

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

300

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

b. TYPE OF WELL

OIL  
WELL ☐

GAS  
WELL ☒

OTHER

SINGLE  
ZONE ☒

MULTIPLE  
ZONE ☐

2. NAME OF OPERATOR

LOUIS DREYFUS NATURAL GAS CORPORATION

3. ADDRESS AND TELEPHONE NO.

14000 Quail Spgs. Pkwy., Suite 600, Oklahoma City, OK 73134 (505) 885-1313

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

At surface  
660' FNL & 1650' FWL Sec. 31, T-20S, R-34E Lea Co. NM

At proposed prod. zone  
Same as above

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*

Approximately 22 miles west of Hobbs, NM

15. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST  
PROPERTY OR LEASE LINE, FT.  
(Also to nearest drlg. unit line, if any) 660'

16. NO. OF ACRES IN LEASE

640

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

320

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

None

19. PROPOSED DEPTH

14,100'

20. ROTARY OR CABLE TOOLS

Rotary

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

3,694' GR

22. APPROX. DATE WORK WILL START\*

Before March 3, 1999

23.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
25"	Conductor 20"	NA	40'	Cement to surface w/Redi-Mix
17 1/2"	J-55 13 3/8"	54.5 J-55	1300'	996 sx. Circulate to surface
12 1/4"	K-55 9 5/8"	40# N-80 J-55	5800'	2452 sx. Circulate to surface
8 3/4"	S-95 5 1/2"	20#, 17# & 15.5# N80	14,100'	1325 sx. in 2 stages

1. Drill a 26" hole to 40'. Set 40' of 20" conductor pipe and cement to surface w/Redi-Mix.
2. Drill a 17 1/2" hole to 1300'. Run & set 1300' of 13 3/8" 54.5# J-55 csg and circulate cement to surface w/996 sx of 35-65 POZ: Class "C" w/additives.
3. Drill a 12 1/4" hole to 5800'. Run and set 5800' of 9 5/8" 40# J-55 csg and circulate cement to surface w/2452 sx of 35-65 POZ: Class "C" w/additives.
4. Drill an 8 3/4" hole to TD @ 14,100'. Run and set 14,100' of 5 1/2" 15.5#, 17# & 20# N-80 csg with a stage collar @ 8,000'. Pump 789 sx of Class "H" cement w/additives. Est. TOC on first stage @ 11,100'. Cement second stage w/536 sx of 35-65 POZ: Class "H" w/additives. Est. TOC on second stage @ 5300'.
5. Should abnormal gas pressure be found before T.D., 7" casing will be run & cemented in place.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, give data on present productivity, deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout

24.

SIGNED

*Gene Simur*

TITLE Dist. Operations Manager

DATE

1-27-99

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

CONDITIONS OF APPROVAL, IF ANY:

APPROVED BY

*/s/ Richard A. Whitley*

TITLE

*ASSISTANT STATE DIRECTOR*

DATE

2-23-99

\*See Instructions On Reverse Side

RECEIVED

JAN 28 '89

BLM  
ROSEWELL, NM

DISTRICT I  
P.O. Box 1920, Hobbs, NM 88241-1980

DISTRICT II  
P.O. Drawer DD, Artesia, NM 88211-0719

DISTRICT III  
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV  
P.O. BOX 2088, SANTA FE, N.M. 87504-2088

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-102  
Revised February 10, 1994  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

## OIL CONSERVATION DIVISION

P.O. Box 2088  
Santa Fe, New Mexico 87504-2088

☐ AMENDED REPORT

### WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number <u>30-025-34581</u>	Pool Code <u>80850</u>	Pool Name <u>Lynch, Morrow, West</u>
Property Code <u>24272</u>	Property Name <u>TOPAZ, FEDERAL 3+</u>	Well Number
OGRID No. <u>25773</u>	Operator Name <u>LOUIS DREYFUS NATURAL GAS CORP.</u>	Elevation <u>3694'</u>

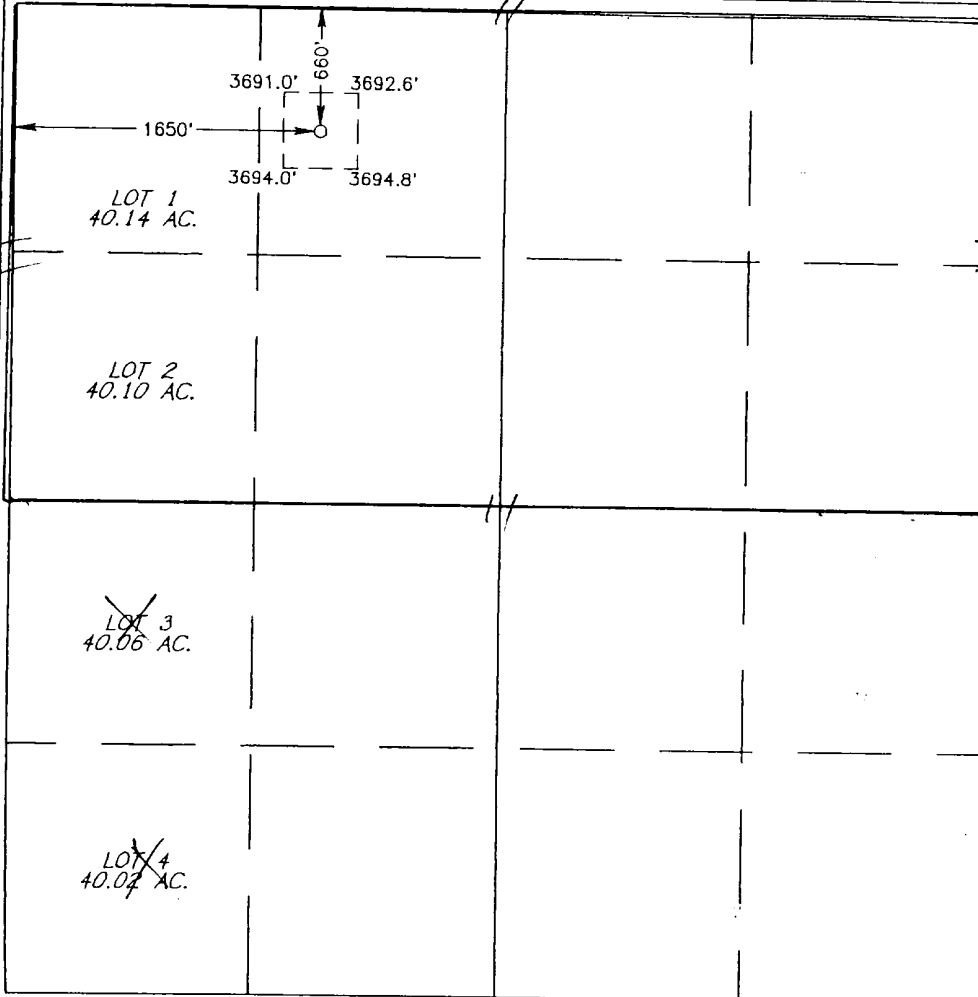
#### Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	31	20 S	34 E		660	NORTH	1650	WEST	LEA

