

LONE MOUNTAIN PRODUCTION COMPANY

P.O. Box 3394
408 Petroleum Building
Billings, Montana 59103-3394
(406) 245-5077

April 10, 1986

State of Utah
Division of Oil Gas & Mining
3 Triad Center, Suite 350
Salt Lake City, UT 84180-1203

RECEIVED
APR 14 1986

**DIVISION OF
OIL, GAS & MINING**

Attn: Ron Firth
State Petroleum Engineer

Dear Ron:

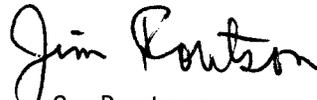
Enclosed for your approval are APD's for our No.'s 6-16 and 14-2 Quinoco USA wells (in duplicate) and our No. 32-3 Quinoco State well (in triplicate). We are requesting approval contingent upon the Board approving our application for infill drilling under Cause No. 13-6. Also attached to each set of APD's are the appropriate Designation of Operator forms.

We are hereby requesting a topographic exception location for the No. 6-16 Quinoco USA well. As can be seen from Map No. 2, it is located on a narrow ridge and is in the only topographic location possible in the SE $\frac{1}{4}$ of Section 6. The attached diagram of well locations shows that the No. 6-16 is 1941' from the TXO Hancock Federal No. 2 in Section 5. Please note that the TXO well is a directional hole, and the 1941' is based on the distance to the wellbore location at the top of the Dakota as reported by TXO on their well completion report.

If you have any questions or comments, please feel free to call.

Very truly yours,

LONE MOUNTAIN PRODUCTION COMPANY



James G. Routson

JGR:bp

Enclosures

cc: Mr. Ken Currey
P.O. Box 1491
Fruita, CO 81521

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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
 Lone Mountain Production Company

3. ADDRESS OF OPERATOR
 P.O. Box 3394, 408 Petroleum Building, Billings, MT 59103

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)
 At surface: 1100' FNL, 1700' FEL
 At proposed prod. zone: Same

5. LEASE DESIGNATION AND SERIAL NO.
 SL-071172

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
 Federal

9. WELL NO.
 14-2

10. FIELD AND POOL, OR WILDCAT
 Undesignated *Bryant Canyon*

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
 NW $\frac{1}{4}$ NE $\frac{1}{4}$ Sec. 14-T17S-R24E S.L.M.

12. COUNTY OR PARISH
 Grand

13. STATE
 Utah

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
 20 miles northwest of Mack, Colorado DIVISION OF OIL, GAS & MINING

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)
 1100'

16. NO. OF ACRES IN MINING
 320

17. NO. OF ACRES ASSIGNED TO THIS WELL
 160

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.
 2509'

19. PROPOSED DEPTH
 4850' *Morrison*

20. ROTARY OR CABLE TOOLS
 Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
 5908 GL, 5919 KB

22. APPROX. DATE WORK WILL START*
 May 17, 1986

RECEIVED
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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" new	32.30 L.S. STC	800'	100 sacks "G" plus 200 sacks lite
7-7/8"	4-1/2" new	10.5# J-55 STC	4850'	175 sacks RFC

- Surface formation is the Mesaverde.
 - Anticipated geologic markers are: Castlegate 619, Mancos 759, Dakota Silt 4299, Dakota Sand 4389, Morrison 4570.
 - Gas is anticipated in the Dakota and Morrison. No oil or other minerals are anticipated.
 - Proposed casing program: See Item No. 23 above.
 - Pressure control equipment: See attached well control plan and schematic of drilling contractor's BOP stack. BOP's will be tested before drilling out from under surface casing and checked daily.
 - Air or mist drilling will be used to drill the surface hole unless water is encountered. If water is encountered, chemical-gel type mud will be used. The well will be air drilled from under surface casing to total depth.
 - Auxiliary equipment: See well control plan.
- (Continued on Page 2)

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 *James D. Rantson* TITLE Petroleum Engineer DATE April 10, 1986

(This space for Federal or State office use)

PERMIT NO. 43-019-31225 APPROVAL DATE APPROVED BY THE STATE

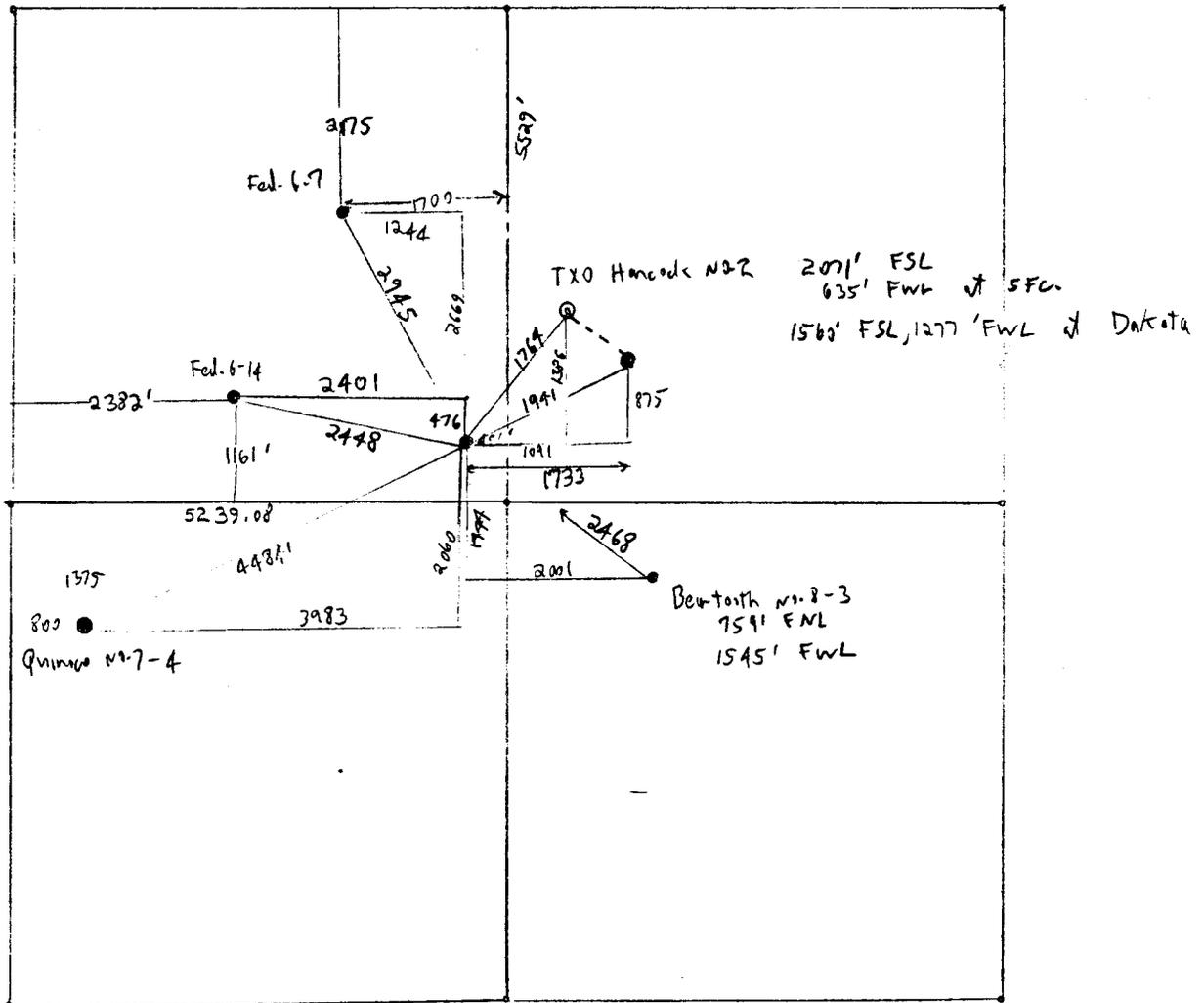
APPROVED BY _____ TITLE OIL, GAS AND MINING DATE _____

CONDITIONS OF APPROVAL, IF ANY:

DATE: 5-27-86
BY: *John R. Bay*

*See Instructions On Reverse Side
WELL SPACING: 13-6 5/22/86

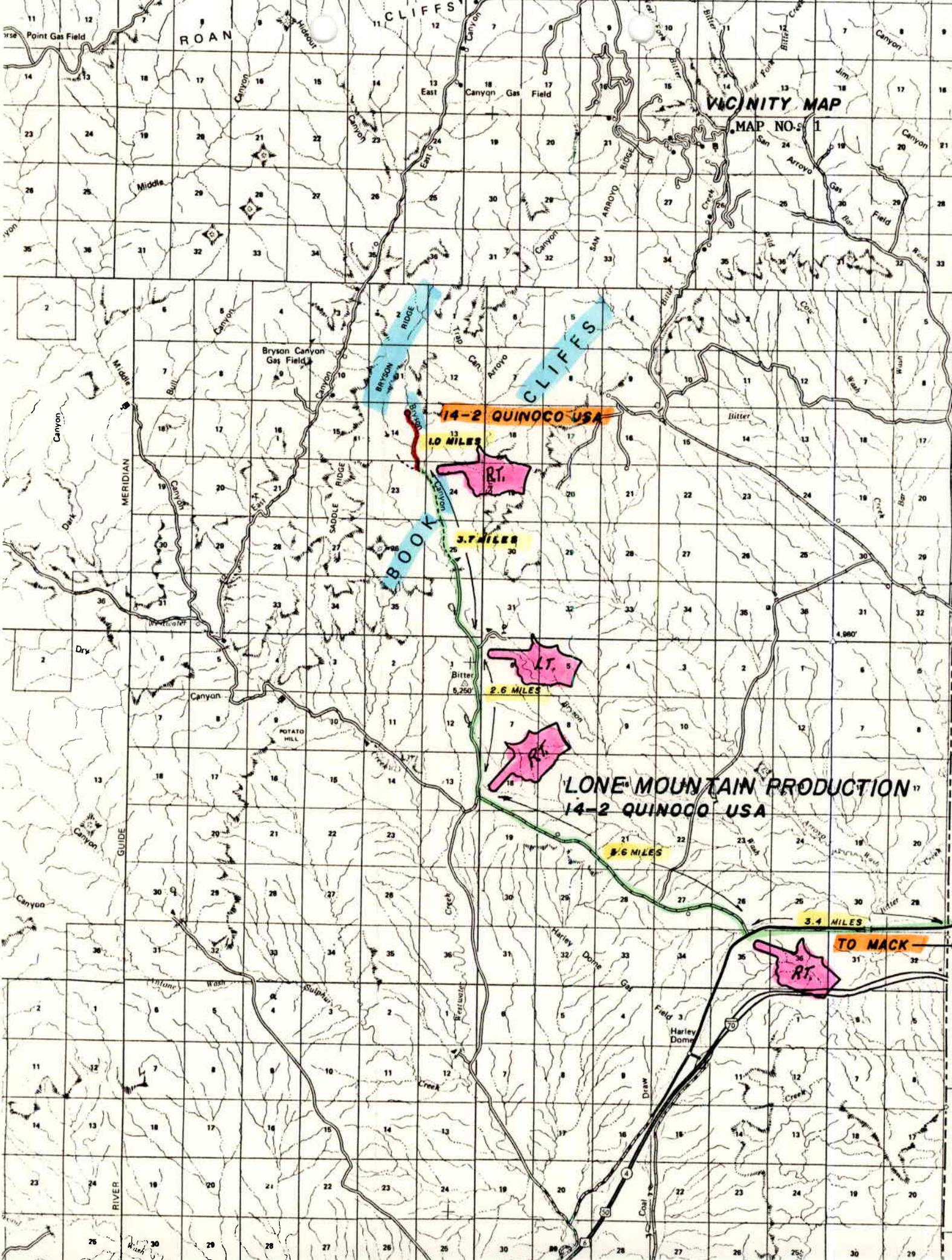
No. 6-16 Quinoco USA proximity to SURROUNDING wells



Distance From 6-14 = N/S = $1161 - 685 = 476'$ E/W = $5239 - 2382 - 456 = 2401'$
 between wells = $\sqrt{476^2 + 2401^2} = 2448'$

Distance From TXO No. 2 at Dakota = N/S = $1560 - 685 = 875'$ E/W = $1277 + 456 = 1733'$
 between wells = $\sqrt{875^2 + 1733^2} = 1941'$

Distance From TXO at surface = N/S = $2071 - 685 = 1386'$ E/W = $456 + 635 = 1091'$
 between wells = $\sqrt{1386^2 + 1091^2} = 1764'$



VICINITY MAP
MAP NO. 1

14-2 QUINOCO USA

1.0 MILES

RT.

3.7 MILES

RT.

2.6 MILES

RT.

