P. 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 6000', using air and/or air mist for circulation. At this point, the air system is to 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 600' 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 30-ft. intervals, beginning at 800', and continuing to a depth of about 6000' 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", 20.00#, N-80, R-3 will be run from about 8000' to about 4000' and 5½", 17.00# casing will be run from 4000' to surface, and cemented with about 200 sks of RFC cement and 1000 sks of Pozmix (50-50) light cement w/5% salt, 5% gilsonite, and 6% salt. 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.

W. Don Quigley
W. Don Quigley
MEGADON ENERGY CORPORATION
Suite 440, 57 W. So. Temple
Salt Lake City, Utah 84101

** FILE NOTATIONS **

DATE: May 28, 1980
OPERATOR: Megadon Energy Corporation
WELL NO: Lion Mesa Unit # ~~311~~ # 2-34
Location: Sec. 34 T. 27S R. 21E County: San Juan

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

API Number 43-037-30559

CHECKED BY:

Petroleum Engineer: M.J. Minder 5-28-80

Director: _____

Administrative Aide: on unit boundary spacing

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 Red Unit Plotted on Map

Hot Line P.I. Approval Letter Written Wm

unit approval

May 29, 1980

Megadon Energy Corporation
57 West South Temple, Suite 440
Salt Lake City, Utah 84111

Re: Well No. Lion Mesa Unit #34-1
Sec. 34, T. 27S, R. 21E.,
San Juan County, Utah

Insofar as this office is concerned, approval to drill the above referred to oil well is hereby granted in accordance with Section 40-6-11, Utah Code Annotated 1953; and predicated on Rule A-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 43-037-30559.

Sincerely,

DIVISION OF OIL, GAS AND MINING

Michael T. Minder
Petroleum Engineer

/btm

cc: USGS

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPPLICATE*
(Other instructions on re-
verse side)

Form approved.
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

U-20308

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

Lion Mesa

8. FARM OR LEASE NAME

9. WELL NO.

Hatch Pt. #34-1

10. FIELD AND POOL, OR WILDCAT

Hatch Point

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA

NE. SW. Sec. 34-27S-21E.
S.L.M.

12. COUNTY OR PARISH 13. STATE
San Juan Utah

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.)

1. OIL WELL GAS WELL OTHER

2. NAME OF OPERATOR
MEGADON ENERGY CORPORATION

3. ADDRESS OF OPERATOR
Suite 440, 57 W. So. Temple, Salt Lake City, Ut.84101

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface
NE. SW. Section 34, T 27S, R 21E, S.L.M.

14. PERMIT NO. 15. ELEVATIONS (Show whether DF, RT, GR, etc.)
5465' Grd; 5485' K.B.

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) <u>CHANGE OF NAME</u> <input checked="" type="checkbox"/>	
(Other) <input type="checkbox"/>		(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.)*

At the request of the Federal Unit Division of the U. S. Geological Survey in Albuquerque, the name of the above proposed well has been changed to Lion Mesa #2-34. Please note the change on all previous papers.

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

SIGNED W. Row Gungley TITLE PRESIDENT DATE July 10, 1980

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

NAME OF COMPANY: Megadon Energy Corporation

WELL NAME: Lion Mesa Unit #2-34

SECTION 34 NE NW TOWNSHIP 27S RANGE 21E COUNTY San Juan

DRILLING CONTRACTOR _____

RIG # _____

SPUDDED: DATE _____

TIME 8:00 p.m.

HOW _____

DRILLING WILL COMMENCE _____

REPORTED BY Cheryl Bateman

TELEPHONE # _____

DATE August 1980

SIGNED *M. J. M.*

cc: USGS

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPPLICATE*
(Other instructions on re-
verse side)

Form approved.
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

U-20308

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

LION MESA

8. FARM OR LEASE NAME

FEDERAL

9. WELL NO.

#2-34

10. FIELD AND POOL, OR WILDCAT

LION MESA

11. SEC., T., R., M., OR BLK. AND
SURVEY OR AREA

NE. SW. SEC. 34-27S-21E.
SLM.

12. COUNTY OR PARISH | 13. STATE

SAN JUAN | UTAH

1.

OIL WELL GAS WELL OTHER DRY HOLE

2. NAME OF OPERATOR

MEGADON ENERGY CORPORATION

3. ADDRESS OF OPERATOR

STE. 440, 57 WEST SO. TEMPLE, SALT LAKE CITY, UTAH

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

At surface
NE. SW. SEC. 34-27S-21E, SLM
1850' FR. W-LINE AND 2000' FR. S-LINE

14. PERMIT NO.

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

5465' GRD; 5480' K.B.

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

PULL OR ALTER CASING

FRACTURE TREAT

MULTIPLE COMPLETE

SHOOT OR ACIDIZE

ABANDON*

REPAIR WELL

CHANGE PLANS

(Other)

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

REPAIRING WELL

FRACTURE TREATMENT

ALTERING CASING

SHOOTING OR ACIDIZING

ABANDONMENT*

(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 drilled to a total depth of 8426' which was about 30 feet below the top of the Devonian-McCracken formation and no favorable recovery or test of hydrocarbons was obtained. It is therefore planned to plug and abandon the well. It is planned to place about six (150 ft) cement plugs in the well as requested and approved by the U. S. Geological Survey Engineer.

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

SIGNED

H. Don Gugley

TITLE PRESIDENT

DATE SEPT. 29, 1980

(This space for Federal or State office use)

APPROVED BY _____

TITLE _____

DATE _____

CONDITIONS OF APPROVAL, IF ANY:

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE*

(See other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R355.5.