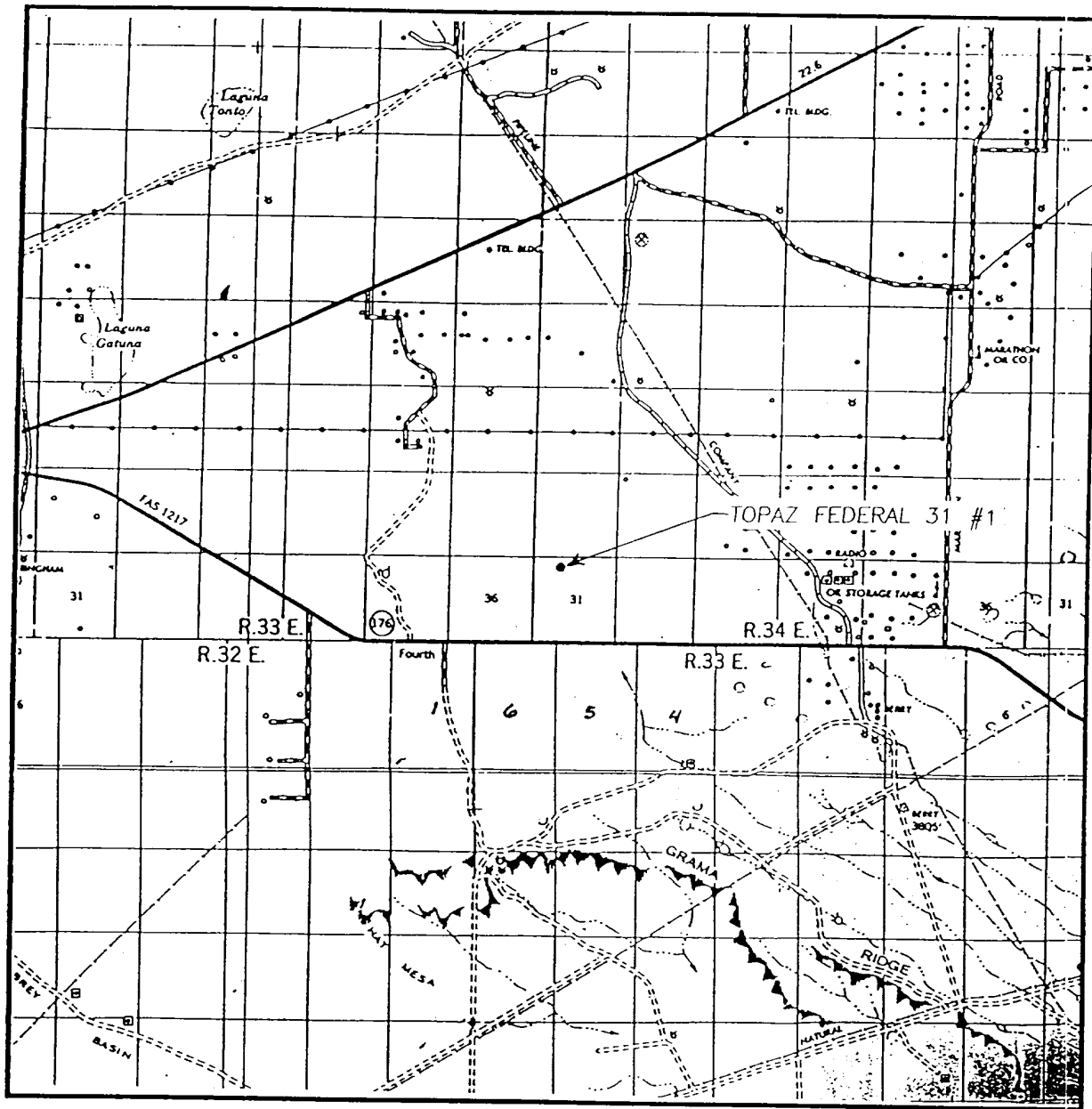
#### Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres <u>320</u>	Joint or Infill	Consolidation Code	Order No.						

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	<h4>OPERATOR CERTIFICATION</h4> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><u>Gene Simer</u> Signature</p> <p>Gene Simer Printed Name</p> <p>Dist. Operations Manager Title</p> <p>January 26, 1999 Date</p> <h4>SURVEYOR CERTIFICATION</h4> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision and that the same is true and correct to the best of my belief.</p> <p>JANUARY 11, 1999</p> <p>Date Surveyed</p> <p>Signature &amp; Seal of Professional Surveyor <u>Ronald J. Eidson</u> Professional Surveyor</p> <p>CDG</p> <p>1-12-99</p> <p>RONALD J. EIDSON 3239 EIDSON 12641</p>
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# VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 31 TWP. 20-S RGE. 34-E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 660' FNL & 1650' FWL

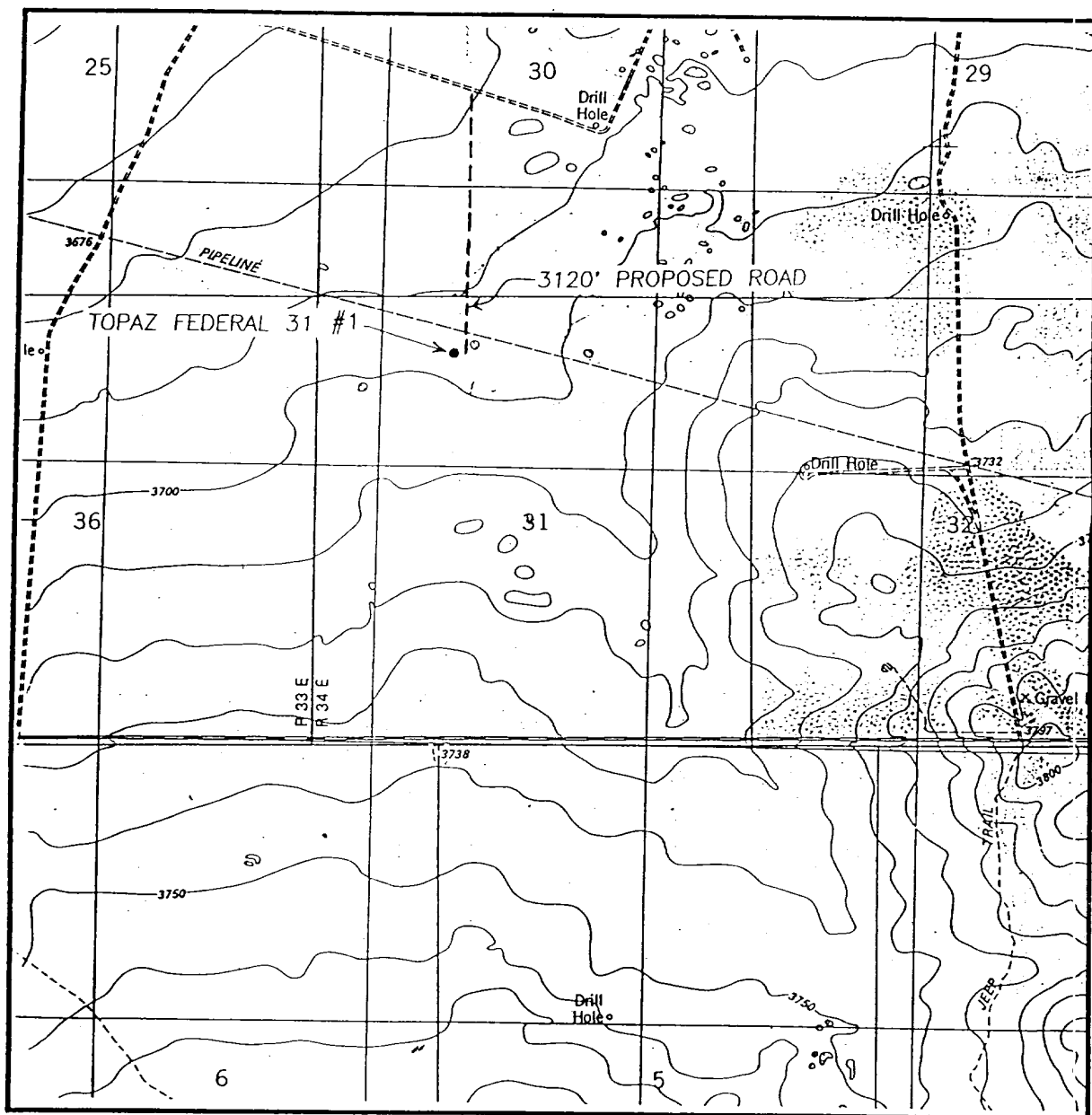
ELEVATION 3694'