LONE MOUNTAIN PRODUCTION
14-2 QUINOCO USA

3.6 MILES

3.4 MILES

TO MACK

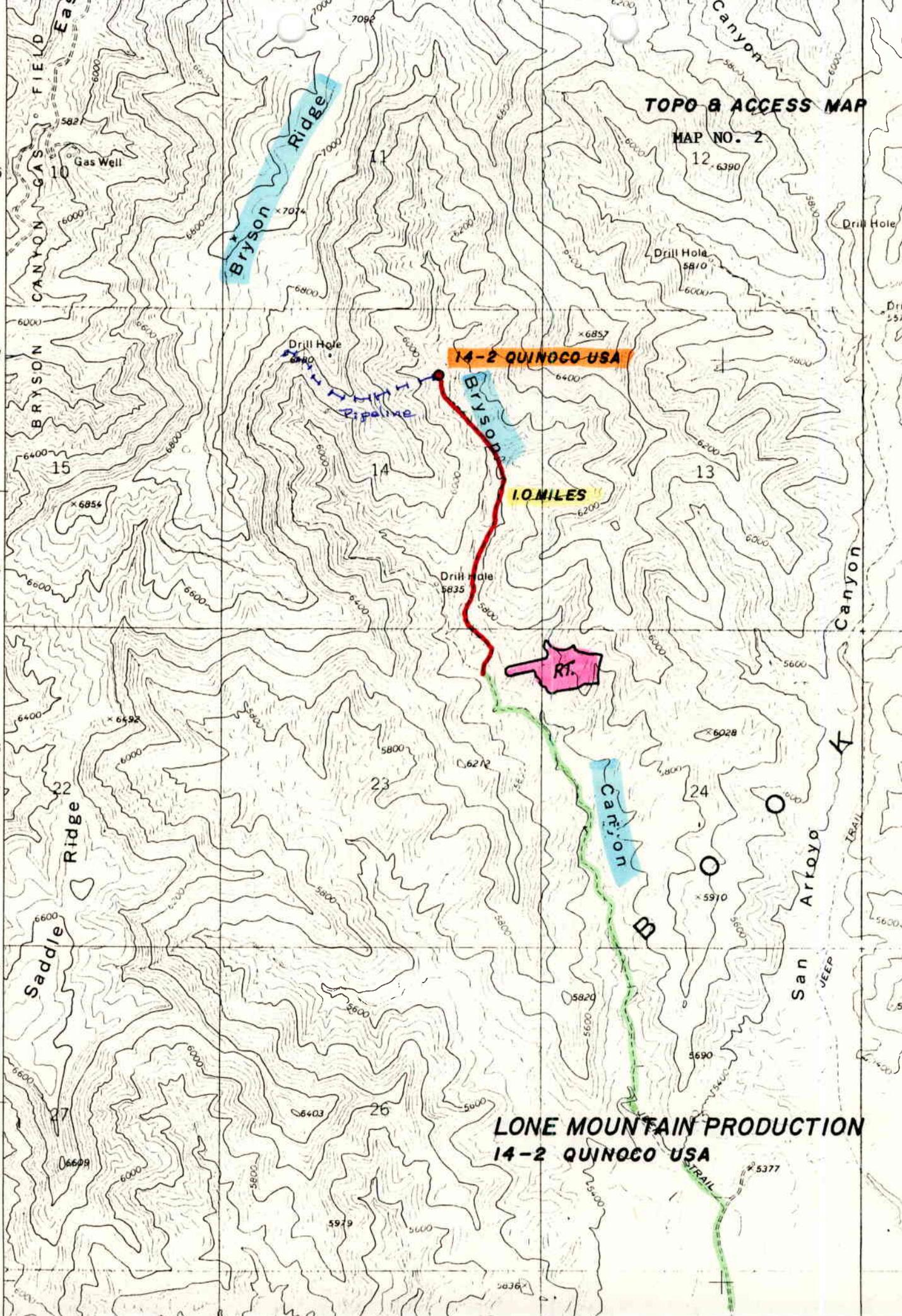
RT.

TOPO & ACCESS MAP

MAP NO. 2

12. 6390

4356
20'
4354
4353
4352
4351
17' 30"



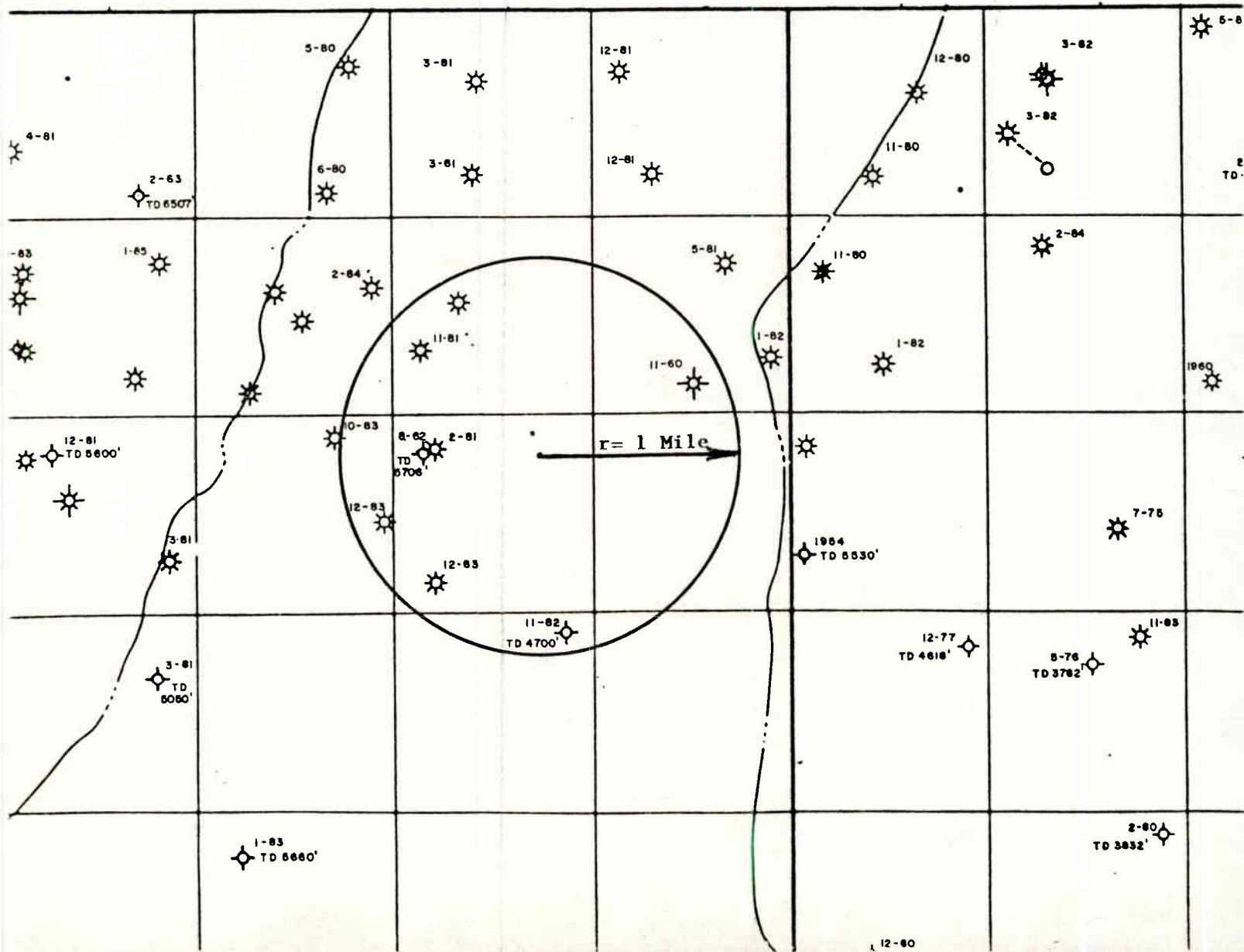
**LONE MOUNTAIN PRODUCTION
14-2 QUINOCO USA**

WELL MAP

MAP NO. 3

Wells Within 1 Mile of Proposed 14-2

- SE $\frac{1}{4}$ NW $\frac{1}{4}$ Section 11: Quinoco No. 11-6 USA
- NW $\frac{1}{4}$ SW $\frac{1}{4}$ Section 11: Quinoco No. 11-12 USA
- SE $\frac{1}{4}$ SW $\frac{1}{4}$ Section 12: Trend No. 5-A Bryson Canyon Unit
- NW $\frac{1}{4}$ NW $\frac{1}{4}$ Section 14: Trend No. 4 Bryson Canyon Unit
- NW $\frac{1}{4}$ NW $\frac{1}{4}$ Section 14: Quinoco No. 14-4 Hogle State-Federal
- SW $\frac{1}{4}$ SW $\frac{1}{4}$ Section 14: TXO No. 1 Hougden-Federal-A
- NW $\frac{1}{4}$ NE $\frac{1}{4}$ Section 15: Beartooth Bryson Canyon Unit No. 15
- NE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 15: Tenneco No. 15-9 TOC-TXO-POGO-USA



Application for Permit to Drill, Deepen, or Plug Back

14-2

NW $\frac{1}{4}$ NE $\frac{1}{4}$ Section 14-T17s-R24E

Grand County, Utah

Lease SL-071172

Page 2

8. The logging program will consist of a DIL log from TD to base of surface casing, and GR-FDC-CNL logs from TD to 500' above the Dakota Silt, and a cased hole GR-CNL from the base of surface casing to surface. No cores or DST's are planned.
9. No abnormal pressures or temperatures are anticipated. No poisonous gas is anticipated.
10. Anticipated spud date is May 17, 1986. Completion operations should commence within 30 days of rig release.
11. Survey plats are attached.
12. The gas is dedicated to Mesa Pipeline Company.
13. Designation of Operator forms from Quinoco are attached.
14. The well will be drilled under Quinoco's bond.

WELL CONTROL PLAN

1. Surface Casing: 9-5/8" O.D., 32.3#/ft. Grade H-40, ST&C, set at 800' or deeper, cemented with pump and plug method back to the surface or bottom of cellar.
2. Casinghead Flange: 9-5/8" X 10" - 900 Series casinghead with two 2" 2000 psi L.P. outlets.
3. Intermediate Casing: None
4. Blowout Preventor: A 10" 3000 psig W.P. double gate hydraulic shaffer BOP (or equivalent) with drill pipe rams and blind rams. All fill, kill and choke lines will be minimum of 2" 2000 psi W.P. A Grant rotating head will be used while air and mist drilling. BOP's will be worked daily. Blind rams will be checked during trips. BOP's will be tested to 1000 psi prior to drilling shoe joint on surface casing.
5. Auxiliary Equipment: (a) Drill pipe floats will be allowed at contractor's discretion. (b) Visual monitoring of air returns will be maintained. (c) Upper kelly cock will be used. (d) Stabbing valve will be kept on floor.
6. Anticipated bottom hole pressure is less than 1000 psi at 4389' or a gradient of .228 psi/ft or less. No abnormal temperatures or hydrogen sulfide gas are anticipated.

