

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

N.M. Oil Co. DIV-Dist. 2
1301 W. Grand Avenue
Artesia, NM 88210

FORM APPROVED
OMB NO. 1004-0136
Expires: February 28, 1995

LEASE DESIGNATION AND SERIAL NO
21139276

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

~~ARCO-TERRELL~~ BP AMERICA PRODUCTION CO. (LARSNER)

3. ADDRESS AND TELEPHONE NO

501 WESTLAKE PARK BLVD, M.C. 5.172; HOUSTON, TX 77079

281-366-7655

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

At surface

660' ENL & 660' FEL

At proposed prod. zone

SAME

Unit A

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

12 MILES SE OF ARTESIA

15. DISTANCE FROM PROPOSED*

LOCATION TO NEAREST

PROPERTY OR LEASE LINE, FT.

(Also to nearest drilg. unit line, if any) 650

16. NO. OF ACRES IN LEASE

240

17. NO. OF ACRES ASSIGNED
TO THIS WELL

40

18. DISTANCE FROM PROPOSED LOCATION*

TO NEAREST WELL, DRILLING, COMPLETE,

OR APPLIED FOR, ON THIS LEASE, FT. 1320'

19. PROPOSED DEPTH

3800'

20. ROTARY OR CABLE TOOLS

ROTARY

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

3470' GR

Keewell Controlled Water Basin

22. APPROX. DATE WORK WILL START*

3/02

23.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
11	8-5/8 J-55	24#	500'	315 sxs
7-7/8	5-1/2 J-55	15.5#	3700'	720 sxs

SUBJECT WELL IS PLANNED AS A 3800' STRAIGHT HOLE.

PLANS ARE TO PERF AND TEST THE RED LAKE (GLORIETTA-YESO).

ATTACHMENTS ARE AS FOLLOWS:

1. CERTIFIED LOCATION PLAT
2. DRILLING PLAN WITH ATTACHMENTS
3. SURFACE USE PLAN WITH ATTACHMENTS

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS
ATTACHED

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, 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

Amy T. Spang

TITLE REGULATORY ANALYST

DATE 2/13/02

(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/ JOE G. LARA

TITLE

ACTING
FIELD MANAGER

DATE

APR 11 2002

*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.

APPROVAL FOR 1 YEAR

BUREAU OF LAND MGMT.
ROSWELL OFFICE

2002 FEB 15 AM 11:43

RECEIVED

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
SUNDRY NOTICES AND REPORTS ON WELLS

Oil Cons.
N.M. DIV-Dist. 2
1301 W. Grand Avenue
Artesia, NM 88210
FORM APPROVED
Budget Bureau No. 1004-0135
Expires November 30 2000
Serial No.
NM 29276

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on reverse side

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

ARCO PERMIAN

3a. Address

501 WESTLAKE PARK BLVD, RM 5.172, HOUSTON, 77079

3b. Phone No. (include area code)

281-366-7655

4. Location of Well (Footage Sec., T., R., M., or Survey Description)

660' ENL & 660' FEL
SEC 17, T18S, R27E

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

8. Well Name and No.

SPARKPLUG RIDGE 17 FED, 2

9. API Well No.

10. Field and Pool, or Exploratory Area
RED LAKE (GLORIETA-YESO)

11. County or Parish, State

EDDY

NM

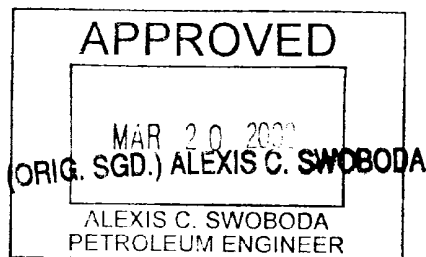
12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other <u>AMEND</u>
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	<u>DRILLING PLAN</u>
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	<u>CHANGE COMPANY NM</u>

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the final site is ready for final inspection.)

PLEASE AMEND THE DRILLING PLAN (AS ATTACHED). THE MUD PROGRAM WAS CHANGED TO USE FRESH WATER MUD INSTEAD OF BRINE.

ALSO, PLEASE CHANGE THE OPERATOR NAME FROM 'ARCO PERMIAN' TO 'BP AMERICA PRODUCTION COMPANY'. THE NAME CHANGE WAS EFFECTIVE 1/1/02 AS PREVIOUSLY FILED WITH YOUR OFFICE.



14. I hereby certify that the foregoing is true and correct
Name (Printed/Typed)

Amy I. Spang

Amy I. Spang

Title

REG. ANALYST

Date

3/13/02

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

Date

Conditions of approval, if any, are attached. Approval of this notice 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.

Office

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.