5. LEASE DESIGNATION AND SERIAL NO.

U-20308

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

LION MESA

8. FARM OR LEASE NAME

FEDERAL

9. WELL NO.

#2-34

10. FIELD AND POOL, OR WILDCAT

WILDCAT

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA

NE. SW. SEC. 34-27S-21E. SLM

12. COUNTY OR PARISH

SAN JUAN

13. STATE

UTAH

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 _____

2. NAME OF OPERATOR

MEGADON ENERGY CORPORATION

3. ADDRESS OF OPERATOR

STE. 440, 57 W. SO. TEMPLE, SALT LAKE CITY, UTAH

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*

At surface NE. SW. SEC. 34, T 27S, R 21E, SLM.
At top prod. interval reported below 1850' fr. W-line and 2000' fr. S-line
At total depth

14. PERMIT NO. 43-037-30559 DATE ISSUED 5-28-80

15. DATE SPUDDED 8-12-80 16. DATE T.D. REACHED 9-23-80 17. DATE COMPL. (Ready to prod.) D & A 18. ELEVATIONS (DF, RKB, RT, GR, ETC.)* 5465' Grd; 5480' K.B. 19. ELEV. CASINGHEAD

20. TOTAL DEPTH, MD & TVD 8426' 21. PLUG, BACK T.D., MD & TVD 22. IF MULTIPLE COMPL., HOW MANY* NONE 23. INTERVALS DRILLED BY 0-8426' ROTARY TOOLS CABLE TOOLS

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)* NONE 25. WAS DIRECTIONAL SURVEY MADE

26. TYPE ELECTRIC AND OTHER LOGS RUN DUAL-LATEROLOG; DIPMETER; SONIC; GAMMA-DENSITY-CNL 27. WAS WELL CORED NO

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

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
9 5/8"	36.00#	1040	12 1/2"	250 sks.	NONE

29. LINER RECORD 30. TUBING RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
	NONE					NONE	

31. PERFORATION RECORD (Interval, size and number) 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		P & A					
DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
NONE							
FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)	
				NONE			

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

35. LIST OF ATTACHMENTS

DRILLING HISTORY & GEOLOGIC REPORT

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

SIGNED H. W. G. Ginglesy TITLE President DATE Oct. 10, 1980

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

DRILLING HISTORY
AND
GEOLOGIC REPORT
ON
LION MESA UNIT #2-34 WELL

OPERATOR: Megadon Energy Corporation
Ste. 440, 57 West South Temple, Salt Lake City, Utah

CONTRACTOR: Colorado Well Service (Rig 88)
Rangely, Colorado

LOCATION: NE. SW. Section 34, T 27S, R 21E, SLM., San Juan County,
Utah (1850' from W-line and 2000' from S-line)

ELEVATIONS: 5465' Grd; 5480' K.B.

SPUDED-IN: Aug. 12, 1980

SURFACE CASING: 25 jts. of 9 5/8", 36.00#, K-55, R-3 Casing, landed
at 1040' K.B. and cemented w/250 sks of regular cement
w/3% CaCl. Had returns to surface.

FINISHED DRLG: Sept. 23, 1980

TOTAL DEPTH: 8426'

DEEPEST FORMATION DRILLED: Devonian - McCracken

PRODUCTION ZONES: None

PRODUCING FORMATION: None

PLUGGED & ABANDONED: Sept. 29, 1980

DRILLING HISTORY
LION MESA #2-34 WELL
SECTION 34-27S-21E.
SAN JUAN COUNTY, UTAH
(Elevation: 5480' K.B)

- Aug. 1-15: Moving Colorado Well Service Rig #88 from Riverton, Wyo. via Grand Junction, Colo. to location.
- Aug. 6-10: Rigging up. Air compressors and booster arrived (Veco Drilling Co.). Rigged up airlines and water lines for compressors.
- Aug. 11: Finished rigging up. Drilled mouse hole and rat hole with air. Waited on bit sub.
- Aug. 12: Drilled pilot hole for conductor pipe. Waited 18 hrs. on 17½" bit and X-over sub. Drilled 17½" surface hole to 50'. Set 38 ft. (45' K.B.) of 13 3/8" conductor pipe.
- Aug. 13: Cemented conductor pipe w/20 sks. regular cement. Waited on cement for 8 hrs. Rigged up rotating head (12") and began drilling ahead with air. Drilled 50' to 203' (153') with air. Deviation at 102' was ½°.
- Aug. 14: Drilled 203' to 775' (572'). Drilling in sandstone. Encountered water at 275' and converted to air-mist. Drilling at avg. rate of 40 ft/hr. Deviation at 296' was 1°, at 419' was 1½°, at 472' was 1°, at 595' was ½°, at 717' was 3/4°. Est. top of Chinle formation at 610'.
- Aug. 15: Drilled 775' to 1041' (266'). Est. top of Shinarump at 985', and top of Moenkopi at 1022'. Survey at 836' was 1°. Mixed mud to circulate hole to run casing. Mixed mud to 65 viscosity and mixed 15% LCM material. Circulated hole for 3 hrs. Came out of hole. Cut off conductor pipe. Bit #1 (Reed Y-12-J) 12½", drilled 50' to 1041' (991') in 37½ hrs. Drilled at avg. rate of 26 ft/hr. Waiting on casing.
- Aug. 16: Ran 25 jts. of 9 5/8", 36.00#, K-55 casing. Landed casing at 1040 ft. Cemented w/250 sks. of reg. cement w/3% CaCl. Plug down at 7:00 A.M. Waited 12 hrs. on cement. Cut off casing and welded on casing head.
- Aug. 17: Drilled 1041' to 1121' (80'). Set BOP and hydril on casing head. Installed rotating head on top of hydril. Connected blewie line. Laid down 8" collars and went-in hole with 8 3/4" bit. Had 45' of cement in casing. Drilled out cement and pressure tested casing and control equipment to 2000#. No leaks. Dried up hole and began drilling ahead at 10:00 P.M.