LONE MOUNTAIN PRODUCTION COMPANY

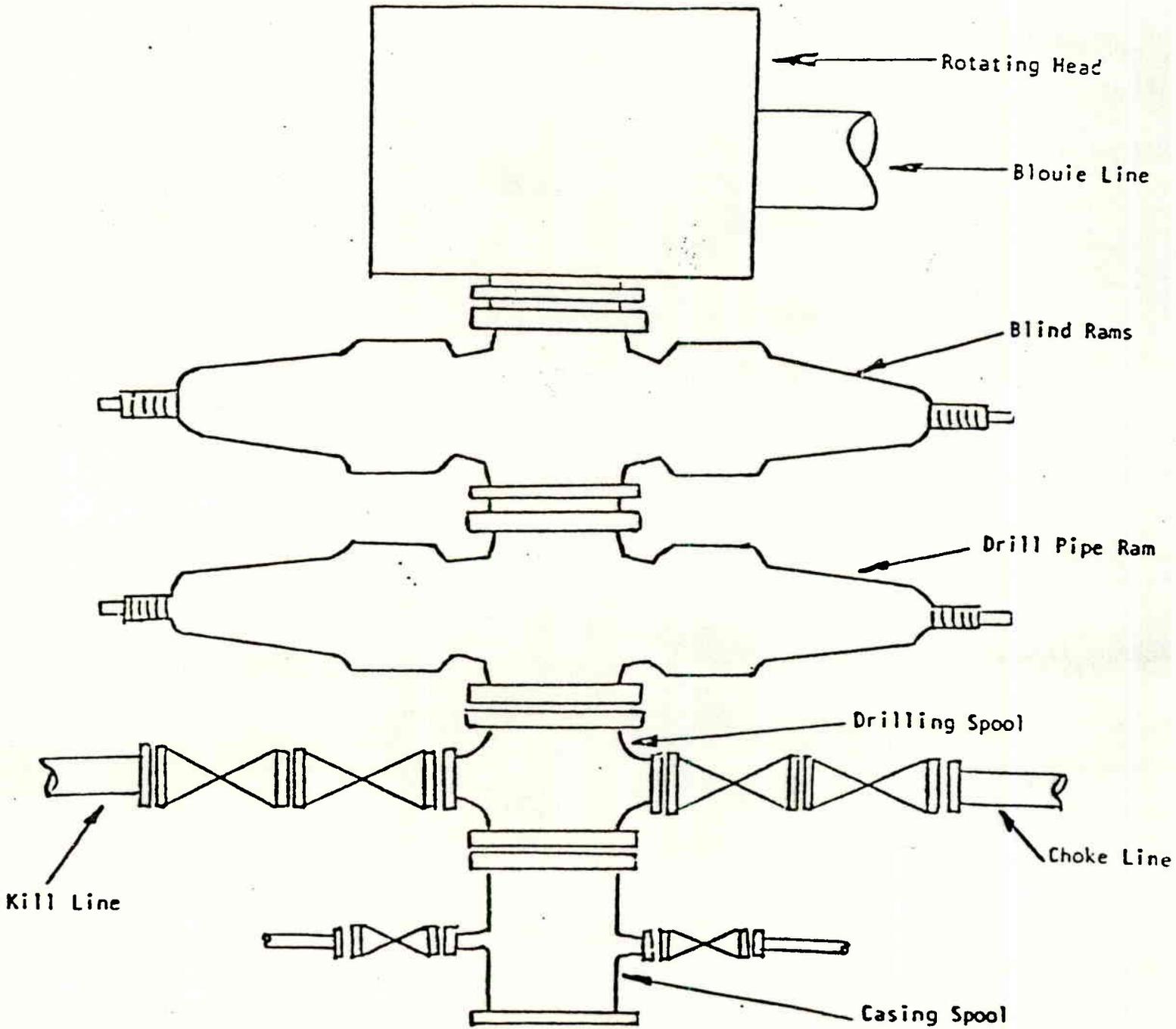
April 10, 1986
Date

James G. Routson
James G. Routson

SCHEMATIC OF BOP STACK

Air drilled wells using 900 series wellhead equipment.

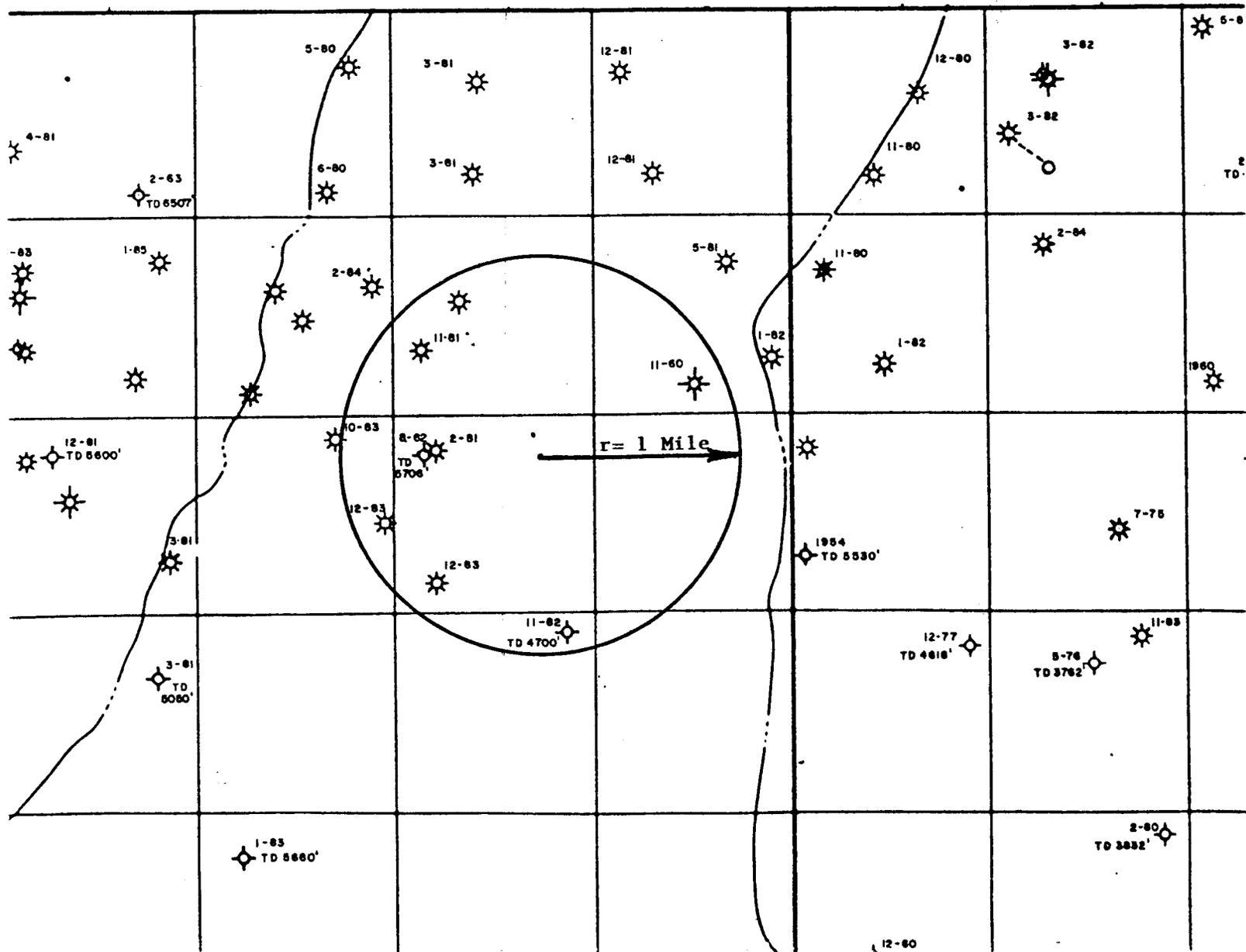
Interval from 800' to total depth.



WELL MAP
MAP NO. 3

Wells Within 1 Mile of Proposed 14-2

- SE $\frac{1}{4}$ NW $\frac{1}{4}$ Section 11: Quinoco No. 11-6 USA
- NW $\frac{1}{4}$ SW $\frac{1}{4}$ Section 11: Quinoco No. 11-12 USA
- SE $\frac{1}{4}$ SW $\frac{1}{4}$ Section 12: Trend No. 5-A Bryson Canyon Unit
- NW $\frac{1}{4}$ NW $\frac{1}{4}$ Section 14: Trend No. 4 Bryson Canyon Unit
- NW $\frac{1}{4}$ NW $\frac{1}{4}$ Section 14: Quinoco No. 14-4 Hogle State-Federal
- SW $\frac{1}{4}$ SW $\frac{1}{4}$ Section 14: TXO No. 1 Hougen-Federal-A
- NW $\frac{1}{4}$ NE $\frac{1}{4}$ Section 15: Beartooth Bryson Canyon Unit No. 15
- NE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 15: Tenneco No. 15-9 TOC-TXO-POGO-USA



Application for Permit to Drill, Deepen, or Plug Back

14-2

NW $\frac{1}{4}$ NE $\frac{1}{4}$ Section 14-T17s-R24E

Grand County, Utah

Lease SL-071172

Page 2

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LONE MOUNTAIN PRODUCTION COMPANY

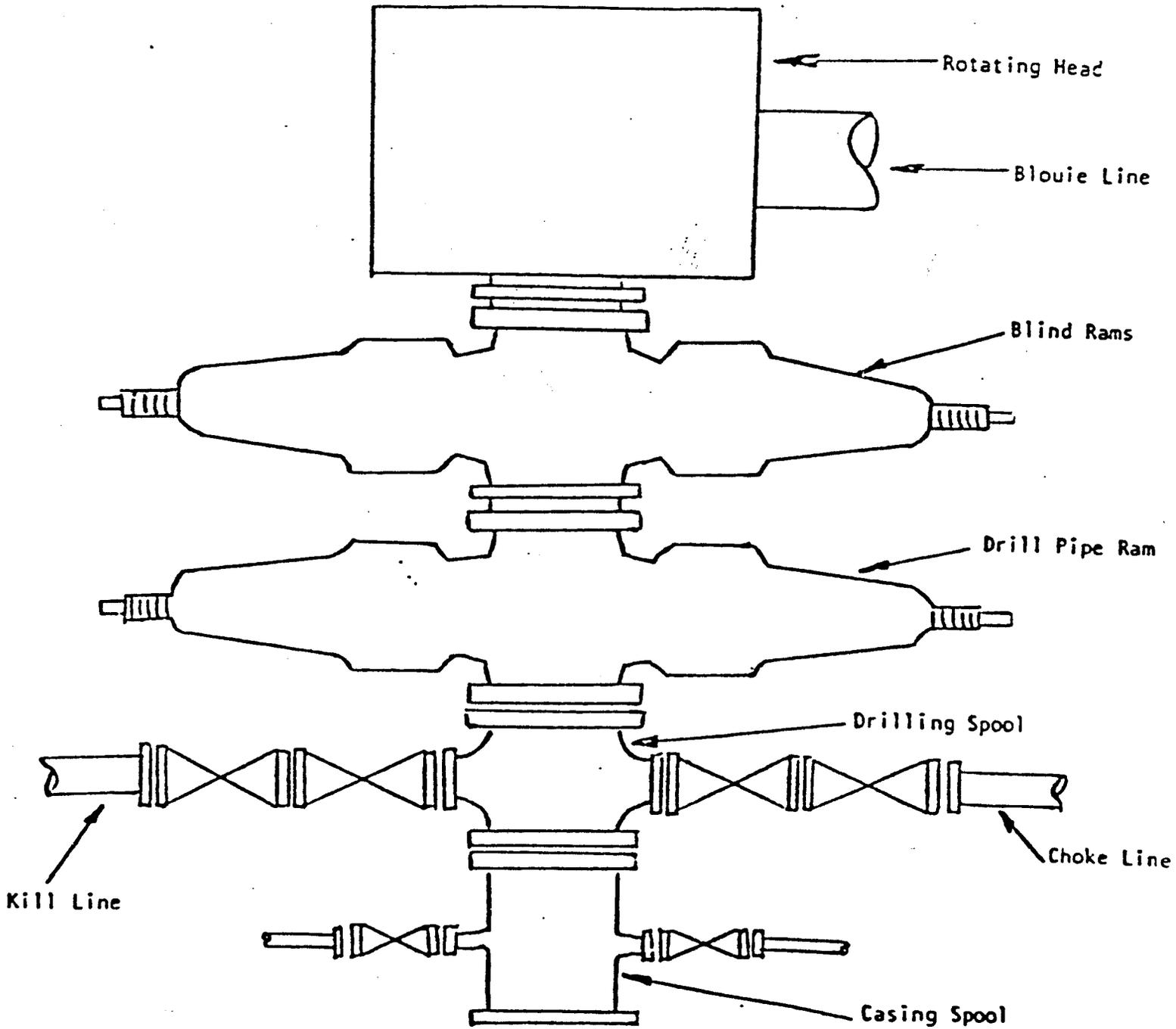
April 10, 1986
Date

James G. Routson
James G. Routson

SCHEMATIC OF BOP STACK

Air drilled wells using 900 series wellhead equipment.

Interval from 800' to total depth.



SURFACE USE PROGRAM

Lone Mountain Production Company
14-2 Quinoco USA
NW $\frac{1}{4}$ NE $\frac{1}{4}$ Sec. 14-T17S-R24E, S.L.M.

1. Existing Roads

See Vicinity Map, Topo and Access Map and Plat #1. This proposed well is located approximately 20 air miles northwest of Mack, Colorado. It is reached by going west of Mack on Old Highway 6&50 3.5 miles west of the Colorado-Utah border. Turn right and go 5.6 miles to the "T" intersection. Turn right and go 2.6 miles north to the "Y", turn left and go 3.7 miles up Bryson Canyon. All of the existing roads used for access are county roads. Lone Mountain will share maintenance on those gravel/dirt roads with Grand County and the other oil and gas operators in the area. The existing roads are colored green on the reference map.

2. Access Roads to be Constructed and Reconstructed

The 1.0 mile of new road will be constructed up the bottom of Bryson Canyon as a BLM-Moab class III well access road. The road will have several low water crossings of the Bryson Canyon waterway. The road will utilize the natural benches above the drainage where possible.

No fences are crossed and no culverts are planned.