OPERATOR LOUIS DREYFUS NATURAL GAS CORP.

LEASE TOPAZ FEDERAL 31

**JOHN WEST SURVEYING CO.**  
**HOBBS, NEW MEXICO**  
**(505) 393-3117**

# LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL - 10'

SEC. 31 TWP. 20-S RGE. 34-E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 660' FNL & 1650' FWL

ELEVATION 3694'

OPERATOR LOUIS DREYFUS NATURAL GAS CORP.

LEASE TOPAZ FEDERAL 31

U.S.G.S. TOPOGRAPHIC MAP

LEA, NM

**JOHN WEST SURVEYING CO.**  
**HOBBS, NEW MEXICO**  
**(505) 393-3117**

## APPLICATION TO DRILL

**LOUIS DREYFUS NATURAL GAS CORP.**  
**TOPAZ "31" FEDERAL #1**  
**660' FNL & 1650' FWL**  
**Sec. 31-T20S-R34E**  
**Lea Co., NM**

In response to questions asked under Section IIB of Bulletin NTL-6, the following information is provided for your consideration:

1. Location: 660' FNL & 1650' FWL; Sec. 31-T20S-R34E; Lea Co., NM
2. Elevation above sea level: 3694' GR
3. Geological name of surface formation: Quaternary
4. Drilling tools and associated equipment: Conventional rotary drilling rig using fluid as a circulating medium for solids removal.
5. Proposed drilling depth: 14,100'
6. Estimated tops of geological markers:

Yates	3300	Atoka	12875
Delaware	5800	Atoka/Morrow Lime	13075
Bone Spring	8700	Morrow Clastics	13400
Wolfcamp	11350	Middle Morrow	13550
Strawn	12675	Lower Morrow	13875
		Total Depth:	14,100'
7. Possible mineral bearing formation:

Yates	oil	Atoka	gas
Delaware	oil	Atoka/Morrow Lime	gas
Bone Spring	oil	Morrow Clastics	gas
Wolfcamp	gas	Middle Morrow	gas
Strawn	gas	Lower Morrow	gas
8. Casing Program:

<u>Hole Size</u>	<u>Interval</u>	<u>OD Casing</u>	<u>Weight</u>	<u>Collar</u>	<u>Grade</u>	<u>Cond.</u>
25"	0-40'	Conductor wall thickness .3"				
17.5"	0-1300'	13 3/8"	54.5#	8-RD	ST&C	New
12 1/4"	0-5800'	9 5/8"	40#	8-RD	LT&C	New
8 3/4"	0-14,100'	5 1/2"	20,17,15.5#	8-RD	LT&C	New
9. CASING CEMENT & SETTING DEPTHS:

20" Conductor	Set 40' of 20" Conductor and cement to surface with Redi-Mix
13 3/8" Surface	Set 1300' of 13 3/8" 54.4# J-55 casing. Cement w/700 sx of 35:65 POZ Class "C" with additives. Tail in w/295 sx Class "C" with additives.
9 5/8" Intermediate	Set 5800' of 40# N-80 casing. Cement with 1850 sx of 35:65 POZ Class "C" with additives. Tail in w/600 sx Class "C" with additives.
5 1/2" Production	Set 14,100' of 20#, 17#, 15.5# N-80 casing. Cement in 2 stages. 1st stage cement: 790 sx of Class "H" + additives. Est TOC @ 11,100'. Second stage cement: Lead-345 sx of 35:65 POZ Class "H" + additives. Tail in w/190 sx Class "H" neat.

## APPLICATION TO DRILL

### LOUIS DREYFUS NATURAL GAS CORP.

#### TOPAZ "31" FEDERAL #1

660' FNL & 1650' FWL

Sec. 31-T20S-R34E

Lea Co., NM

10. PRESSURE CONTROL EQUIPMENT: Blow out Preventors consisting of double ram type preventor with bag type annular preventor will be used. Units will be hydraulically operated. Blind rams on top and pipe rams to correspond to the size drill pipe being used. A 3000 PSI working pressure BOP will be nipped up on 13 3/8" casing from 1300' to 5800'. A 5000 PSI working pressure BOP will be nipped up on 9 5/8" casing from 5800' to TD. See attached exhibits. BOP's will be worked at least once each day and blind rams will be worked when drill pipe is out of hole on trips. Flow sensor PVT, full opening stabbing valve and upper kelly cock will be utilized.

11. PROPOSED MUD CIRCULATING SYSTEM:

<u>DEPTH</u>	<u>MUD WT.</u>	<u>MUD VISC.</u>	<u>FLUID LOSS</u>	<u>TYPE MUD</u>
40'-1300'	8.4-9.8 PPG	38-48 sec/ltr	N/C	Fresh water spud mud with paper for seepage.
1300-5800'	9.9-10.1 PPG	28-29 sec/ltr	N/C	Brine water with caustic soda, paper, bentonite & Maxi-seal.
5800'-14100'	9.9-11.1 PPG	29-48 sec/ltr	12-6 cc	Brine water with soda ash, defoamer, calcium carbonate, KCL & polymer.