- Aug. 18: Drilled 1181' to 2130' (949'). Drilling with air-mist w/soap. Encountered small amount of water at 1200' so had to begin air-mist drilling with air-water-soap. Est. top of Cutler formation at 1880'. Survey at 1480' was $3\frac{1}{2}^{\circ}$; at 1701' was $2\frac{1}{2}^{\circ}$; at 1917' was $2\frac{1}{2}^{\circ}$; at 2097' was 2° .
- Aug. 19: Drilled 2130' to 3040' (910'). Drilling in sandstone, siltstone, and limestone at rate of 40 ft/hr. Est. top of Rico at 2685' and top of Hermosa at 2840'. Survey at 2445' was $2\frac{1}{2}^{\circ}$; at 2753' was $2\ 3/4^{\circ}$.
- Aug. 20: Drilled 3040' to 3571' (531'). Had to decrease weight on bit to 15,000# because of deviation. Drilling at avg. rate of 15 ft/hr. with 15,000# on bit. Drilling in dolomite and limestone of Hermosa formation. Survey at 3134' was $3\frac{1}{2}^{\circ}$; at 3446' was 5° ; at 3540' was 5° .
- Aug. 21: Drilled 3571' to 3727' (156'). Avg. drilling rate now at 10 ft/hr. due to decrease of wt. on bit (10,000#) due to deviation. Survey at 3635' was 5° .
- Aug. 22: Drilled 3727' to 3915' (188'). Still drilling slow with 20,000# on bit. Drilling in dolomite and limestone. Oil stain, dull brown fluorescence and slight cut in samples. Deviation at 3779' was $4\frac{1}{2}^{\circ}$; at 3874' was $4\ 3/4^{\circ}$.
- Aug. 23: Drilled 3915' to 4175' (140'). Drilling slow. Deviation still a problem. Drilling in dolomite mostly. Deviation at 3968' was $4\ 3/4^{\circ}$; at 4039' was 3° .
- Aug. 24: Drilled 4175' to 4820' (645'). Deviation improving. Est. top of Paradox section at about 4300' due to drilling break. No salt in samples until 4720'. Drilling at 30' to 40' per hr. Good gas odor, some fluorescence and good cut in sandy anhydrite and black petroliferous shale. Deviation at 4151' was 3° ; at 4245' was $2\frac{1}{2}^{\circ}$; 4559' was $3\frac{1}{2}^{\circ}$.

- Aug. 25: Drilled 4820' to 5221' (401'). Drilling at avg. rate of 30-35 ft/hr. in salt and anhydrite. Hole wouldn't clean up at 5200' so decided to convert to mud. Had 20' of fill on last connection. Bit also began to show torque. Made trip out of hole. Removed rotating head. Began mixing salt gel mud. Survey at 5173' was 3°. Bit #2 (Security S86F) made 4280' (1041' to 5221') in 168 hrs. Drilled at avg. rate of 25 ft/hr.
- Aug. 26: Drilled 5221' to 5221' (0'). Finished mixing mud and went in hole with Bit #3. Filled drill pipe w/20 stds out and plugged bit. Made round trip to unplug bit. Filled hole at 1500 ft. and got circulation. Began working back to bottom. Hit several bridges.
- Aug. 27: Drilled 5221' to 5450' (229'). Drilling at avg. rate of 25 ft/hr. in anhydrite and black petroliferous shale. Zone at 5250' to 5350' is vugular anhydrite with brown oil stain, live green fluorescence, and good cut. Gas and brown oil breaking out of mud. Can't test this zone, since there is probably no packer seat.
- Aug. 28: Drilled 5450' to 5745' (295'). Encountered another saturated vuggy to sandy anhydrite zone at 5500' to 5745'. Has good porosity in spots. Brown oil stain, abundant lt. grn. fluorescence, strong oil odor and cut. Decided to run DST. Conditioned mud for 7 hours.
- Aug. 29: Drilled 5745' to 5745' (0'). Started out of hole at 1 AM. Picked up test tool and ran DST #1 as follows:
- Interval: 5525' to 2745' (220')
Init. Flow: 10 min.
Init. Shut-in: 1 hr.
Final Flow: 1 hr.
Final Shut-in: 2 hrs.
Blow: Init. blow 4" in water decreasing to 2" in 10 min. Weak blow thru-out final flow.
Rec: 150' of slight oil and gas cut mud
Sample Chamber: 80# pressure; 0.37 cu. ft. of gas; no fluid.
- | | | |
|------------|-------------|-------------|
| Pressures: | ISIP: 156# | FSIP: 137# |
| | IFP: 86-90# | FFP: 90-90# |
| | IHP: 2982# | FHP: 2991# |
- BHT: 108°

Laid down test tool and went back in hole with Bit #3.

- Aug. 30: Drilled 5745' to 6109' (364'). Drilling ahead in salt at rate of 22-30 ft/hr.
- Aug. 31: Drilled 6109' to 6622' (513'). Drilling in salt at avg. rate of 25 ft. per hr. Survey at 6575' was $3\frac{1}{4}^{\circ}$.
- Sept. 1: Drilled 6622' to 7195' (573'). Drilling at rate of 26'/hr. in mostly salt. Survey at 7115' was $2\frac{1}{2}^{\circ}$. Mud wt.: 10.1#, Vis: 38, W.L.: 20.
- Sept. 2: Drilled 7195' to 7387' (192'). Drilling in dolomite at avg. rate of 6 ft/hr. Top of Cane Creek at 7240'. No porosity in dolomite or anhydrite. Scattered fluorescence and oil stain.
- Sept. 3: Drilled 7387' to 7450' (63'). Drilling rate gradually decreased to 40-50 min/ft., so decided to pull Bit #3. Bit #3 (Reed FP53A) made 2229' (5221' to 7450') in 137 hrs. Drilled at avg. rate of 16 ft/hr. (Two cones on bit were without bearings.) Went back in hole with Bit #4 (Reed FP52J). Est. top of Pinkerton Trail at 7410'.
- Sept. 4: Drilled 7450' to 7495' (45'). Back on bottom at 10:00 hrs. Well tried to blow in when gas from 5300 ft. zone was circulated up. Drlg. at rate of 10-40 min/ft. with new bit in dolomite, anhydrite, and black shale.
- Sept. 5: Drilled 7495' to 7568' (73'). Drilling at rate of 16 to 30 min/ft. in red soft shale and siltstone and some brown limestone.
- Sept. 6: Drilled 7568' to 7654' (86'). Est. top of Molas at 7580' and top of Mississippian at 7640'. Avg. drilling rate of 15 min/ft. in chalky limestone.
- Sept. 7: Drilled 7654' to 7747' (93'). No good porosity in Miss. yet. Slight and scattered fluorescence occasionally. Mud wt: 10.2; Visc: 38; W.L.: 20.