The lease boundary is the south line of the N $\frac{1}{2}$ of Section 14. Therefore, it is necessary for Lone Mountain to secure an access road right-of-way for approximately 3500 feet of road in the E $\frac{1}{2}$ SE $\frac{1}{4}$, Section 14, NE $\frac{1}{4}$ NE $\frac{1}{4}$ Section 23, Township 17 South, Range 24 East. Lone Mountain hereby applies for that road right-of-way and the required \$50.00 filing and \$20.00 monitoring fees are attached.

3. Location of Existing Wells

See Map #3. There are 5 producing wells and 3 abandoned wells within 1 mile of the proposed location.

4. Location of Production Facilities

- a) On well Pad. See Plat #4. (Paint everything dark green.)
- b) Lone Mountain Production proposes to construct approximately 2700 feet of 3 $\frac{1}{2}$ inch I.D. surface steel pipeline as the gas sales line from the 14-2 to Mesa Pipeline in the NW $\frac{1}{4}$ NW $\frac{1}{4}$ Section 14. All of this line is on lease.

The line will be constructed by walking a small dozer around the rim from the tie-in point to a ridge top road (see map). From the saddle the line will "leg off" into Bryson Canyon. Dirt work will consist of removal of a few trees and only minimal blading will occur. Cuts should not exceed 1 foot. All cuts will be recontoured and the disturbed area will be reseeded using a BLM specified seed formula.

5. Location and Type of Water Supply

The water source for this well is West Salt Creek. The pickup point is on Old Highway 6&50 about 2.5 miles west of Mack, Colorado. The water will be hauled over the well access road.

6. Source of Construction Materials

No construction materials will be used other than native materials. Soil from cuts will be used in fills. No outside material will be brought in.

7. Methods for Handling Waste Disposal

Cuttings will be buried in the reserve pit at clean up. Garbage and other waste material will be contained in a trash cage. This cage will be dumped at an approved sanitary land fill. Human waste will be disposed of in chemically treated sanitary pits.

Drilling fluids will be contained in the reserve pit and left to evaporate. Any fluids produced during testing operations will be collected in a test tank. If a test tank is not available, the fluids will be contained in the reserve pit. Any spills of oil, gas, salt water or noxious fluid will be cleaned up and removed.

If the well is productive, produced water will be disposed of on site for 30 days only, or 90 days with the permission of the District Manager. After that time, application will be made for approval of permanent disposal method in compliance with old MMS Order NTL-2B, and the rules and regulations of the State of Utah.

8. Ancillary Facilities

No ancillary facilities are planned.

9. Wellsite Layout

See Plat #2 - Pit and Pad Layout

See Plat #2A - Cross Sections of Pit and Pad

See Plat #3 - Rig Layout

The location will be constructed large enough to accommodate the drilling rig and associated equipment with allowance made for future completion and fracturing equipment.

The location construction will begin by stripping and stockpiling all available (4-6") topsoil. The stockpiles will be along the north and south edge of the location.

The reserve pit will be constructed along the west side of the well pad. The pit will be fenced on three sides during drilling and closed on the fourth side at rig release. The fence will be maintained through completion and while the pit is drying.

10. Plans for Reclamation of the Surface

If the well is productive, the reserve pit will be allowed to dry and then backfilled, All of the area not necessary for production will be resloped, covered with available topsoil and revegetated using a seed formula supplied by the BLM.

If the well is abandoned, the entire area of disturbance will be returned to a reasonable contour approximating the topography of the surrounding area. The topsoil will be distributed over the recontoured area and revegetated using the appropriate seed formula.

Clean-up will begin after completion rig release and recloping should be completed by the Fall of 1986.

11. Surface Ownership

All lands involving new construction are Federal lands.

12. Other Information

The well site is in the bottom of Bryson Canyon on a bench. The vegetation is sparse and includes juniper, sagebrush, western wheatgrass, Indian rice grass and a few annual plants.

13. Lessee's or Operator's Representatives and Certification

James G. Routson
Lone Mountain Production Company
P.O. Box 3394
Billings, Montana 59103
Office Phone: 406/245-5077
Home Phone: 406/245-8797

Ken Currey
Field Consultant
P.O. Box 1491
Fruita, Colorado 81521
Office/Home: 303/858-3257
Mobile: 303/245-3660, Unit 5858

April 10, 1986
Date

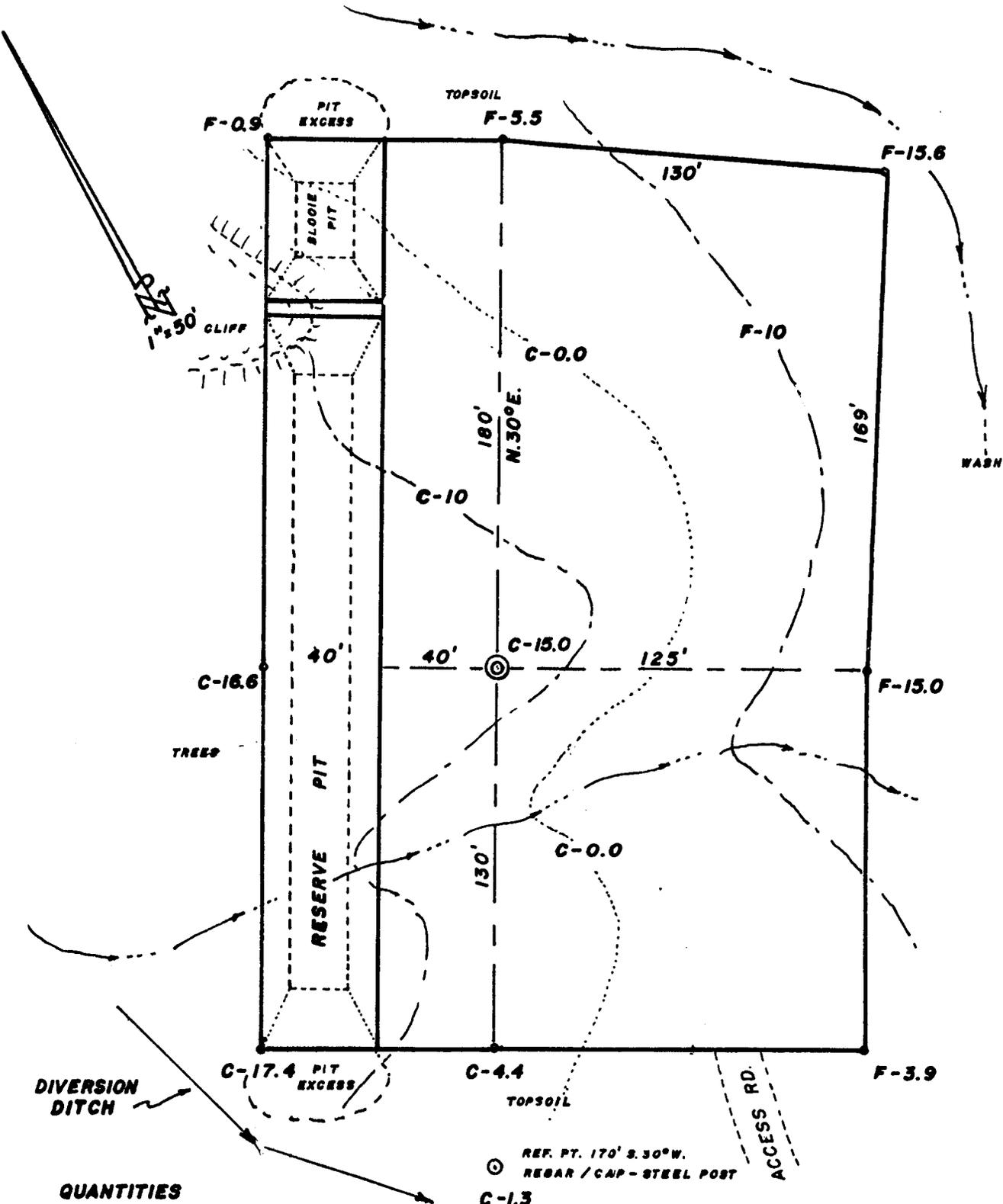
James G. Routson
James G. Routson

PIT & PAD LAYOUT

PLAT NO. 2

F-11.0

⊙ REF. PT. 275' N.30°E.
REBAR / CAP - STEEL POST



⊙ REF. PT. 170' S.30°W.
REBAR / CAP - STEEL POST
C-1.3

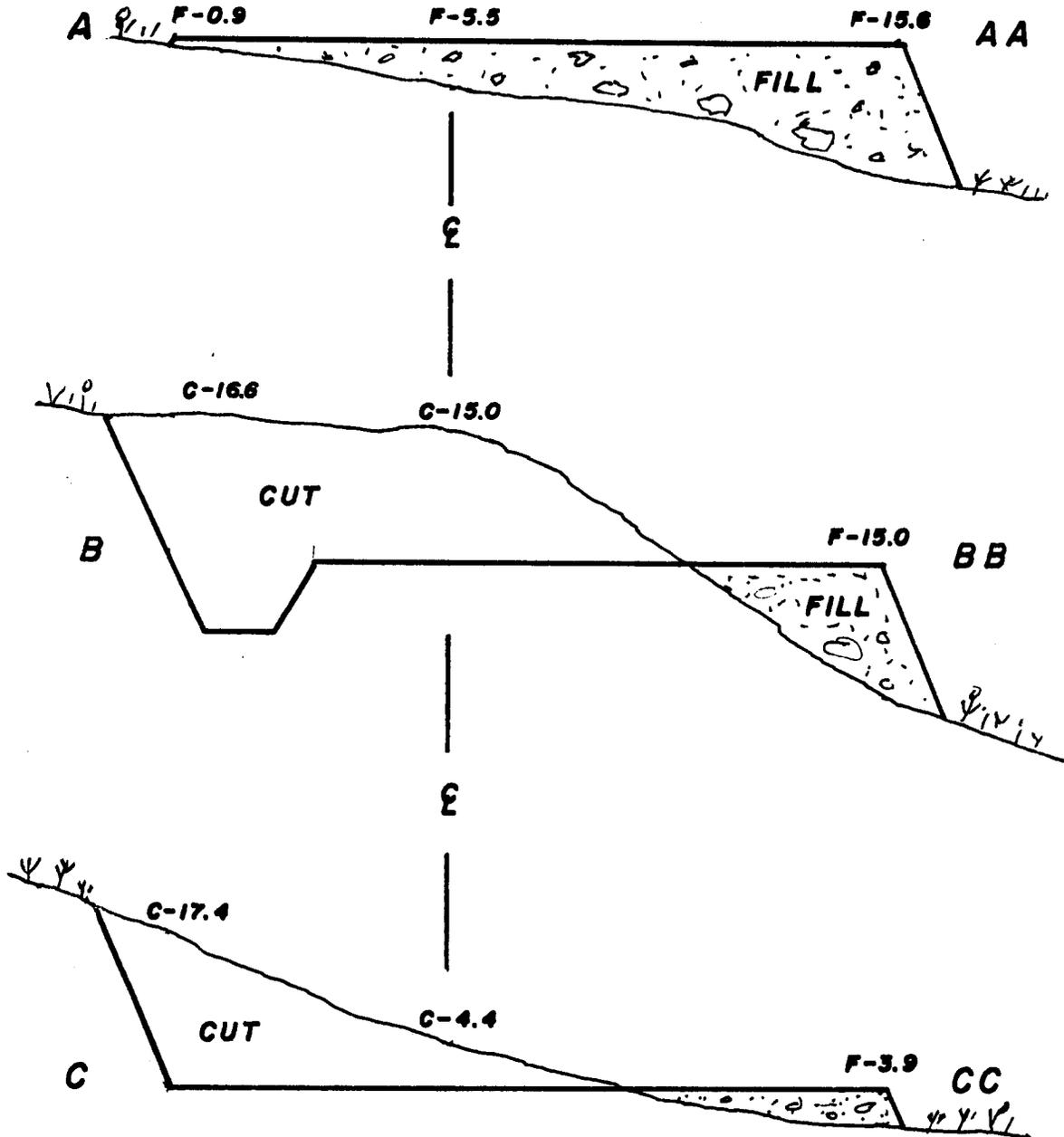
QUANTITIES

TOPSOIL	1177 C.Y.
PIT CUT	2100 "
CUT	10940 "
FILL	6422 "
EXCESS	3341 "