Sufficient mud materials to maintain mud properties, meet lost circulation and weight increase requirements will be kept at the well site at all times. In order to log well and run casing, the viscosity may have to be raised and the water loss lowered.

## SURFACE USE PLAN

LOUIS DREYFUS NATURAL GAS CORP.  
TOPAZ "31" FEDERAL #1  
660' FNL & 1650' FWL  
Sec. 31-T20S-R34E  
Lea Co., NM

1. Existing Roads: Area Maps, Exhibit "B" is a reproduction of Lea, N.Mex., SE/4 Laguna Gatuna 15' Quadrangle 1984, U.S. Topographical Map showing existing roads and proposed roads. All existing roads will be maintained in a condition equal to or better than existing conditions. New roads will be constructed to BLM specifications.
  - A. Exhibit "A" shows the proposed well site as staked.
  - B. Directions: From Hobbs, NM - West from Hobbs on Hwy. 62/180, 21 miles. Turn left onto Marathon Rd. for 8 miles to State Hwy. 176. Turn right on State Hwy. 176 for 1 mile and turn right onto the caliche road for 3 miles, then turn left for 1.2 miles. Turn left for 1 mile then left for ½ mile on new lease access road to location.
2. PLANNED ACCESS ROADS: Construct 3120' of new road.
  - A. The access road will be crowned and ditched to a 12'00" wide travel surface with a 40' right-of-way.
  - B. Gradient on all roads will be less than 5.00%.
  - C. Turnouts will be constructed as necessary.
  - D. If needed, road will be surfaced with a minimum of 4" of caliche. This material to be obtained from a local source.
  - E. Centerline for the new access road has been flagged. Earthwork will be as required by field condition.
  - F. Culverts in the access road will not be used. The road will be constructed to utilize low water crossings for drainage as required by the topography.
3. LOCATION OF EXISTING WELLS WITHIN A ONE MILE RADIUS: Exhibit "A-1"

(A)	Water wells	None known
(B)	Disposal wells	None known
(C)	Drilling wells	None known
(D)	Producing wells	See Exhibit "A-1"
(E)	Dry & Abandoned wells	See Exhibit "A-1"
(F)	Location as staked	See Exhibit "A"
(G)	Offset Producers	See Exhibit "A-2"
(H)	Rig Layout Plat	See Exhibit "C"
(I)	BOP sketch to be used.	See Exhibit "D"
(J)	Choke Manifold & Closing Unit	See Exhibit "E"



## SURFACE USE PLAN

LOUIS DREYFUS NATURAL GAS CORP.  
TOPAZ "31" FEDERAL #1  
660' FNL & 1650' FWL  
Sec. 31-T20S-R34E  
Lea Co., NM

4. OTHER INFORMATION:

- A. Topography as shown on topographic map consists of undulating dunal plain of low to moderate relief with associated deflation basins of shallow to moderate depths. Surface is Mesquite, assorted grasses, prickly pear cactus, yucca, shin oak and pencil cholla.
- B. The surface is used for livestock grazing and is owned by the BLM Department of Interior. Grazing lessee is Danny Berry, P.O. Box 160, Eunice, NM, 88231, (505) 393-6964.
- C. An archaeological survey will be conducted for the location and will be submitted separately when completed.

Before and After Construction:

Louis Dreyfus Natural Gas Corp.  
P.O. Box 370  
Carlsbad, New Mexico 88220  
Gene Simer  
Phone (505) 885-1313

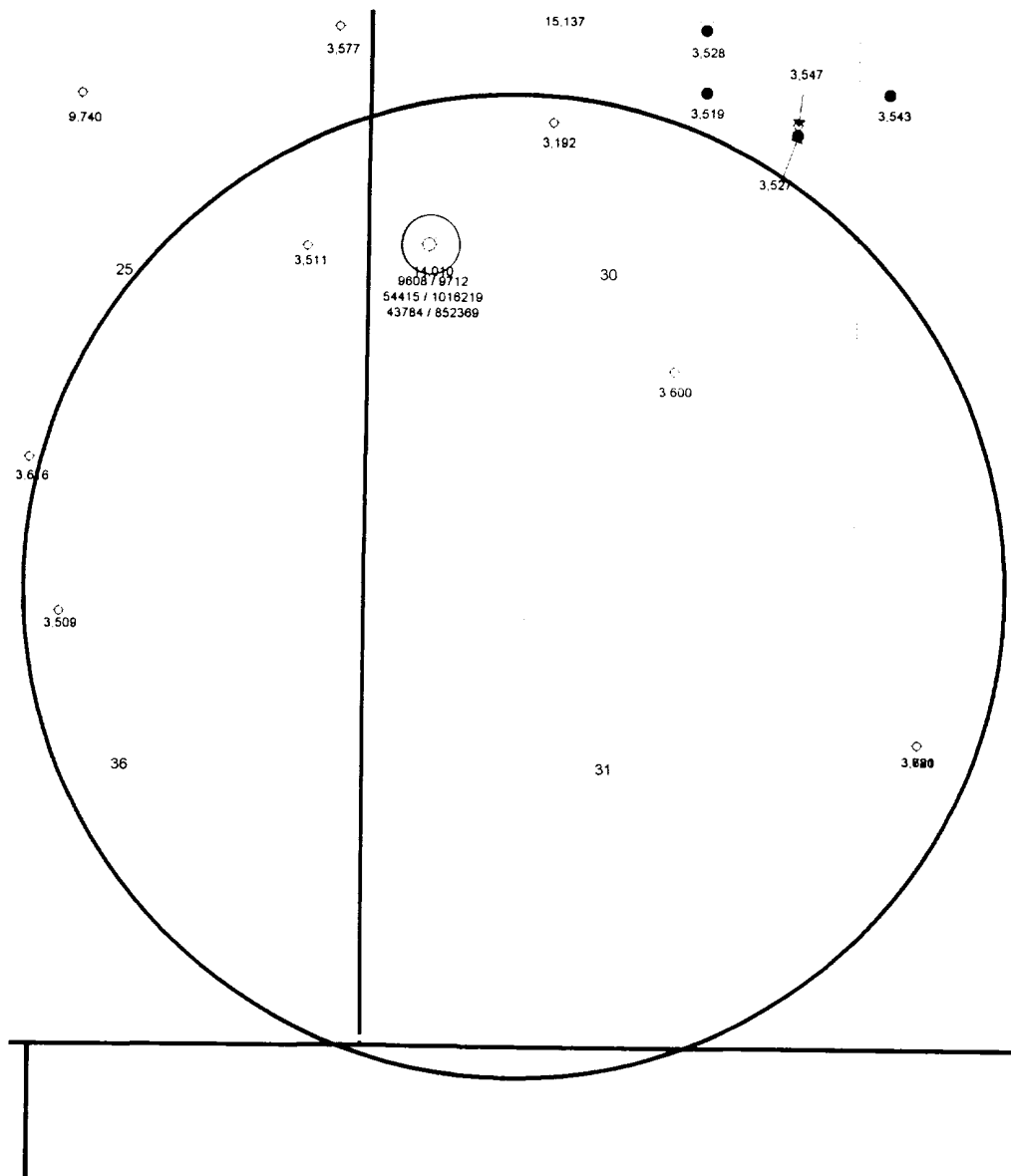
5. CERTIFICATION: I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which currently exist; that the statements made in this plan are to the best of my knowledge true and correct; and that the work associated with the operations proposed will herein will be performed by Louis Dreyfus Natural Gas Corp., its contractors and sub-contractors will be in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for filing of a false statement.