- Sept. 8: Drilled 7747' to 7876' (129'). Drilling at avg. rate of 4 ft/hr. in dolomite and chalky limestone. No porosity or shows.
- Sept. 9: Drilled 7876' to 7908' (32'). Made rd-trip at 7903' to change bit. Bit #4 (Reed FP52J) made 453' (7450-7903') in 113 hrs. Drilled at avg. rate of 4 ft/hr. Survey at 7850' was 3 3/4°. Had lots of gas plus some oil after trip. Had to circulate slowly for 30 minutes to work gas out of hole. (Probably coming from 5300 ft. zone.)
- Sept. 10: Drilled 7908' to 7940' (32'). Had drilling break at 7903' and drilled at rate of 14 ft/hr. in sucrosic dolomite with slight brown oil stain, pale yellow fluorescence, and good cut. Decided to run a drill-stem-test. Circulated hole for 2½ hours and came out to pick up test tool. Ran DST #2 as follows:
- Interval: 7900' to 7940'
 - Init. Flow: 1 hr. 10 min.
 - Init. Shut-in: 1 hr.
 - Final Flow: 1 hr. 30 min.
 - Final Shut-in: 2 hr. 15 min.
 - Blow: Stron blow immediate (1# pressure) steady thru-out test.
 - Rec: 5585' fluid (585' of mud cut salt water and 5000' of black-sulphur salt water)
 - Sample Chamber: 2200 cc. of salt water
 - Resistivity: 0.10 ohms at 52° F; 100,000 ppm chlorides
 - Pressures: I.F.- 341#-1931#; F.F.- 2057-2719#;
I.S.I.- 2892#; F.S.I.- 2969#; I.H.- 4512#;
F.H.- 4503#.
- Sept. 11: Drilled 7940' to 8000' (60'). Came out of hole with test tool and laid tool down. Went back in hole with Bit #5 and began drilling ahead at 3 P.M. Drilling in sucrosic-vugular dolomite at rate of 7 to 9 feet per hr.
- Sept. 12: Drilled 8000' to 8104' (104'). Drilling rate decreased to 3 ft/hr. at 8085'. This could be the top of the Ouray; cuttings changed to a blue-gray dolomitic hard shale.

- Sept. 13: Drilled 8104' to 8208' (104'). Drilling at avg. rate of about 5 ft/hr. in cherty limestone, dolomitic shale, and red siltstone. Mud wt. = 10.4, Visc = 38, W.L. = 23.
- Sept. 14: Drilled 8208' to 8289' (81'). Made trip to change bit. Bit #5 (Security S86F) made 396' (7893' to 8289') in 72½ hrs. Drilled at avg. rate of 5½ ft/hr. Est. top of Elbert at 8220'.
- Sept. 15: Drilled 8289' to 8336' (47'). Drilling in hard cherty dolomite at 50 min/ft. Some quartzite sand. No fill or bridges on trip for new bit. Back on bottom and drilling at 11 AM.
- Sept. 16: Drilled 8336' to 8366' (30'). Drilling at rate of 40 to 50 min/ft. in cherty dolomite.
- Sept. 17: Drilled 8366' to 8372' (6'). Last ft. was 75 minutes, so made trip for new bit. Bit #6 (Smith F-4) made 83 ft. (8289' to 8372') in 41½ hrs. Drilled at avg. rate of 2 ft. per hr. Came out of hole with all the cones off. So went in hole with magnet but couldn't get to bottom; so went in hole with Bit #8 with junk basket and got stuck about 15 ft. off bottom.
- Sept. 18: Worked pipe and circulated for 5 hours. Spotted 5 bbl. of diesel around bit with out results. Spotted 20 bbl. diesel with pipe lax and let set for 2½ hrs. without results. Worked pipe for several hours and moved it about 15 inches. Finally called Halliburton and spotted 6 bbl. of 28% Hcl acid around bit and let it set for 2½ hrs.
- Sept. 19: Worked pipe up and down and circulated for 6 hrs. Finally called Dia-log to free pt. pipe and back off. Waited for shot truck for 6 hrs. Ran free point and found drill-string stuck around bit. Ran a spring shot just above bit to jar it loose without success, so backed off drill string leaving one collar and bit in hole.
- Sept. 20: Came out of hole with drill pipe and 15 collars to pick-up jars. Went back in hole with jars and jarred fish loose with 3 jars. Came out of hole with drill collar and bit. Ran magnet on wire line 4 times and recovered

no metal. Went back in hole with Bit #8 (Security M89TF), jars, junk basket.