**LONE MOUNTAIN PRODUCTION
14-2 QUINOCO USA**

CROSS-SECTIONS

PLAT NO. 2A



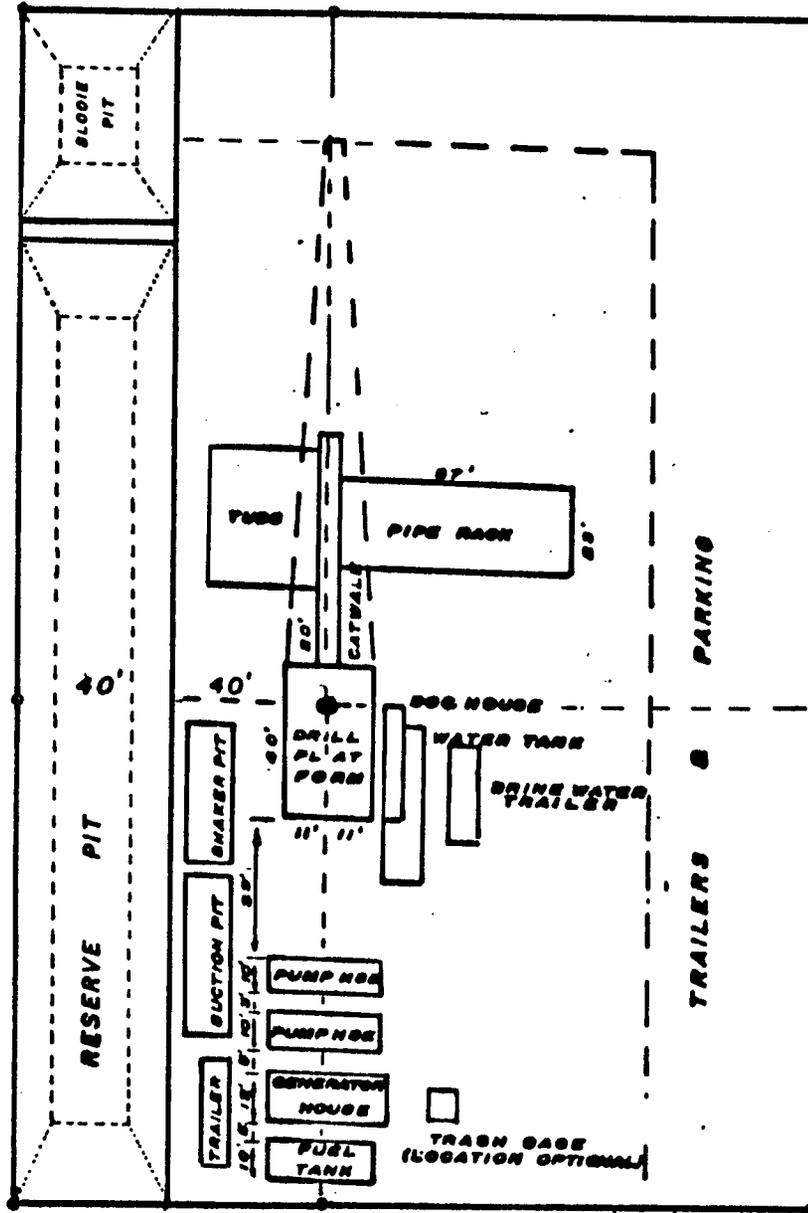
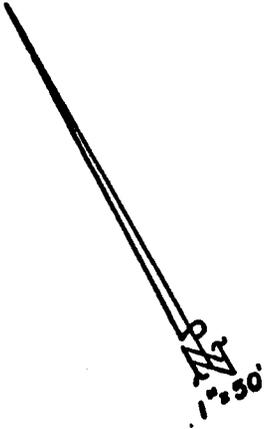
SCALE,
HORIZ. 1"=50'
VERT. 1"=20'

LONE MOUNTAIN PRODUCTION
14-2 QUINOCO USA

RIG LAYOUT

PLAT NO. 3

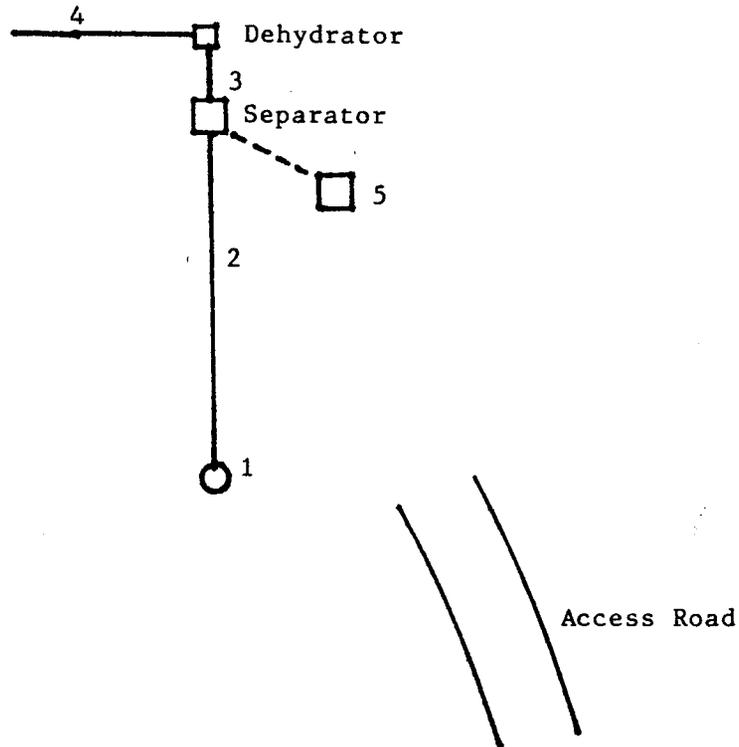
⊙ REF. PT. 275' N. 30° E.
REBAR / CAP - STEEL POST



⊙ REF. PT. 170' S. 30° W.
REBAR / CAP - STEEL POST

LONE MOUNTAIN PRODUCTION
14-2 QUINOCO USA

PLAT NO. 4
FACILITIES SCHEMATIC
No. 14-2 Quinoco USA



1. Wellhead will be a 6" - 900 series flanged top. Tubing head will be 10" - 900 x 6" - 3000 psi with two 2" 3000 psi flanged valves. Tree will be 2" screwed x 2000 psi W.P.
2. Line between wellhead and separator will be approximately 100 feet in length and constructed of 2-3/8", .218 wall seamless, welded, wrapped and buried approximately 5 feet deep.
3. Line between separator and dehydrator will be approximately 20 feet in length and constructed of 2-3/8" .218 wall seamless, welded, wrapped and buried approximately 5 feet deep.
4. Line to Mesa Pipeline will be a surface line as described in Part 4 of the Surface Use Program and will be a welded line. Length will be approximately 3200'. Material will be 3 1/2" grade X-42, .156 wall.
5. Pit will be 8' x 8', enclosed by dikes and fenced.
6. Meter run will be American 2" run, or equivalent, 1000 psi static rating, 100' of water differential rating. This run will be located on the lease at the Quinoco Hogle No. 14-4 location in the NW 1/4 NW 1/4 of Section 14.

DESIGNATION OF OPERATOR

The undersigned is, on the records of the Bureau of Land Management, holder of lease

RECEIVED
APR 14 1986

DISTRICT LAND OFFICE: Moab, Utah
SERIAL NO.: SL-071172

and hereby designates

DIVISION OF

NAME: LONE MOUNTAIN PRODUCTION COMPANY OIL, GAS & MINING
ADDRESS: P.O. Box 3394, 408 Petroleum Building, Billings, MT 59103

as his operator and local agent, with full authority to act in his behalf in complying with the terms of the lease and regulations applicable thereto and on whom the supervisor or his representative may serve written or oral instructions in securing compliance with the Operating Regulations with respect to (describe acreage to which this designation is applicable):

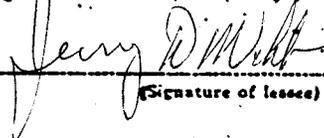
Township 17 South, Range 24 East
Section 14: NE/4
Grand County, Utah

It is understood that this designation of operator does not relieve the lessee of responsibility for compliance with the terms of the lease and the Operating Regulations. It is also understood that this designation of operator does not constitute an assignment of any interest in the lease.

In case of default on the part of the designated operator, the lessee will make full and prompt compliance with all regulations, lease terms, or orders of the Secretary of the Interior or his representative.

The lessee agrees promptly to notify the supervisor of any change in the designated operator.

QUINOCO OIL AND GAS INCOME PROGRAM 1983-2
QUINOCO OIL AND GAS INCOME PROGRAM 1983-3
QUINOCO OIL AND GAS INCOME PROGRAM 1983-4
By: Quinoco Resources, Inc., Managing General Partner



(Signature of lessee)

4-1-86

(Date)

P.O. Box 378111, Denver, Colorado 80237

(Address)

DESIGNATION OF OPERATOR

RECEIVED
APR 14 1986

DIVISION OF
OIL, GAS & MINING

The undersigned is, on the records of the Bureau of Land Management, holder of lease

DISTRICT LAND OFFICE: Moab, Utah
SERIAL No.: SL-071172

and hereby designates

NAME: LONE MOUNTAIN PRODUCTION COMPANY
ADDRESS: P.O. Box 3394, 408 Petroleum Building, Billings, Montana 59103

as his operator and local agent, with full authority to act in his behalf in complying with the terms of the lease and regulations applicable thereto and on whom the supervisor or his representative may serve written or oral instructions in securing compliance with the Operating Regulations with respect to (describe acreage to which this designation is applicable):

Township 17 South, Range 24 East
Section 14: NE/4
Grand County, Utah

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The lessee agrees promptly to notify the supervisor of any change in the designated operator.

CARSON WATER COMPANY

E. F. Kulas

E. F. Kulas (Signature of lessee)
Vice President, Energy Division

P.O. Box 15015, Las Vegas, NV 89114

March 28, 1986

(Date)

(Address)

OPERATOR Lone Mountain Production Co DATE 4-25-86

WELL NAME Federal 14-2

SEC NWNE 14 T 17S R 24E COUNTY Grand

43-019-31225
API NUMBER

Oil
TYPE OF LEASE

CHECK OFF:

PLAT

BOND

NEAREST WELL

LEASE

FIELD

POTASH OR OIL SHALE

PROCESSING COMMENTS:

Board approval - Cause 13-6
Need water permit
Water - Mack Co.

APPROVAL LETTER:

SPACING: 203 _____ UNIT

302

13-6 5/22/86
CAUSE NO. & DATE

302.1

STIPULATIONS:

Water



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

May 27, 1986

Lone Mountain Production Company
P. O. Box 3394
Billings, Montana 59103

Gentlemen:

Re: Well Name: Federal 14-2 - NW NE Sec. 14, T. 17S, R. 24E
1100' FNL, 1700' FEL - Grand County, Utah

Approval to drill the referenced well is hereby granted in accordance with the Interim Order of the Board of Oil, Gas and Mining in Cause No. 13-6 dated May 22, 1986.

In addition, the following actions are necessary to fully comply with this approval:

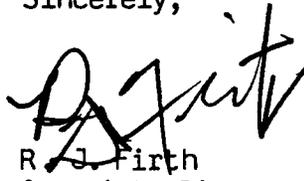
1. Spudding notification to the Division within 24 hours after drilling operations commence.
2. Submittal to the Division of completed Form OGC-8-X, Report of Water Encountered During Drilling.
3. Prompt notification to the Division should you determine that it is necessary to plug and abandon this well. Notify John R. Baza, Petroleum Engineer, (Office) (801) 538-5340, (Home) 298-7695, or R. J. Firth, Associate Director, (Home) 571-6068.
4. Compliance with the requirements and regulations of Rule 311.3, Associated Gas Flaring, Oil and Gas Conservation General Rules.
5. Prior to commencement of the proposed drilling operations, plans for toilet facilities and the disposal of sanitary waste at each drill site shall be submitted to the local health department having jurisdiction. Any such drilling operations and any subsequent well operations must be conducted in accordance with applicable State and local health department regulations. A list of all local health departments and copies of applicable regulations are available from the Division of Environmental Health, Bureau of General Sanitation, telephone (801) 533-6163.

Page 2
Lone Mountain Production Company
Well Name: Federal 14-2
May 27, 1986

6. This approval shall expire one (1) year after date of issuance unless substantial and continuous operation is underway or an application for an extension is made prior to the approval expiration date.

The API number assigned to this well is 43-019-31225.

Sincerely,



R. J. Firth
Associate Director, Oil & Gas

as
Enclosures
cc: Branch of Fluid Minerals
D. R. Nielson

8159T

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Rec'd MDO APR 14 1986
Form approved.
Budget Bureau No. 1004-0136
Expires August 31, 1985

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
 Lone Mountain Production Company

3. ADDRESS OF OPERATOR
 P.O. Box 3394, 408 Petroleum Building, Billings, MT 59103

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
 At surface
 1100' FNL, 1700' FEL
 At proposed prod. zone
 Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
 20 miles northwest of Mack, Colorado

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) 1100'

16. NO. OF ACRES IN LEASE 320

17. NO. OF ACRES ASSIGNED TO THIS WELL 160

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. 2509'

19. PROPOSED DEPTH 4850

20. ROTARY OR CABLE TOOLS
 Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
 5908 GL, 5919 KB

22. APPROX. DATE WORK WILL START*
 May 17, 1986

5. LEASE DESIGNATION AND SERIAL NO.
 SL-071172

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
 Federal

9. WELL NO.
 14-2

10. FIELD AND POOL, OR WILDCAT
 Undesignated

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
 NW $\frac{1}{4}$ NE $\frac{1}{4}$ Sec. 14-T17S-R24E S.L.M.