Name: Gene Simer  
Gene Simer

Date: January 26, 1999

Title: District Operations Manager





**LDNGC TOPAZ FEDERAL 31 1**  
**660' FNL, 1650' FWL**  
**SECTION 31-T20S-R34E**  
**LEA CO., NEW MEXICO**  
**14100' TVD MORROW**


**PRODUCTION LEGEND**

Delaware

Bone Spring

Atoka

Morrow

  
 Total Depth  
 FP / LP Dates  
 BO / MCF Cum's  
 BO / MCF Last 12 Months



**Louis Dreyfus Natural Gas**

**TOPAZ PROSPECT AREA**

Exhibit "A-1"  
 TOPAZ "31" FEDERAL #1  
 660' FNL & 1650' FWL  
 Sec. 31-T20S-R34E  
 Lea Co., NM

API	OPERATOR	LEASE/WELL NUMBER	STATE/ COUNTY	LOCATION	FOOTAGE LOCATION	STATUS	COMP DATE	ELEVATION	TD
30025017660000	HUDSON WILLIAM & EDWARD	FEDERAL 25 1	NMEX LEA	S020 E033 25	1980 FNL 660 FEL	D&A-G	19611014	3671 DF	3511
30025017750000	RESLER AND SHELDON	MAGNOLIA-STATE 1	NMEX LEA	S020 E033 36	660 FNL 1980 FWL	D&A	19510523	3685 ES	3609
30025024810000	BLACK W H DRLG	WELCH-FEDERAL 1	NMEX LEA	S020 E034 30	1980 FSL 1980 FEL	D&A	19540702	3686 ES	3600
30025024830000	LANG & UNGER	WILLS-FEDERAL 1	NMEX LEA	S020 E034 30	660 FNL 1980 FWL	D&A	19560927	3672 DF	3192
30025024850000	RESLER AND SHELDON	LEA-STATE 1	NMEX LEA	S020 E034 32	1980 FNL 660 FWL	D&A	19570331	3744 ES	3621
30025024850001	WESTERN DEVEL DELAWA	LEA-STATE 1	NMEX LEA	S020 E034 32	1980 FNL 660 FWL	D&AW	19571120	3744 ES	3780
30025333750000	SANTA FE ENERGY RES	TOPAZ 30' FEDERAL 1	NMEX LEA	S020 E034 30	1980 FNL 660 FWL	GAS	19960824	3689 KB	14010

TOPAZ.XIS

PAGE 1

Exhibit "A-2"  
TOPAZ "31" FEDERAL #1  
660' FNL & 1650' FWL  
Sec. 31-T20S-R34E  
Lea Co., NM