- Sept. 21: Reamed hole last 20 feet to bottom. Encountered lots of metal on bottom and could not drill up. Came out of hole and ran magnet 3 times and recovered no metal. Decided to run mill-bit. Went to Farmington and picked up bit. Went in hole with mill-bit and began milling up metal.
- Sept. 22: Drilled 8372' to 8387' (15'). Came out of hole with mill bit and went back in hole with Bit #10 (Security S88). Drilling rough, still lots of metal in hole. Had good gas and oil kick after circulating for 1 hr.
- Sept. 23: Drilled 8387' to 8426' (37'). Drilling erratically and rough. Drilling at rate of 2 to 5 ft/hr. Est. top of McCracken at 8380'. McCracken is quartzite with some vfg. to fg. ss. w/slight fluorescences and cut. Bit quit drilling (last foot was 75 min.).
- Sept. 24: Decided to cease drilling. Mixed mud and increased viscosity to 47. Circulated for 4 hrs. and came out of hole. Bit #10 (Security S-88) made 53 feet (8373 to 8426') in 22 hrs. Drilled at avg. rate of 2½ ft/hr. Had lots of metal in hole and bit came out flat and worn down to bottom of water courses. Waited on Schlumberger for 3½ hrs. Began logging at 1530 hrs.
- Sept. 25: Logging and testing continuously. Ran Gamma-Density-CNL, Sonic, and RFT test tool. Tested many zones; had received some good pressures: 8275-90' = 4515 lbs (30 lbs over hydrostatic); 5523-5525' = 2772 lbs (25 lbs over hydrostatic); 5262' to 5264' = 2824 lbs (25 lbs over hydrostatic); 5201-5202' = 2790# (45# over hydrostatic). Ran Dipmeter log from T.D. to base of salt. Got stuck for 2 hrs. with logging tool.
- Sept. 26: Finished Dipmeter log and ran Gamma-Dual-Laterolog from T.D. to surface. Finished logging at 4:30 A.M. Ran computations on logs and decided to test zones in Elbert at 8275' to 8290'; so called Johnston Testers. Waited on test truck until 1700 hrs. Ran in hole with test tool to test interval 8246' to 8426' (180'). (Test of Elbert and McCracken)

Sept. 27: Ran DST #3 as follows:

Interval: 8246' to 8426' (180')

Init. Flow: 10 min.

Init. Shut-in: 1 hr.

Final Flow: 1 hr.

Final Shut-in: 2 hrs.

Blow: Weak blow initially and no blow (dead) on final flow period.

Rec: 50 ft. of drlg. mud.

Sample Chamber: No pressure; 2300 cc. of drlg. mud.

Pressures:

I.F. - 56.4#

F.F - 51.4#

I.S.I. - 2891#

F.S.I. - 3504#

I.H. - 4605#

F.H. - 4605#

B.H.T. - 140°

Remarks: Too tight and mud damage.

Finished test at 1430 hrs. and waited on Lynes tester to run straddle test on Cane Creek zone (7265' to 7343').

Sept. 28: Lynes Tester arrived at 0430 hrs. Picked up test tool and went in hole to straddle test Cane Creek zone. Tried to get packers to seat about 6 times without success; so came out of hole and laid down test tool (Packers were ruptured). Decided to plug and abandon hole. DST #4: Misrun.

Sept. 29: Went in hole with collars and laid them down coming out. Went to bottom with drill pipe (open ended) and placed cement plugs as follows:

Plug #1: 8426-8250' (176') - 50 sks - Bottom of hole. Pull 22 jts.

Plug #2: 7750-7600' (150') - 50 sks - Across Mississippian. Pull 13 jts.

Plug #3: 7350-7200' (150') - 50 sks - Across Base of Salt. Pull 103 jts.

Plug #4: 4250-4100' (150') - 50 sks - Across top of Salt. Pull 50 jts.

Plug #5: 2750-2600' (150') - 50 sks - Across top of Hermosa. Pull 59 jts.

Plug #6: 1100-1000' (100') - 40 sks.

Plug #7: Top of surface with marker - 10 sks.

Finished plugging well at 2400 hrs.

Sept. 30: Began rigging down and released rig at 0800 hrs. Plugged and abandoned. Total cost approximately \$650,000.00.

GEOLOGIC REPORT

1. The Lion Mesa Unit #2-34 well was located and drilled as a possible confirmation well to the first Unit well, #27-1A, which is located one mile north of the subject well. Based on the geologic and geophysical data, the #2-34 well should have been productive and approximately level structurally with the first well. The well was located on the south and down thrown side of a north-east trending surface fault. The well is about 400 ft. south of this fault and the fault is probably an adjustment fault due to certain movements or changes in the salt beds below. It was believed (based on the geophysical data) that this fault would not materially effect the attitude or structural relationship of the lower Paleozoic formation and strata.
2. The subject well was drilled using air for circulation down to a depth of 5200 feet and then converted to salt base mud for the rest of the hole. The upper portion of the hole down to the top of the Cane Creek section at about 7240' was drilled in rapid time (about 20 days) and included one drill-stem-test. However, the drilling rate decreased drastically from this point to the bottom of the hole; and the sediments became very hard and abrasive from 8100 feet to total depth. Cones from two different bits were left in the hole and required fishing with a magnet and milling-up iron on the bottom. Parts of these cones were wedged above the bit at one time sticking the drill string, requiring back-off and jarring loose at one point. Because the Mississippian-Leadville formation was tight and non-porous in the upper portion and contained water in the lower porous section, it was decided to test the Devonian formations below, particularly the McCracken formation. This extra depth from 7940' to 8426' (about 500 feet) required an extra 12 days to drill and test; and generally proved the unfavorable nature of the deeper Devonian formations for hydrocarbon accumulations.
3. The Lion Mesa #2-34 well was disappointing but did tend to confirm the possible structural feature around which the Lion Mesa Unit was formed. It was practically level with the first well on top of the Mississippian-Leadville formation; being only about 17 feet lower structurally. The dip-meter log of this section also tends to show a slight dip, 1° to 2° to the southwest. Based on this information, it appears that the top of the feature may be located northeast of the two well sites. Prior to drill-

ing, it was predicted in the prognosis for the subject well that the top of the Mississippian - Leadville would be found at a depth of 7660' (Datum -2175'). The actual depth was 7632' (Datum -2152'); thus the well ran quite close to the predicted depths.