12. COUNTY OR PARISH **13. STATE**
 Grand Utah

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" new	32.30 L.S. STC	800'	100 sacks "G" plus 200 sacks lite
7-7/8"	4-1/2" new	10.5# J-55 STC	4850'	175 sacks RFC

RECEIVED
 JUN 02 1986

DIVISION OF
 OIL, GAS & MINING

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 James D. Rontson TITLE Petroleum Engineer DATE April 10, 1986

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY Kenneth V. Rhee TITLE Acting DISTRICT MANAGER DATE 29 MAY 1986

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

CONDITIONS OF APPROVAL ATTACHED

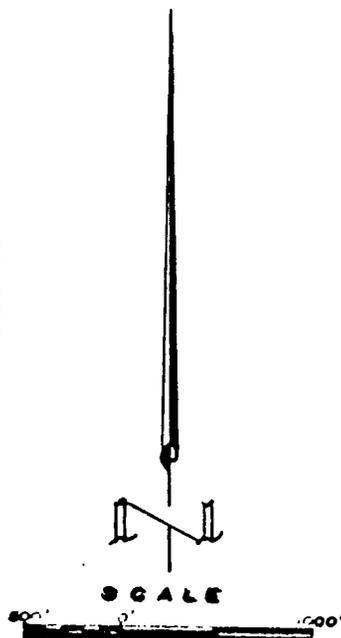
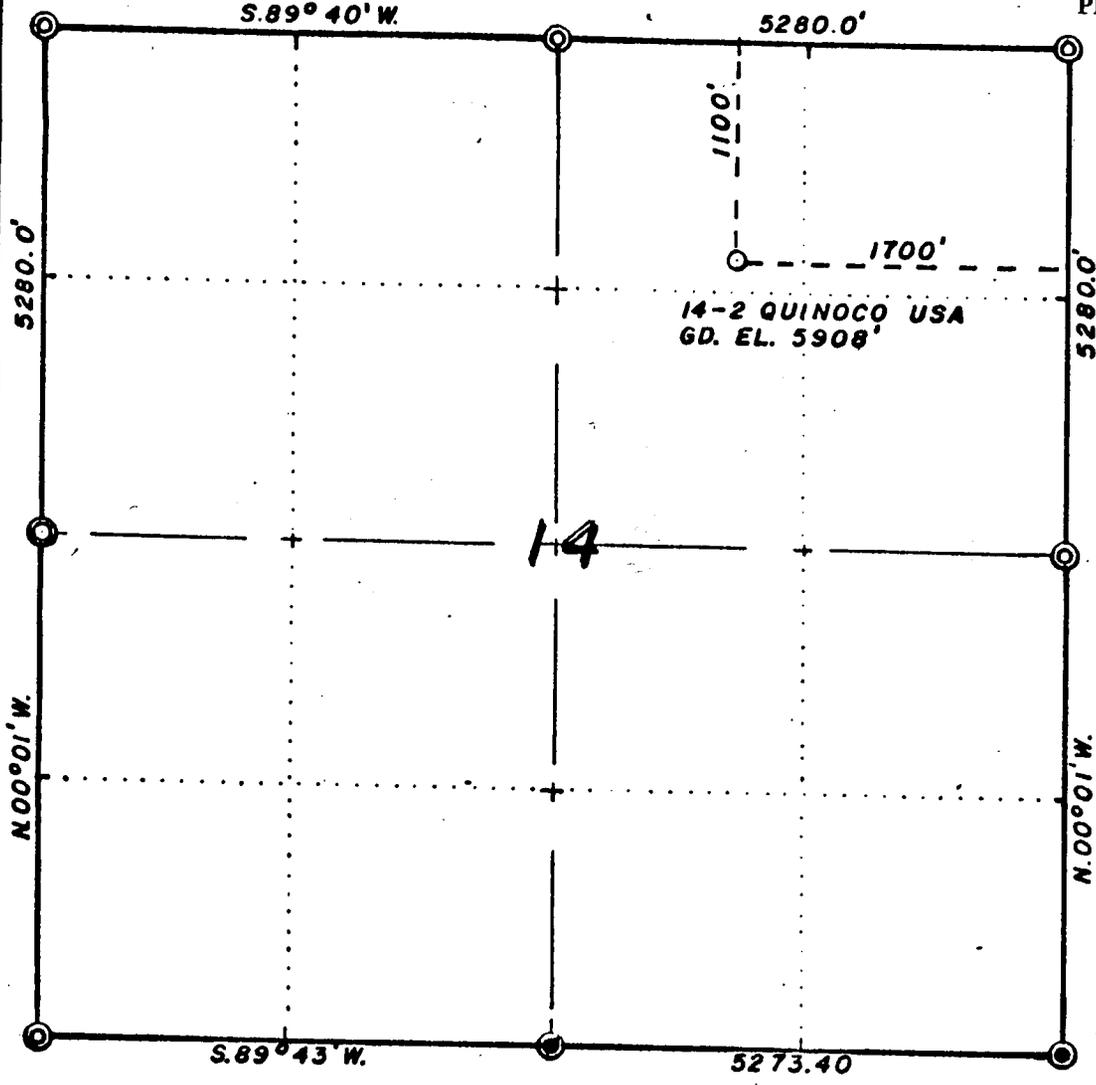
SUBJECT TO RIGHT OF WAY
 APPROVAL

*See Instructions On Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

SEC. 14, T. 17S., R. 24E. OF THE S.L.B. & M.

PLAT NO. 1



- LEGEND**
- ⊙ STANDARD LOCATION OF OLD SECTION CORNERS
 - OLD CORNERS FOUND
 - WELL LOCATION STAKED.
- REFERENCE DOCUMENTS**
- 1927 GLO PLAT
 - BRYSON CANYON QUADRANGLE, USGS

THIS WELL LOCATION PLAT WAS PREPARED FOR LONE MOUNTAIN PRODUCTION TO LOCATE THE 14-2 QUINOCO USA, 1100' F.N. L. & 1700' F.E. L. IN THE NW 1/4 NE 1/4, OF SECTION 14, T. 17S., R. 24E. OF THE S.L.B.M. GRAND COUNTY, UTAH

RECEIVED
JUN 02 1986

DIVISION OF
OIL, GAS & MINING

SURVEYOR'S CERTIFICATE

I, LARRY D. BECKER A REGISTERED LAND SURVEYOR IN THE STATE OF UTAH DO HEREBY CERTIFY THAT THIS SURVEY WAS MADE UNDER MY DIRECT SUPERVISION AND THAT THIS PLAT REPRESENTS SAID SURVEY.

Larry D. Becker

SURVEYED	3-19-86
DRAWN	3-23-86
CHECKED	3-23-86

ENERGY SURVEYS & ENGINEERING CORP.

715 HORIZON DRIVE, SUITE 300
GRAND JUNCTION, CO 81501
(303) 248-7881

SCALE 1" = 1000'
JOB NO
SHEET 01

Lone Mountain Production Company
Well No. Federal 14-2
Sec. 14, T. 17 S., R. 24 E.
Lease SL-071172

RECEIVED
JUL 02 1986

CONDITIONS OF APPROVAL

DIVISION OF
OIL, GAS & MINING

A. DRILLING PROGRAM

Cement will be circulated to surface on surface casing.

All lease operations will be conducted in full compliance with applicable regulations (43 CFR 3100), Onshore Oil and Gas Order 1, and the approved plan of operations. The operator is fully responsible for the actions of his subcontractors. A copy of these conditions and the approved plan will be made available to the field representative to insure compliance.

No location will be constructed or moved, no well will be plugged, and no drilling or workover equipment will be removed from a well to be placed in a suspended status without prior approval of the District Office. If operations are to be suspended, prior approval of the District Office will be obtained and notification given before resumption of operations.

The spud date will be reported orally to the District Office within a minimum of 24 hours prior to spudding. Written notification in the form of a Sundry Notice (Form 3160-5) will be submitted to the District Office within 24 hours after spudding. If the spudding occurs on a weekend or holiday, the written report will be submitted on the following regular work day.

In accordance with Onshore Order No. 1 this well will be reported on Form 3160-6, "Monthly Report of Operations", starting with the month in which operations commence and continued each month until the well is plugged and abandoned. This report will be sent to the District Office, P.O. Box 970, Moab, Utah 84532.

Immediate Report: Spills, blowouts, fires, leaks, accident, or any other unusual occurrences shall be promptly reported to the Area Office in accordance with requirements of NTL-3A.

If a replacement rig is needed for completion operations, A Sundry Notice (Form 3160-5) to that effect will be filed for prior approval from the District Office, and all conditions of this approved plan are applicable during all operations conducted with the replacement rig. In emergency situations verbal approval to bring on a replacement rig will be approved through the District Office.

Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (Form 3160-4) will be submitted to the District Office not later than thirty (30) days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3164. Two copies of all logs, core descriptions, core analyses, well test data, geologic summaries, sample description, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, will be filed with Form 3160-4. Samples (cuttings, fluids, and/or gases) will be submitted when requested by the Moab District Manager.

If the well is to be completed for production the Area Office is to be contacted in order to set up a pre-production conference. When the well is placed in a producing status the District Office is to be notified by telegram or other written communication within five working days.

Approval to vent/flare gas during initial well evaluation will be obtained from the District Office. This preliminary approval will not exceed 30 days. Approval to vent/flare beyond this initial test period will require District Office approval pursuant to guidelines in NTL-4A.

No well abandonment operation will be commenced without the prior approval of the District Office. In the case of newly-drilled dry holes or failures, and in emergency situations, oral approval will be obtained from the District Office. A Subsequent Report of Abandonment (Form 3160-5) will be sent to the District Office within 30 days following completion of the well for abandonment. This report will indicate where plugs were placed and the current status of surface restoration. Final abandonment will not be approved until the surface reclamation work required by the approved APD or approved abandonment notice has been completed to the satisfaction of the Area Office, or the appropriate surface managing agency. Upon completion of approved plugging, a dry hole marker will be erected in accordance with 43 CFR 3162.6. The top of the marker will be closed or capped. The following minimum information will be permanently placed on the marker; "Fed" or "Ind", as applicable, "Lease number", "Well number", location of well by 1/41/4 section, township, and range.

B. SURFACE USE PROGRAM

The operator will contact the Grand Resource Area at (801) 259-8193, forty-eight (48) hours prior to beginning any dirt work on this location.

Surface disturbance and vehicular travel will be limited to the approved location and access road. Any additional area needed will be approved by the Area Manager in advance.

The access road will be rehabilitated or brought to Resource (Class III) Road Standards within sixty (60) days of dismantling of the drilling rig. If this time frame cannot be met, the Area Manager will be notified so that temporary drainage control can be installed along the access road.

Immediately upon completion of drilling, the location, and surrounding areas will be cleared of all remaining debris, materials, trash, and junk not required for production.

Produced waste water will be confined to a (lined/unlined) pit for a period not to exceed ninety (90) days after initial production. During the ninety (90) day period, an application for approval of a permanent disposal method and location, along with the required water analysis, will be submitted for the District Manager's approval pursuant to Onshore Oil and Gas Order No. 3 (NTL-2B).

All site security guidelines identified in 43 CFR 3162.7 regulations will be adhered to.

All off-lease storage, off-lease measurement, or commingling on-lease or off-lease will have prior written approval from the District Manager.

Gas meter runs for each well will be located within five hundred (500) feet of the wellhead. The gas flowline will be buried from the wellhead to the meter along with any other sections occurring on the pad. Meter runs will be housed and/or fenced.

The oil and gas measurement facilities will be installed on the well location. The oil and gas meters will be calibrated in place prior to any deliveries. Tests for meter accuracy will be conducted monthly for the first three (3) months on new meter installations and at least quarterly thereafter. The Area Manager will be provided with a date and time for the initial meter calibration and all future meter-proving schedules. A copy of the meter calibration reports will be submitted to the Resource Area Office. All meter measurement facilities will conform with the API standards for liquid hydrocarbons and the AGA standard for natural gas measurement.