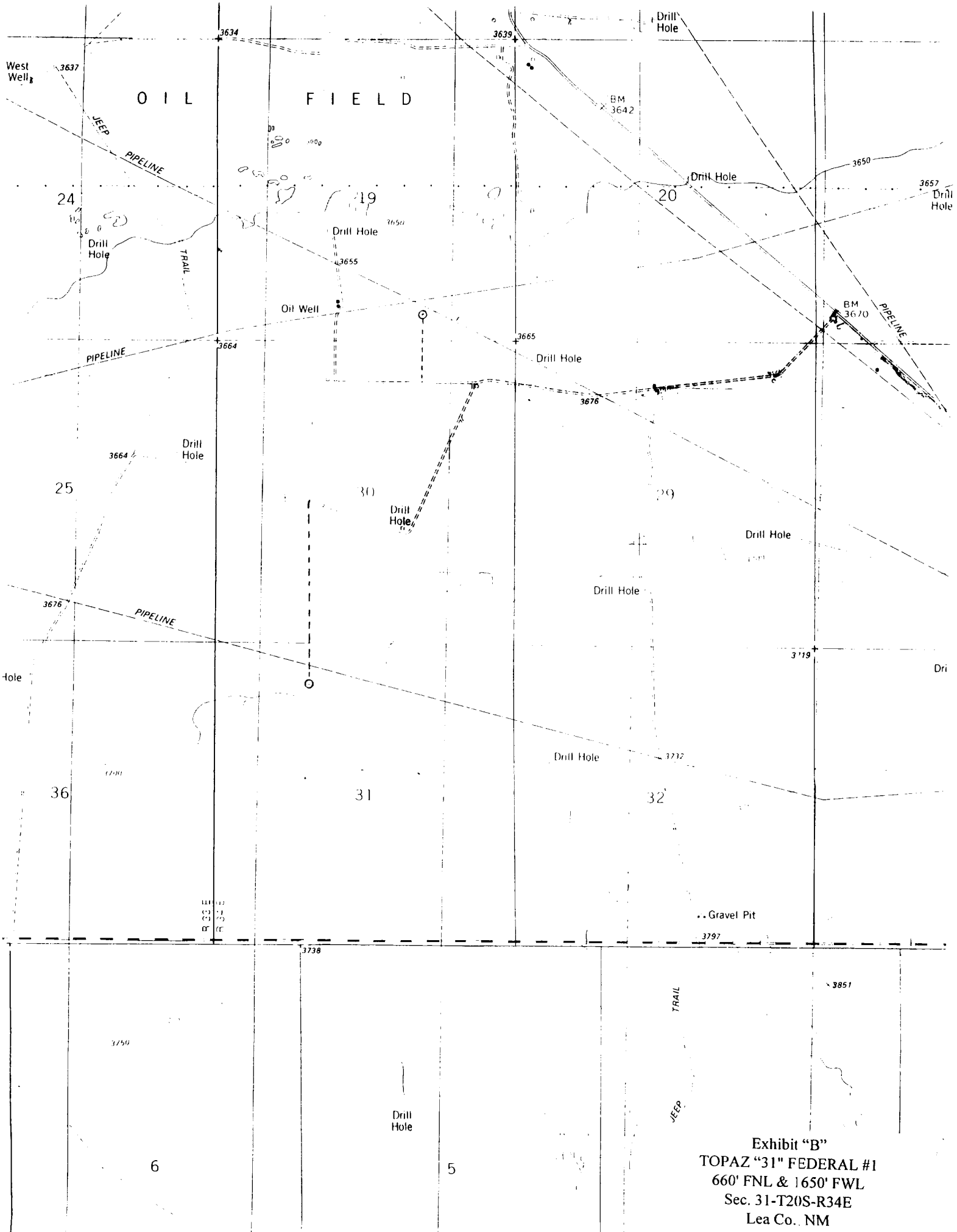
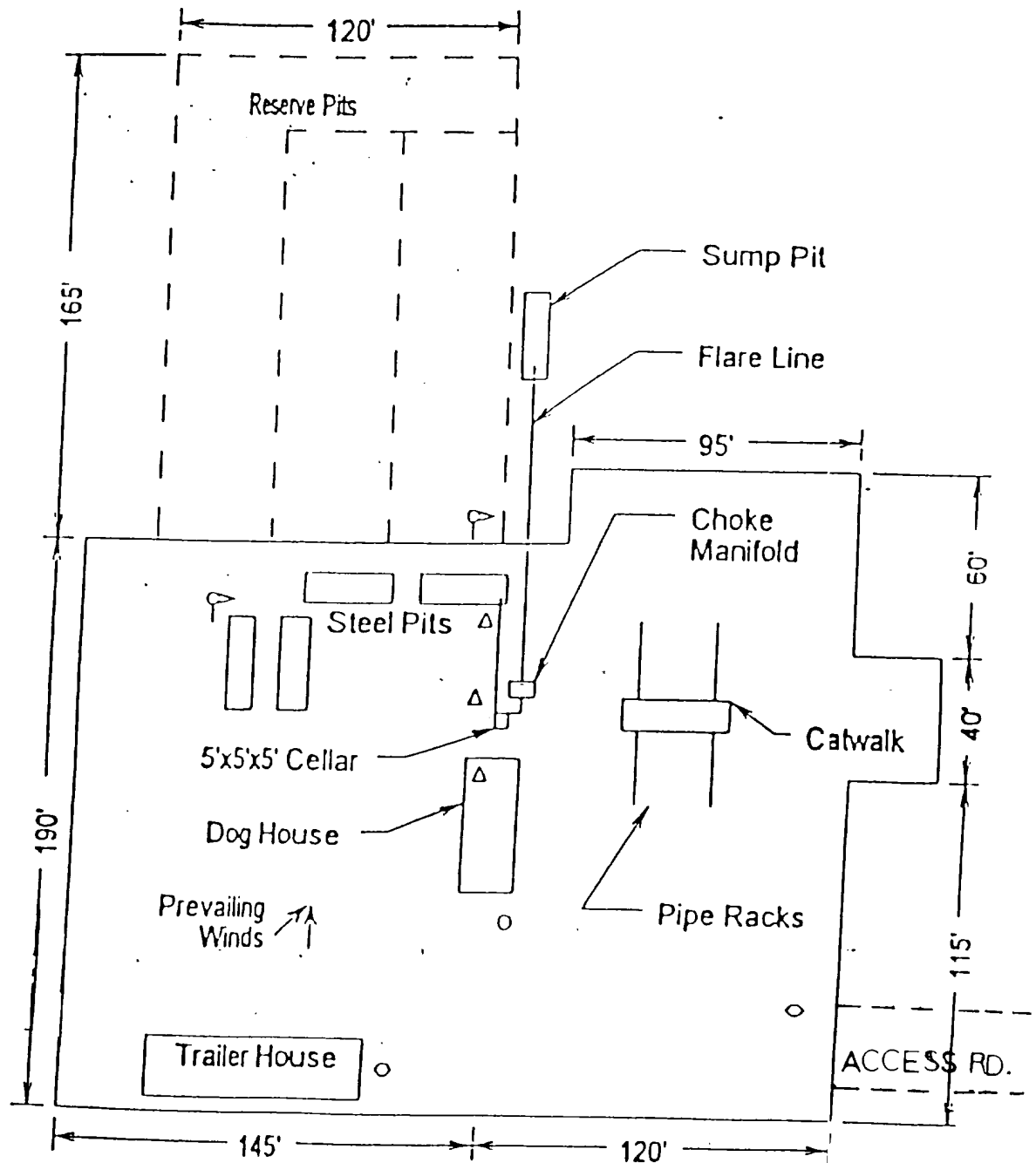
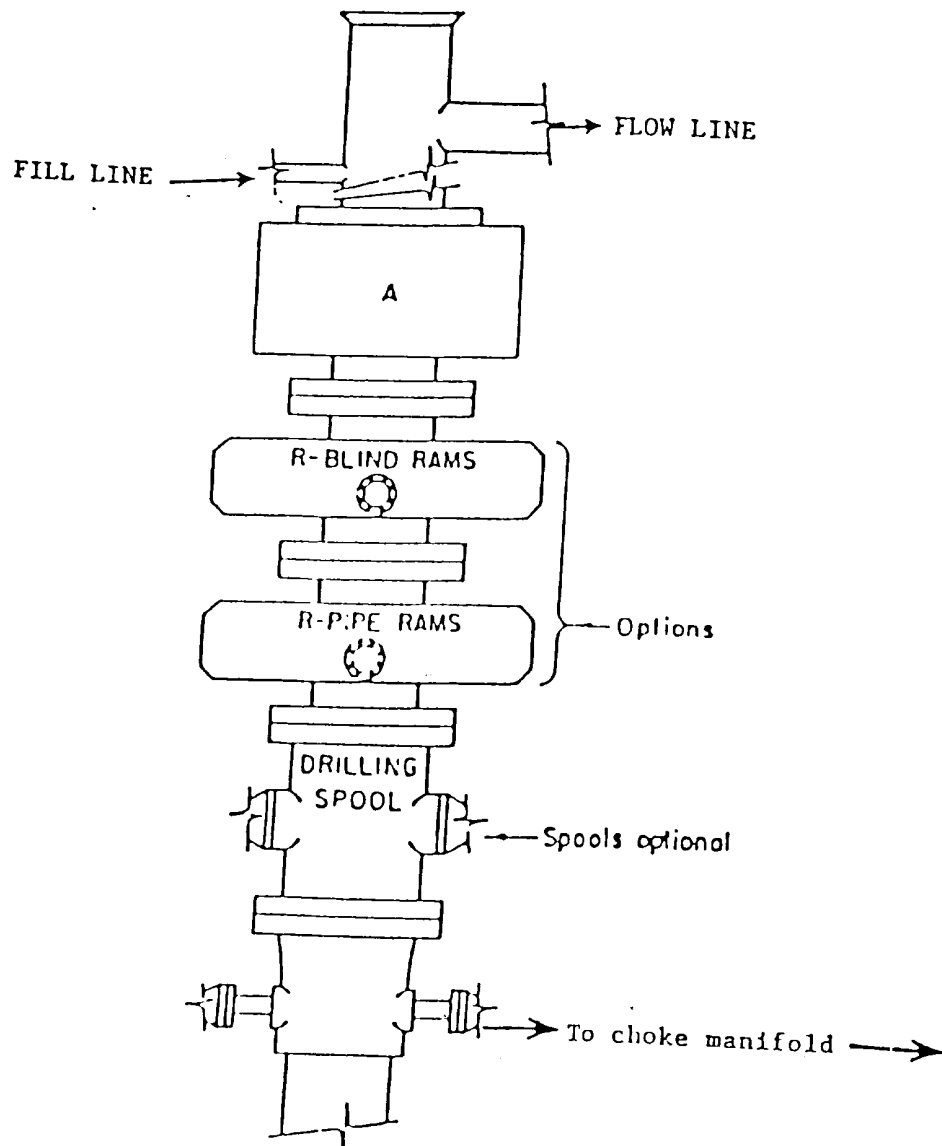