4. The thickness of the Salt section in the subject well was approximately 100' thicker than in the first well; however, there were fewer salt beds and much thinner beds of salt in the upper part of the salt section, but the various beds in the lower section became much thicker. The salt beds correlate real well in the two wells from the top of the section down to a depth of 4590' in the #2-34 well; then there are about 3 salt beds and 280' of section missing in the #2-34 well; but the rest of the section from 4590' to 7430' in the #2-34 correlates quite closely with the #27-1A well from 5100' to 7575'. The lower salt beds in the #2-34 were thicker as noted above; in fact the salt bed on top of the Cane Creek zone was about 100' thicker than in the #27-1A well.
5. The marked and sometimes spectacular changes in the salt section of the Paradox make the zone highly prospective for hydrocarbon accumulations. The so-called 'clastic' zones between the salt beds must act as the reservoir for the hydrocarbons. These sediments unfortunately are usually black petroliferous shale and/or anhydrite. However, the anhydrite can often be granular, vuggy, and silty thus providing some porosity. On occasions the anhydrite can be very vuggy and granular and have porosities up to 15% or more. Any well drilled in the general area of Hatch Point-Long Canyon thus becomes prospective. The Long Canyon well in Section 9, T 26S, R 20E, has already produced approximately 760,000 bbls of oil from a similar reservoir.
6. The subject well had a possible reservoir in one of the clastic zones in the salt section at 5190' to 5300'. Both oil and gas were introduced into the mud system from this zone. Approximately 2% oil was carried in the mud system most of the time. Unfortunately, conversion from air-mist to mud was made at this point and due to probable wash out of the hole, a drill-stem-test was not possible. After logging it was confirmed that the washed out condition would prevent getting any packer seats (including Lynes Packers). Thus the only way to test the zone would be thru casing and one of the financial backers in the well 'backed-out'

leaving 50% of the cost unsupported. The E-logs were not conclusive or completely reliable thru this zone; also due to the washed-out condition of the hole. The logs indicate a porosity of about 16 to 18% thru this zone and about 27 to 38% water saturation; but this could be very much in error due to the 'wash-out'. The most interesting aspect of this zone is that it is over 400 feet higher structurally than the same zone in the #27-1A well.

7. The Cane Creek section in the #2-34 well was exactly level (-1775' datum) with the #27-1A well. However, there was much less hydrocarbon shows in the subject well. Porosity seemed to be less apparent in the samples but the E-logs indicated close similarity. Attempts to test this zone between straddle Lynes packers failed. Again the only way to check the possible production from this zone was to set casing and there just wasn't enough supportive information to justify this.
8. The Mississippian - Leadville formation was, of course, the prime objective in the subject well because of the prolific production from this section in the Lisbon Field located about 25 miles to the southeast. Since the #27-1A well had shows and a small recovery of oil and gas from the Mississippian after acid treatment of the upper chalk section, it was hoped that the second well would have better porosity in the upper section. Unfortunately, the porosity was even less. Both wells had good porosity in the dolomite section and both contained black sulphurous salt water. The datum points of the tops in both wells were very close with the #2-34 well being about 17 feet lower structurally. This data suggest that a higher position structurally can be obtained by moving to the northeast of the wells.
9. The formations with their tops, thicknesses, and datum points which were encountered in the Lion Mesa #2-34 well as determined from the electric logs are as follows:

<u>Formation</u>	<u>Depth to Top</u>	<u>Thickness</u>	<u>Datum</u>
Navajo	Surface	150'	5480' K.B.
Kayenta	150'	18'	5330'
Wingate	168'	218'	5312'
Chinle	386'	366'	5094'

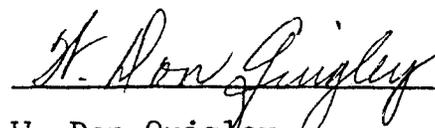
<u>Formation</u>	<u>Depth to Top</u>	<u>Thickness</u>	<u>Datum</u>
Shinarump	752'	26'	4728'
Moenkopi	778'	1107'	4702'
Cutler	1885'	565'	3595'
Rico	2450'	265'	3030'
Hermosa (Upper)	2715'	1475'	2765'
Paradox Salt*	4190'	3065'	1290'
Cane Creek*	7255'	175'	-1775'
Pinkerton Trail	7430'	120'	-1950'
Molas	7550'	82'	-2070'
Leadville*	7632'	463'	-2152'
Ouray	8095'	85'	-2615'
Elbert*	8180'	215'	-2700'
McCracken*	8395'	—	-2915'
TOTAL DEPTH	8426'		

*Formations with hydrocarbon shows

A detailed descriptive log of the samples is attached.

10. Comparison of the above datum points of the #2-34 well with the same points on the #27-1A well indicates that the #2-34 well was running about 100 feet structurally higher than the #27-1A well down to the top of the Moenkopi formation; then this difference dropped to 50 feet higher on the top of the Cutler and then raised to 125 feet higher on the top of the Rico, and 150 feet higher on the top of the Hermosa, and 125 feet higher on the top of the salt section. The overall increase in the thickness of the salt section, Pinkerton Trail and Molas sections, made the top of the Mississippian - Leadville formation about 17 feet lower structurally.
11. Due to the hydrocarbon shows in the samples found in the Paradox, Cane Creek, Mississippian, Elbert and McCracken sections, it was decided to try wireline, the Repeat Formation Tester tool, of Schlumberger, to possibly gain considerable valuable information and eliminate the necessity of running a number of drill-stem-tests. Unfortunately, the tool did not work satisfactorily due to the very hard formations, probably because the probe could not penetrate thru the wall cake and into the hard formation (dolomite, quartzitic sand, and cherty limestone) in the well bore. Likewise, the pressure tests seemed to measure only hydrostatic pressure instead of formation pressure.