All permanent (onsite for six (6) months or longer) structures constructed or installed (including oil well pump jacks) will be painted a flat, nonreflective, earth tone color to match the standard environmental colors, as determined by the Rocky Mountain Five State Interagency Committee. All facilities will be painted within six (6) months of installation. Facilities required to comply with the Occupational Safety and Health Act (OSHA) may be excluded. Colors will be as follows:

Juniper Green

The operator or his contractor will notify the Grand Resource Area at (801) 259-8193 forty-eight (48) hours before starting reclamation work that involves earthmoving equipment and upon completion of restoration measures.

Prior to reseeding, all disturbed areas, including the access roads, will be scarified and left with a rough surface.

The following seed mixture will be used:

<u>Species</u>		<u>lbs/acre</u>
<u>Grasses</u>		
Agropyron spicatum	Bluebunch wheatgrass	2
Agropyron cristatum	Crested wheatgrass (Fairway crested wheatgrass)	1
Oryzopsis hymenoides	Indian ricegrass	1
<u>Forbs</u>		
Achillea millefolium	Western Yarrow	1
Medicago sativa	Alfalfa (Spreador II, Nomad, Ladak)	1
<u>Shrubs</u>		
Purshia tridentata	Antelope bitterbrush	2
Atriplex canescens	Fourwing saltbush (White greasewood)	2
		10 lbs/acre

Broadcast seed will be applied at double the above rate.

Final location release will be issued when the seeding is shown to be successful (when perennial vegetation is established).

Your contact with the District Office is:

Greg Noble , Petroleum Engineer

Office Phone: (801)259-6111

Home Phone: (801)259-8811

District Address:

82 East Dogwood, P.O. Box 970
Moab, Utah 84532

Your contact with the Grand Resource Area Office is:

Jeff Robbins (Elmer Duncan)

Office Phone: (801)259-8193

Home Phone: (801)259-7964
(801)259-7060

Area Office Address:

Sand Flats Road, P.O. Box M
Moab, Utah 84532

DIVISION OF OIL, GAS AND MINING

SPODDING INFORMATION

API #43-019-31225

NAME OF COMPANY: LONE MOUNTAIN EXPLORATION

WELL NAME: FEDERAL 14-2

SECTION NW NE 14 TOWNSHIP 17S RANGE 24E COUNTY Grand

DRILLING CONTRACTOR _____

RIG # _____

SPODDED: DATE 6-7-86

TIME 11:30 PM

How _____

DRILLING WILL COMMENCE _____

REPORTED BY Jim Routsen

TELEPHONE # 406-245-5077

DATE 6-9-86 SIGNED B. Hughes

RECEIVED
JUN 19 1986

DIVISION OF
OIL, GAS & MINING

LONE MOUNTAIN PRODUCTION COMPANY

NO. 14-2 QUINOCO USA

NW $\frac{1}{4}$ /NE $\frac{1}{4}$ SECTION 14, T17S, R24E

GRAND COUNTY, UTAH

GEOLOGIC REPORT

BY

DAVE FERGESON

ROCKY MOUNTAIN GEO-ENGINEERING COMPANY

WELL SUMMARY

OPERATOR: LONE MOUNTAIN PRODUCTION COMPANY
WELL NAME: NO. 14-2 QUINOCO USA
LOCATION: NW $\frac{1}{4}$ /NE $\frac{1}{4}$ SECTION 14, T17S, R24E
1100' FNL - 1700' FEL
AREA: BRYSON CANYON GAS FIELD
COUNTY: GRAND
STATE: UTAH
ELEVATION: 5908' GL - 5919' KB
DRILLING ENGINEER: GLENN ROSS
WELLSITE GEOLOGY:
WELLSITE GEOLOGIST: ROCKY MOUNTAIN GEO-ENGINEERING COMPANY
DAVE FERGESON
SPUD DATE: 6/8/86
TOTAL DEPTH DATE: 6/12/86
CONTRACTOR: VECO DRILLING COMPANY
RIG NO.: RIG #2
TOOL PUSHER: DAVE SCHMALZ
HOLE SIZE: 12 $\frac{1}{4}$ " TO 810'; 7 7/8" TO T.D.
CASING RECORD: 9 5/8" SURFACE SET @ 800';
4 $\frac{1}{2}$ " PRODUCTION TO T. D.
DRILL COLLARS: 6 $\frac{1}{4}$ "
DRILL PIPE: 3 $\frac{1}{2}$ "
DRILLING MEDIUM: AIR
ELECTRIC LOGGING:
ENGINEER: GEARHART, VERNAL UTAH
DAVE GRENIER
OBJECTIVES: DAKOTA & MORRISON SANDS
TOTAL DEPTH: 4918' DRILLERS - 4911' LOGGERS
STATUS: RUN 4 $\frac{1}{2}$ " PRODUCTION PIPE TO T.D.

LONE MOUNTAIN PRODUCTION CO.
 NO. 14-2 QUINOCO USA
 NW¼/NE¼ SECTION 14-T17S-R24E
 GRAND COUNTY-UTAH

WELL CHRONOLOGY

1986 DATE	MDNT DEPTH	FTG/ DAY	DAILY OPERATIONS
6/11	1945	2288	DRLG AHEAD - GEOLOGIST ON LOCATION & RIGGED UP BY 4 PM - TOH TO CHG BIT @ 4109 - DRLG AHEAD @ 10 PM
6/12	4233	685	DRLG AHEAD - REACH TD @ 10 AM - WO LOGGERS - RUN E-LOGS
6/13	4918		RUNNING LOG - TELECOPY LOGS - GEOLOGIST RELEASED

BIT RECORD

RUN	SIZE	MAKE	TYPE	IN	FTG	HOURS	FT/HR
1	12 ¼		OSC3J	SPUD	612	14 ½	42.2
2	"	SEC	M4HT	612	198	11 ¼	17.6
3	7 7/8	SEC	S84F	810	3299	29	113.7
4	"	REED	HP53	4109	809	12	67.4

FLARE RECORD

DEPTH	LENGTH/ DURATION	COMMENTS	UNITS OF GAS
3184	5/10'/15 SEC	FLARE ON CONNECTIONS	---
4109	10-15/1½ MIN	AFTER TRIP TO CHANGE BIT	125 U
4595	15'/STEADY	DAKOTA SS - FLARED WHILE DRILLING	800 U

GAS PRESSURE TEST*

DEPTH	FORMATION	DURATION	ORIFICE	PRESSURE
4640	DAKOTA	15 MIN	½"	105 PSI

*NOTE: Flow rate approximately 620 MCF

LONE MOUNTAIN PRODUCTION CO.
 NO. 14-2 QUINOCO USA
 NW¼/NE¼ SECTION 14-T17S-R24E
 GRAND COUNTY, UTAH

FORMATION	FORMATION TOPS			
	PROJECTED TOP	SAMPLE TOP	ELECTRIC LOG TOPS	SUBSEA DATUM
MESA VERDE	SURFACE	----	----	----
CASTLEGATE	619	----	----	----
MANCOS	759	----	----	----
DAKOTA SILT	4299	4270	4276	+1643
DAKOTA	4389	4379	4355	+1564
MORRISON	4570	4596	4587	+1332
TOTAL DEPTH	4850	4918	4911	+1008

FORMATION	DEPTH	GAS SHOWS	
		GAS UNITS ABOVE BG	COMMENTS
DAKOTA	4451	40 U	INCR AFTER CONN @ 4451
DAKOTA	4587	725 U	INCR WHILE DRILLING

LONE MOUNTAIN PRODUCTION CO.
 NO. 14-2 QUINOCO USA
 NW $\frac{1}{4}$ /NE $\frac{1}{4}$ SECTION 14-T17S-R24E
 GRAND COUNTY, UTAH

SAMPLE DESCRIPTIONS

3980-4010	90%	SH dkgy slty blk mfrm sl calc
	10%	SLTST gy mfrm sl calc, VPS
4010-4040	90%	SH aa
	10%	SLTST aa
4040-4120	100%	SH dkgy slty blk mfrm, VPS
4120-4150	70%	SH aa
	30%	SLTST dkgy-gy drty mica & pyr ip mfrm
4150-4170	90%	SH dkgy slty blk pyr & mica ip mfrm
	10%	SLTST aa
4170-4230	60%	SH dkgy aa vslty drty
	40%	SLTST gy-dkgy vdrty pyr & mica ip occ glauc
	TR	CALC FRAGS clr-smky vrit sft
4230-4260	80%	SH aa
	20%	SLTST aa
	ABNT	CALC FRAGS aa
4260-4290	50%	SH dkgy vslty blk slcalc
	50%	SLTST dkgy-gy drty mica, pyr & glauc ip mfrm
	ABNT	CLAC FRAGS
4290-4320	40%	SH aa
	60%	SLTST aa
	ABNT	CALC FRAGS
4320-4350	60%	SLTST gy-dkgy mica, pyr & glauc incl ip drty
	40%	SH dkgy vslty blk mfrm
4350-4380	50%	SLTST aa
	50%	SH aa
4380-4410	80%	SLTST aa
	20%	SH aa
	TR	BENT wh-crm sft mica ip
4410-4440	50%	SLTST aa
	50%	SH aa
	ABNT	BENT w/mica incl
4440-4470	60%	SLTST aa
	30%	SH aa
	10%	SS wh-clr vf-mgr lse qtz grs sbrd cln
	ABNT	BENT & CALC FRAGS
4470-4500	TR	SS aa
	70%	SLTST gy-dkgy drty mica & glau ip mfrm
	30%	SH aa
	ABNT	BENT & CALC FRAGS
4500-4560	70%	SH vltblgrn sm frm brit w/SH dkgy slty blk occ vdkgy gsy
	20%	SLTST gy-dkgy drty mica, glau incl ip mfrm
	10%	SS clr-wh vf-fgr sbrd frstd ip lse qtz grs
4560-4590	60%	SH aa w/SH lttn sm brit occ v calc
	40%	SLTST aa
	ABNT	QTZ GRS aa
4590-4620	60%	SH aa
	30%	SLTST aa
	10%	SS wh-clr fgr sbrd-rd fri lse qtz grs

LONE MOUNTAIN PRODUCTION CO.
NO. 14-2 QUINOCO USA

SAMPLE DESCRIPTIONS CONT.

4620-4710	70%	SH ltpnk, vltblgrn, tn sm slty sft-mfrm
	30%	SLTST aa
	TR	SS clr fgr ang-sbang lse qtz grs
4710-4740	70%	SH var col aa
	30%	SLTST dkg drty aa
	ABNT	QTZ GRS lse clr aa
4740-4770	60%	SH var col
	20%	SLTST aa
	20%	SS wh-clr f-mgr ang-sbrd frstd ip lse qtz grs
4770-4800	70%	SH pred lt pnk vsft w/var col SH aa
	20%	SLTST aa
	10%	SS aa
4800-4830	50%	SH var col aa
	30%	SS wh-ltgy-clr vfgr m-slfrm sl calc w/SS aa
	20%	SLTST aa
4830-4860	50%	SH var col aa
	30%	SS vltgy vfgr s&p aa carb & drty ip occ glau fri w/lse qtz grs
	20%	SLTST aa
4860-4890	50%	SH pred dkg slty w/var col SH
	30%	SS aa grd g fgr s&p aa carb & drty ip occ glau fri w/lse qtz grs aa
	20%	SLTST dkg drty mfrm
4890-4918	60%	SH pred vltblgrn-tn-buff-ltpnk sm blk sft w/SH dkg slty aa
T.D.	20%	SLTST aa
	20%	SS aa

GEOLOGIC SUMMARY
AND
ZONES OF INTEREST

Line Mountain Production Company's No. 14-2 Quinoco USA, located in the NW $\frac{1}{4}$ of the NE $\frac{1}{4}$ of Section 14, T17S, R24E of Grand County, Utah, was spudded in the lower Mesa Verde Formation on June 8, 1986. A total depth of 4918' was reached on June 12, 1986 in the lower Morrison Formation. 9 5/8" surface casing was set at 800' with 4 $\frac{1}{2}$ " production casing being set after electric logs were completed. Primary objectives of this well were the Dakota and Morrison sands.

Geological coverage began at 3900' on June 11 and was completed on June 13 after completion of electric logging.

DAKOTA SILT (4276' - 4355')

The Dakota Silt consisted predominantly of gray-to-dark gray, dirty siltstones with inclusions of pyrite, mica and glauconite being common. No gas increases or flares were noted while drilling this section. Background gas averaged 60 units with an average drill rate of 2.8 minutes per 5 feet.

DAKOTA FM (4355' - 4587')

The upper Dakota was poorly developed and contained primarily gray-to-dark gray, dirty siltstones with thin stringers of bentonite. The first sand was encountered at 4435' and was approximately 27' thick, but it was generally poorly developed, dirty and tight. A porosity of approximately 12% was noted between 4447' and 4452' with just fair separation between neutron and density. A small increase in the hotwire reading was observed after a connection was made at 4451'. Lithology was predominantly a white-clear-light gray, very fine-to-medium grained sandstone with clay and calcite cement. Some portions were friable and porous, but most of the sand body appeared to be dirty and tight.