Exhibit "B"  
TOPAZ "31" FEDERAL #1  
660' FNL & 1650' FWL  
Sec. 31-T20S-R34E  
Lea Co., NM



- ☙ Wind Direction Indicators  
(wind sock or streamers)
- △ H2S Monitors  
(alarms at bell nipple and shale shaker)
- Briefing Areas
- Remote BOP Closing Unit
- Sign and Condition Flags

Exhibit "C"  
 TOPAZ "31" FEDERAL #1  
 660' FNL & 1650' FWL  
 Sec. 31-T20S-R34E  
 Lea Co., NM



# ARRANGEMENT SRRA

900 Series  
5000 PSI WP

Exhibit "D"  
TOPAZ "31" FEDERAL #1  
660' FNL & 1650' FV/L  
Sec. 31-T20S-R34E  
Lea Co., NM

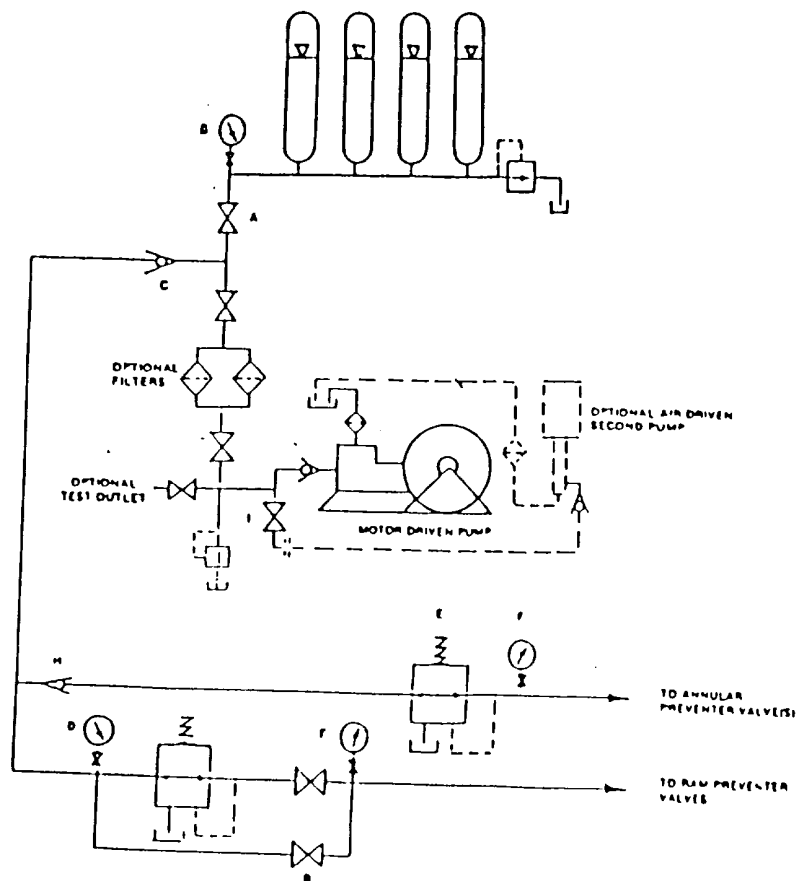


FIGURE K4-1. The schematic sketch of an accumulator system shows required and optional components.

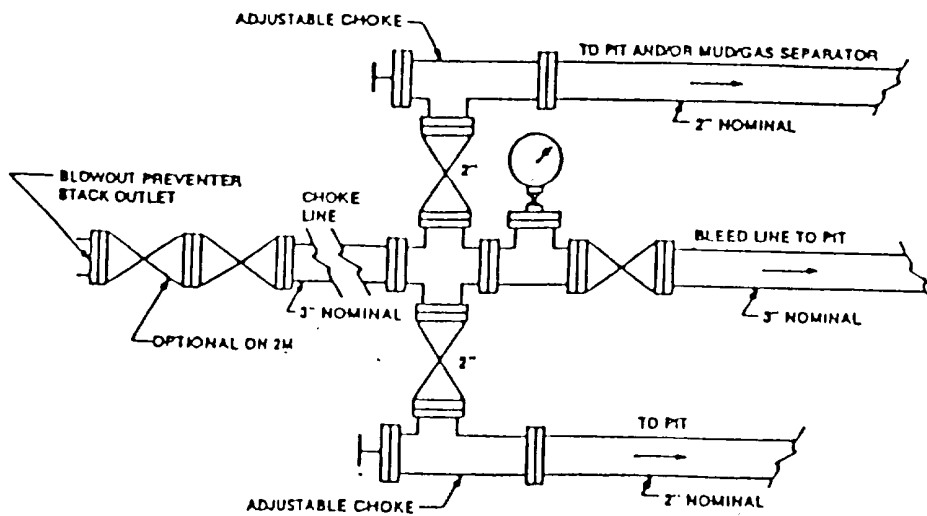


FIGURE K4-1. Typical choke manifold assembly for 2M and 3M rated working pressure service — surface installation.

Exhibit "E"  
 TOPAZ "31" FEDERAL #1  
 660' FNL & 1650' FWL  
 Sec. 31-T20S-R34E  
 Lea Co., NM



# APPENDIX B.

## TITLE PAGE/ABSTRACT/ NEGATIVE SITE REPORT CARLSBAD FIELD OFFICE

BLM/ RDO 1/95

1. BLM Report No.	2. (ACCEPTED) (REJECTED)	3. NMCRIS No. 63359
4. Title of Report (Project Title): Archaeological survey of Louis Dreyfus Natural Gas Corporation's proposed Topaz Federal 31 Well No. 1 and associated access road in Sections 30 and 31, T20S, R34E, NMPM, Lea County, NM.		5. Project Date(s) 1-13-1999
		6. Report Date - 1-13-1999
7. Consultant Name & Address: Direct Charge: David Wilcox Name: Desert West Archaeological Services Address: 102 N. Main, Carlsbad, NM 88220 Authors Name: David Wilcox Field personnel names - David Wilcox Phone (505) 887-7646		8. Permit No. 123-2920-98-P NM98-077
		9. Consultant Report No. DWAS 99-12]
10. Sponsor Name and Address: Indiv. Responsible: Mr. Name: Louis Dreyfus Natural Gas Corporation Address: Phone ( )		11. For BLM Use only.
		12 ACREAGE: Total No. of acres surveyed - 10.83 Per Surface - Ownership: Federal
13. Location & Area: (Maps Attached if negative survey)		
<ul style="list-style-type: none"> <li>a. State - NM</li> <li>b. County - Lea</li> <li>c. BLM Field Office: Carlsbad</li> <li>d. Nearest City or town: Arkansas Junction, NM</li> <li>e. Location: Sections 30 and 31, T20S, R34E Well Pad footages: Section 31 - 660' FNL; 1650' FWL</li> <li>f. 7.5' Map Name(s) and Code Numbers(s): Lea, NM (1984 [32103-E5]).</li> <li>g. Area: Block: Impact: within the staked area Surveyed: 400' x 400' Linear: Impact: 30' x 3120' Surveyed: 100' x 3120'</li> </ul>		