12. A drill-stem-test of the sand (quartzitic sands) beds in the Elbert and McCracken was made, but no hydrocarbons were recovered. The sands were very tight and gave up no fluids. Flow pressures were very low but the shut-in pressures were respectable. Because of the obvious low porosities in these sands and the very large relative increase in the additional costs in drilling the extra 500 feet to penetrate the sands, further testing of the Elbert and McCracken in future wells on the Lion Mesa Unit is considered unwarranted.
13. It is quite obvious from the above data that the surface fault just north of the well had little effect on the formations below the surface; in fact, it appears that the fault died out before reaching the vicinity of the well. All of the tops of the upper formations were higher in the #2-34 well and they should have been lower based on the surface data and since it was located on the downthrown side of the fault. The geophysical data did not show this fault, so it is obviously only a local adjustment fault due to salt deformation.
14. Lack of porosity in the carbonate and evaporite beds appears to be the only reason that the Lion Mesa Unit #2-34 well was not productive. This is frequently the case when dealing with these kind of reservoir beds. Dry holes in the middle of fields where carbonates form the reservoir beds are not uncommon. However, when porosity is present, production returns can be very large. The Mississippian - Leadville is by far the main objective on the Lion Mesa Unit and can be extremely lucrative. The Lisbon Field to the southeast has produced over 2 million barrels of oil per well to date from the Mississippian - Leadville. Thus, the potential is large and it is believed that continued drilling on the Lion Mesa Unit has good chances of finding similar production. The Paradox Basin is really a paradox, because often this production is found on the downward (down-dip) plunging nose of a anticlinal arch, and trapped against faults (either up or down). This is the case at Lisbon, at Big Flat, and at Salt Wash. Therefore, the entire structurally anomaly outlined on the Lion Mesa Unit must be tested.



W. Don Quigley
Consultant

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APGS Cert. #3038

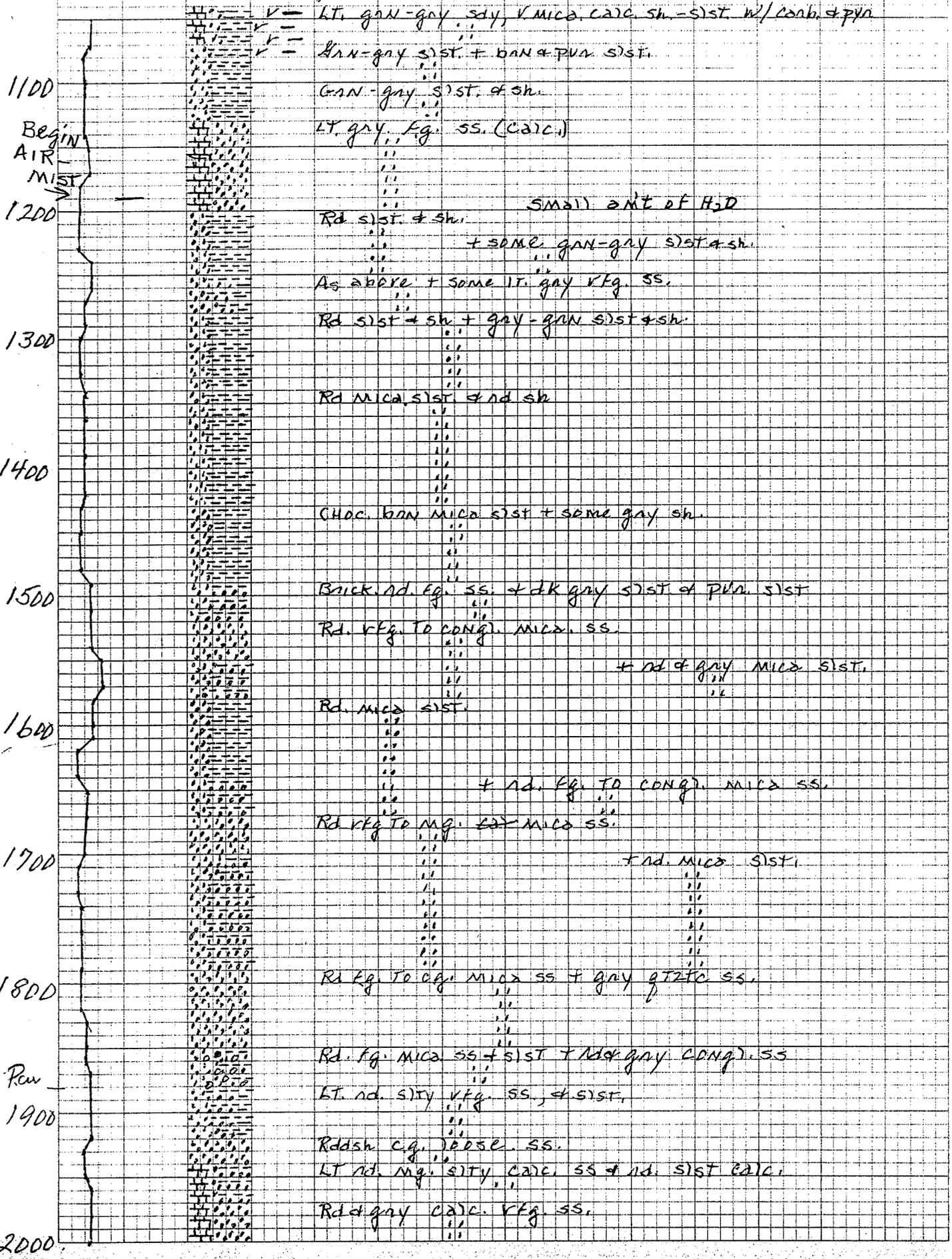
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min/ft.

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Lipn MSEA #2-134 - Elev. = 5480' K.B.

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Delta Line
min, ft
3 4 5

Lion Mesa #2-34 Core

2000' - 3000'

2000

Lt. nd. calc. v. fg. ss w/ carb. sh., nd. calc. sist + gray-gon. sist.