A second lower sand bed was encountered at 4573' and was approximately 14' thick. This was a cleaner sand and exhibited a 12%-13% porosity from 4380' to 4586' with fair separation between neutron and density lines. An increase of 725 units of gas over background was noted at 4587' which produced a 15' flare while drilling. Lithology was primarily a white-to-clear sandstone that was fine grained and rounded-to-subrounded.

A gas flow test was made at a depth of 4640' with a 2" flowline and a $\frac{1}{2}$ " orifice. After 15 minutes pressure had reached 105 psi, indicating a flow rate of approximately 620 mcf/day. No water flow problems occurred during or after drilling these sands.

MORRISON FM (4587' - T. D.)

The Morrison Formation was composed mainly of variable colored, silty and smooth shales with some interbedded, white-to-light gray sandstones. A sand encountered at 4802' with a thickness of 17' showed some gas effect between 4809' and 4818' with a porosity of 13% in the upper 5' of that zone. Good separation between neutron and density lines was also noted. No increases in flare size or any significant change in the hotwire reading was observed while this sand was drilled. The sandstone was white-to-light gray, very fine grained and slightly calcitic. Background gas readings averaged about 800 units with an average drill rate of 3-6 minutes/5' and was erratic.

LONE MOUNTAIN PRODUCTION CO.
NO. 14-2 QUINOCO USA
GEOLOGIC SUMMARY CONTINUED

Drilling operations were completed on the 14-2 Quinoco USA at a depth of 4918. At total depth of 4918' a 15' steady flare was observed with a hot-wire reading of 840 units.

SAMPLES

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING
4241 State Office Building
Salt Lake City, UT 84114

RECEIVED
JUN 20 1980

DIVISION OF
OIL, GAS & MINING

REPORT OF WATER ENCOUNTERED DURING DRILLING

Well Name & Number No. 14-2 Quinoco USA

Operator Lone Mountain Production Company Address P.O. Box 3394, Billings, MT 59103

Contractor Veco Drilling, Inc. Address P.O. Box 1705, Grand Junction, CO 81502

Location NW 1/4 NE 1/4 Sec. 14 T. 17S R. 24E County Grand

Water Sands

<u>Depth</u>		<u>Volume</u>	<u>Quality</u>
From	To	Flow Rate or Head	Fresh or Salty
1.	<u>No measurable water encountered. Several damp sands 500'-700'.</u>		
2.	<u></u>		
3.	<u></u>		
4.	<u></u>		
5.	<u></u>		

(Continue on reverse side if necessary)

<u>Formation Tops</u>	Castlegate:	719
	Dakota Silt:	4277
	Dakota Sand:	4366
<u>Remarks</u>	Morrison Sand:	4588
	Salt Wash:	4800

- NOTE: (a) Report on this form as provided for in Rule C-20, General Rules and Regulations and Rules of Practice and Procedure.
- (b) If a water analysis has been made of the above reported zone, please forward a copy along with this form.

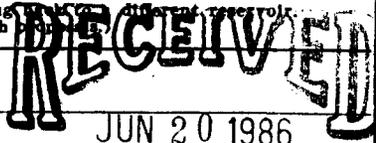
**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

SUBMIT IN TRIPLICATE*
(Other instructions
verse side)

Budget Bureau No. 1004-0135
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

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



1. <input type="checkbox"/> OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER		5. LEASE DESIGNATION AND SERIAL NO. SL-071172
2. NAME OF OPERATOR LONE MOUNTAIN PRODUCTION COMPANY		6. IF INDIAN, ALLOTTEE OR TRIBE NAME
3. ADDRESS OF OPERATOR P.O. Box 3394, 408 Petroleum Bldg., BOULDER, CO 80503		7. UNIT AGREEMENT NAME
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 1100 FNL, 1700 FEL		8. FARM OR LEASE NAME Federal
14. PERMIT NO. 43-019-31225		9. WELL NO. 14-2
15. ELEVATIONS (Show whether DF, RT, GR, etc.) 5908 GL, 5919 KB		10. FIELD AND POOL, OR WILDCAT Bryson Canyon
		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA NW/4 NE/4 Sec. 14-T17S-R24E
		12. COUNTY OR PARISH Grand
		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 <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>Status Report</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.)*

Drilled 12-1/4" hole to 810'. Ran 9-5/8", 36#, J-55 casing to 802'. Cemented with 200 sx B-J Lite and 100 sx class G, 2% CaCl₂, 1/4# celloflake/sack. Good cement to surface.

Drilled 7-7/8" hole to 4919', encountered 660 MCFD gas at 4595 in lower Dakota. Ran 4-1/2", 10.5#, J-55, casing to 4906'. Cemented with 200 sx 10-0 thixotropic cement, 1/4# celloflake/sack. Rig released at 2:00 A.M., 6/14/86.

Log tops:

Castlegate	719
Mancos	920
Dakota Silt	4277
Dakota Sand	4366
Morrison	4588

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

SIGNED Jama R. Penton TITLE Petroleum Engineer DATE 6/17/86

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLIC.

(See other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0137
Expires August 31, 1985

5. LEASE DESIGNATION AND SERIAL NO.

SL-071172

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Federal

9. WELL NO.

No. 14-2 Quinoco USA

10. FIELD AND POOL, OR WILDCAT

Bryson Canyon

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

NW 1/4 NE 1/4

Sec. 14-T17S-R24E SLBM

12. COUNTY OR PARISH

Grand

13. STATE

Utah

WELL COMPLETION OR RECOMPLETION

1a. TYPE OF WELL: OIL WELL GAS WELL DRY OTHER

b. TYPE OF COMPLETION: NEW WELL WORK OVER DEEP-EN PLUG BACK DIFF. RENVR. Other

071107
RECEIVED
JUL 10 1986

2. NAME OF OPERATOR
LONE MOUNTAIN PRODUCTION COMPANY

DIVISION OF
OIL, GAS & MINING

3. ADDRESS OF OPERATOR
P.O. Box 3394, 408 Petroleum Bldg., Billings, MT 59103

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

At surface
1100' FNL, 1700' FEL

At top prod. interval reported below

At total depth
Same
Same

14. PERMIT NO. 43-019-31225
DATE ISSUED 5/27/86

15. DATE SPUDDED 6/7/86
16. DATE T.D. REACHED 6/12/86
17. DATE COMPL. (Ready to prod.) 7/8/86
18. ELEVATIONS (DF, RKB, RT, GR, ETC.)* 5908 GL 5919 KB
19. ELEV. CASINGHEAD 5909

20. TOTAL DEPTH, MD & TVD 4919
21. PLUG, BACK T.D., MD & TVD 4865
22. IF MULTIPLE COMPL., HOW MANY* --
23. INTERVALS DRILLED BY → 0-TD
ROTARY TOOLS
CABLE TOOLS
None

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*
Dakota 4436-4464, 4574-4588
Morrison 4808-4818
25. WAS DIRECTIONAL SURVEY MADE
No

26. TYPE ELECTRIC AND OTHER LOGS RUN
GR-FDC-CNL, DIL, GR-CBL-VDL *mech*
27. WAS WELL CORRED
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#, J-55	802	12 1/4"	300 sacks (to surface)	None
4-1/2"	10.5#, J-55	4906	7-7/8"	200 sacks (Top at 3850')	None

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
None					2-3/8"	4798	None

30. TUBING RECORD

31. PERFORATION RECORD (Interval, size and number)

4448, 4454, 4459, 4462, 4578, 4586, 4810, 4814; 8 holes total

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

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
4448 - 4814	Acidized with 600 gallons 15% HCl
4448 - 4814	Fract with 20,000# 100 mesh sand, 80,000# 20-40 sand, 538 bbls. 5% HCl, 1.6 MMSCF Nitrogen

33. PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)	WELL STATUS (Producing or shut-in)					
6/29/86	Flowing	Shut in					
DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
7/8/86	20	3/4"	→	---	738	---	---
FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)	
59 psig	250 psig	→	---	886	---	---	

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

35. LIST OF ATTACHMENTS
None

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

SIGNED James L. Rentsch TITLE Petroleum Engineer DATE 7/8/86

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

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.	NAME	TOP	
					MEAS. DEPTH	TRUE VERT. DEPTH
Dakota	4436	4464	Gas	Castlegate	719	+5200
Dakota	4574	4588	Gas	Mancos	920	+4999
Morrison	4808	4818	Gas	Dakota Silt	4277	+1642
(Salt Wash Member)				Dakota Sand	4366	+1553
				Morrison	4588	+1331
				Salt Wash (Member of Morrison)	4800	+1119

38. GEOLOGIC MARKERS

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPPLICATE
(Other instructions on reverse side)

Budget Bureau No. 1004-0135
Expires August 31, 1985

110305

5. LEASE DESIGNATION AND SERIAL NO. **SL-071172**

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME **Federal**

9. WELL NO. **14-2**

10. FIELD AND POOL, OR WILDCAT **Bryson Canyon**

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA **NW 1/4 NE 1/4**

12. COUNTY OR PARISH **Sec. 14-T17S-R24E** 13. STATE

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 **LONE MOUNTAIN PRODUCTION COMPANY**

3. ADDRESS OF OPERATOR **P.O. Box 3394, 408 Petroleum Bldg., Billings, Mt 59103**

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.)
At surface **1100' FNL, 1700' FEL**

14. PERMIT NO. **43-019-31225** 15. ELEVATIONS (Show whether DF, RT, OR, etc.) **5908 GL, 5919 KB**

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) Status Report <input checked="" 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.)

Shut in--waiting on pipeline.



DIVISION OF OIL, GAS & MINING

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

SIGNED James D. Bunker TITLE Petroleum Engineer DATE 10/29/86

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPlicate
(Other instructions
verse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

5. LEASE DESIGNATION AND SERIAL NO.
SL-071172 121079
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.)

1. OIL WELL GAS WELL OTHER

7. UNIT AGREEMENT NAME

2. NAME OF OPERATOR
LONE MOUNTAIN PRODUCTION COMPANY

8. FARM OR LEASE NAME

3. ADDRESS OF OPERATOR
P.O. Box 3394, 408 Petroleum Bldg., Billings, Mt 59103

Federal

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)
At surface
1100' FNL, 1700' FEL

9. WELL NO.

14-2

10. FIELD AND POOL, OR WILDCAT

Bryson Canyon

11. SEC., T., E., W., OR BLK. AND SURVEY OR AREA

NW 1/4 NE 1/4

Sec. 14-T17S-R24E

14. PERMIT NO.
43-019-31225

15. ELEVATIONS (Show whether DF, RT, OR, etc.)
5908 GL, 5919 KB

12. COUNTY OR PARISH

13. STATE

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) Status Report

(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.)*

Shut in--waiting on pipeline.

RECEIVED
DEC 05 1986

DIVISION OF
OIL, GAS & MINING

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

SIGNED James W. Runtan

TITLE Petroleum Engineer

DATE 12/3/86

(This space for Federal or State office use)

APPROVED BY _____
CONDITIONS OF APPROVAL, IF ANY:

TITLE _____

DATE _____

*See Instructions on Reverse Side

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPPLICATE
(Other instructions on
reverse side)

Form approved
Budget Bureau No. 1004-0135
Expires August 31, 1985

5. LEASE DESIGNATION AND SERIAL NO.

SL-071172 121614

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Federal

9. WELL NO.

14-2

10. FIELD AND POOL, OR WILDCAT

Bryson Canyon

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

NW 1/4 NE 1/4

Sec. 14-T17S-R24E

12. COUNTY OR PARISH 13. STATE

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
LONE MOUNTAIN PRODUCTION COMPANY

3. ADDRESS OF OPERATOR
P.O. Box 3394, 408 Petroleum Bldg., Billings, Mt 59103

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)
At surface
1100' FNL, 1700' FEL

14. PERMIT NO.
43-019-31225

15. ELEVATIONS (Show whether DF, RT, OR, etc.)
5908 GL, 5919 KB

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>
(Other) Notice of first delivery <input checked="" type="checkbox"/>	

SUBSEQUENT REPORT OF:

WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input 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.)*

First delivered to Mesa Pipeline 12/10/86 at 10:40 A.M. Verbal notification phoned to Steve Jones, BLM, Moab District Office at 11:00 A.M. 12/10/86.

RECEIVED
DEC 15 1986

DIVISION OF
OIL, GAS & MINING

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

SIGNED James J. Rounton TITLE Petroleum Engineer DATE 12/12/86

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side