14. a. Records Search:

Location: BLM and ARMS

Date: 1-12-1999

Conducted by: David Wilcox and Sandra Daras

List by LA# All sites within .25 miles of the project:

(Those sites within 500' are to be shown on the project map)

b. Description of undertaking:

Class III pedestrian survey of Louis Dreyfus Natural Gas Corporation's proposed Topaz Federal 31 Well No. 1 and associated access road in Sections 30 and 31, T20S, R34E, NMPM, Lea County, NM. This proposed access road connects to an existing caliche capped lease road to the north.

c. Environmental Setting (NRCS soil designation; vegetative community; etc.)

Vegetation - Mesquite, assorted grasses, prickly pear cactus, yucca, shin oak, sage and pencil cholla.

Topography - This project is on an undulating dunal plain of low to moderate relief with associated deflation basins of shallow to moderate depths. The higher terrain is associated with the area near the staked well location. A two-track and buried pipeline corridor are crossed by this project. This proposed undertaking also bisects a sludge spill or disposal area. The entire terrain is heavily over-grazed.

Soils - Pyote-Maljamar-Kermit association: Gently undulating and rolling, deep, sandy soils.

d. Field Methods:

Transect Intervals: straight and zigzag transects, spaced not greater than 15 meters apart

Crew Size: 1

Time in Field: 2 hours total

Collections: no

Cultural Resource Findings: N/A

16. Management Summary (Recommendations):

Archaeological clearance for Louis Dreyfus Natural Gas Corporation's proposed Topaz Federal 31 Well No. 1 and associated access road in Sections 30 and 31, T20S, R34E, NMPM, Lea County, NM is recommended as staked.

I maintain that the information provided above is correct and accurate and meets all appreciable BLM standards.

Responsible Archaeologist

Signature

Date

Figure 1. Topographic map of USGS 7.5' Series Lea, NM (1984) showing the project area in Sections 30 and 31, T20S, R34E.

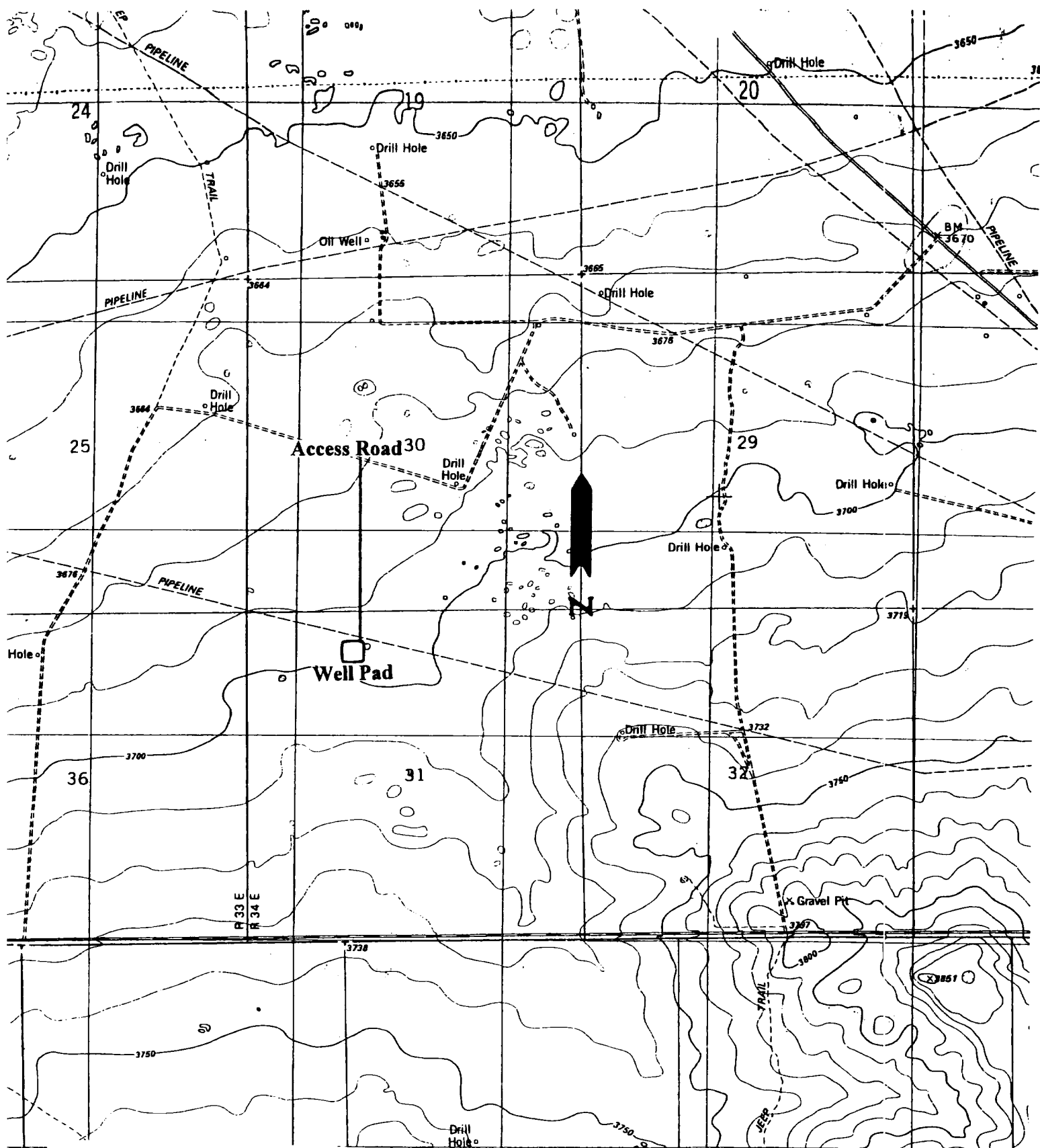


Figure 1. Topographic map of USGS 7.5' Series Lea, NM (1984) showing the project area in Sections 30 and 31, T20S, R34E. Louis Dreyfus Natural Gas Corporation's Proposed Topaz Federal Well No. 1 and access road.