Lt. nd. calc. mica. v. fg. ss + sist.

+ lt. gray calc. v. fg. ss.

2100

Rd. c.g. friable calc. ss.

Lt. nd. calc. v. fg. to cong. ss + some lt. gray dns. ss.

Lt. nd. v. fg. calc. ss + sist.

2200

Lt. nd. fg. to cong. calc. mica. ss.

Rd calc. sist + gray calc. sist.

2300

Rd + gray calc. mica. v. fg. ss.

+ sist.

Rd sh. c.g. loose ang. ss.

2400

Rd. gray v. fg. ss + sist.

Pur. c.g. to cong. ang. ss.

Rd. gray calc. v. fg. ss; gon. gray, pur. sist + sh.

PN

Rd. v. fg. calc. ss + some tan ms.

2500

Lt. gray to wh. ms + bl. calc. ms.

Rd. calc. sh. dk gray + gray calc. sh.

Rd + gon. v. fg. calc. mica. ss; nd. sh.; gon. sh.

Rd + gon. mica. calc. sist.

2600

Rd + gray mottled calc. fg. to cong. ang. ss.

Rd + gray v. mica. calc. fg. dirty ang. ss.

2700

Some c.g. loose nd + nd ss.

+ some tan ms

Gray, bl. tan + gon. ms

Pur. dk gray + gray calc. sh. mica.

+ dk tan sist + tan ms

PN

Lt. gray + pr. v. fg. calc. ss

2800

Wh to lt. gray v. calc. ss.

Tan to dk tan ms - some dirty; some calc. + v. fg.

some dk nd. sh. wh - sl. cont.

2900

Lt. Rd. v. fg. calc. ss.

Rd. gray. sh. ms + sh.; tan sh. ms + dk gray calc. sh.

Lt. nd. + lt. gray v. fg. calc. ss. + pur. v. mica. v. fg. ss.

Bk. X.M. dns. ms

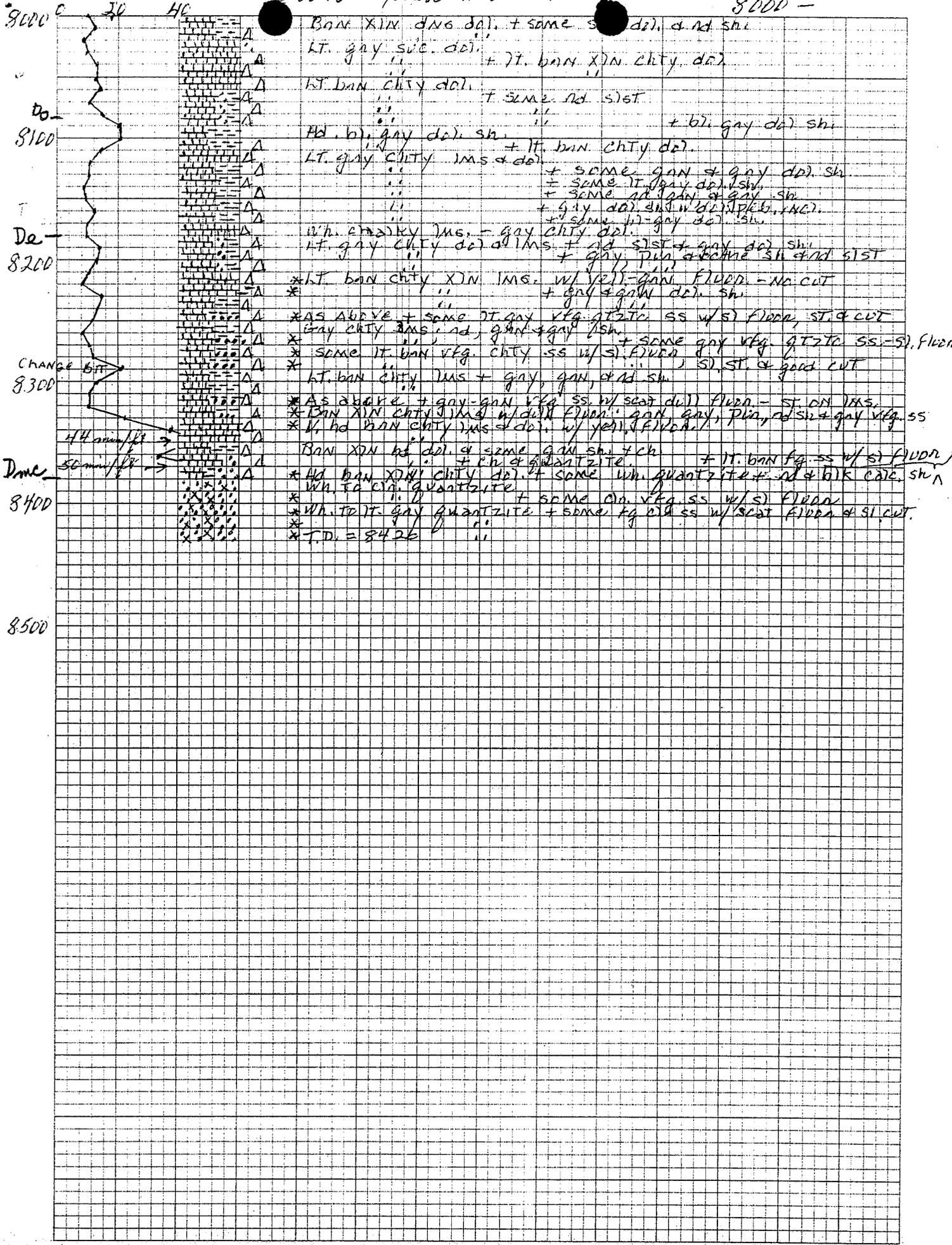
3000

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Lion Mesa # 2-34 Cont

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