(Instructions on reverse)

DRILLING PLAN

Attachment to BLM Form 3160-3

ARCO Permian

Well: Sparkplug Ridge Federal 17, No. 2

660' FNL & 660' FEL

UNIT A

Section 17, T18S-R27E

Eddy County, New Mexico

1. Surface Geological Formation

Yates Formation (Sand and Anhydrite)

2. Estimated Tops of Geological Markers

<u>Formation</u>	<u>TVD</u>
Salt	700'
Base Salt/Anhydrite	2825'
Bell Canyon	2845'
Cherry Canyon	3725'
Brushy Canyon	5000'

3. Estimated Tops of Possible Water, Oil, Gas or Mineral:

Sancs above 500'	Water
Cherry Canyon & Brushy Canyon	Oil or Gas

4. Pressure Control Equipment

<u>Interval, TVD</u>	<u>Pressure Control Equipment</u>
0' – 580'	No pressure control required
580' – TD	11", 2M psi double ram preventer, or 11" 2M psi annular preventer

Exhibits 1, 2 and 3 show the BOP stack arrangement, the choke manifold arrangements and the BOP specifications, respectively. The BOPE will be hydraulically tested per BLM requirements outlined by Onshore Oil and Gas Order No. 2. Pipe rams and blind rams, if a double ram preventer is used, will be functioned on each trip out of the hole. All BOPE checks and tests will be witnessed by ARCO's representative and will be noted on the IADC daily drilling report. Accessories to BOPE will include an upper kelly cock, lower kelly cock, and floor safety valve; all with pressure rating equivalent to the BOP stack.

5. Proposed Casing and Cementing Program

	<u>Hole Size</u>	<u>Interval M.D.</u>	<u>Casing Size</u>	<u>Weight & Grade</u>
Surface	11"	0'-580'	8-5/8"	24.0# J-55
Production	7-7/8"	580'-5500'	5-1/2"	15.5# J-55

Cement Program: (Actual volumes will be based on caliper log when available)

Surface – Cement to surface with total of +/- 600 cu ft as follows:

Lead – 120 sxs 35/65 POZ:C + 6% Bentonite

Tail – 195 sxs "C" + 2% CaCl

Production - Cement to surface with total of +/- 800 cu ft as follows:

Lead - 330 sx 35/65 POZ:C + 6% gel

Tail – 470 sx 50/50 POZ:C + 32% gel + 3% salt + .4% FL-52

6. **Mud Program**

<u>Depth</u>	<u>Mud Type</u>	<u>Weight ppg</u>	<u>Funnel Viscosity</u>	<u>Water Loss</u>
0'-580'	Spud Mud	8.4-8.9	29-34	NC
580-2900'	FW Mud	9.0	28-30	NC
2900-3800'	FW Mud	9.0	30-35	≤ 15 cc

7. **Auxiliary Equipment**

Upper Kelly Cock, Lower Kelly Cock, and Full Opening Stabbing Valve

8. **Testing, Coring and Logging Program**

- A. Drill Stem Tests – None planned
- B. Coring – None planned
- C. Logging – Mud logging planned from 2500' to TD
- D. Electric Logs
 - Open Hole: GR, DLL/MLL, CNL/LDT TD to 2800'
 - Cased Hole: GR/CCL TD to 2800'

9. **Anticipated Abnormal Temperature, Pressure, or Hazards**

10. **Anticipated Starting Date and Duration of Operations**

Pending favorable weather and permit approval, construction work on this location is planned to begin in February, 2002. Construction work will require 2 days, move-in and rig up rotary tools, 1 day, drill and complete, 18 days. It is planned to spud the well in March, 2002.

DISTRICT I
P.O. Box 1080, Hobbs, NM 88241-1080

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

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

Form C-102

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number		Pool Code	Pool Name
		51120	Red Lake (Glorieta - Yeso)
Property Code	Property Name		Well Number
NM 29276	SPARKPLUG RIDGE FEDERAL 17		2
OGRID No.	Operator Name		Elevation
00040-978	BP dba ARCO PERMIAN		3470'

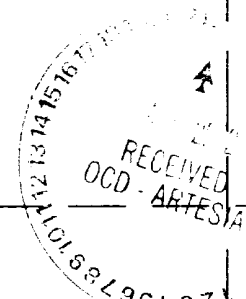
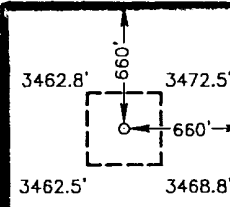
Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	17	18-S	27-E		660	NORTH	660	EAST	EDDY

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		Joint or Infill	Consolidation Code		Order No.				
40		N							

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

			OPERATOR CERTIFICATION I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief. Signature <u>Amy Spang</u> Printed Name <u>Amy Spang</u> Title <u>Regulatory Analyst</u> Date <u>2/12/02</u>	
	GEOGRAPHIC LOCATION SPC NME VAD 1927 Y = 637714.6 X = 512176.1 LAT. = 32°45'11.39"N LONG. = 104°17'37.42"W		SURVEYOR CERTIFICATION 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. DECEMBER 07, 2001 Date Surveyed <u>12/12/01</u> AWB Signature & Seal of Professional Surveyor <u>Ronald J. Eidson</u> Certificate No. <u>RONALD J. EIDSON 3239</u> <u>GARY EIDSON 12641</u>	

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

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised February 10, 1994
Submit to Appropriate District Office

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

OIL CONSERVATION DIVISION

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

State Lease - 4 Copies
Fee Lease - 3 Copies

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

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number		Pool Code	Pool Name
		51120	Red Lake (Glorieta - Yesc)
Property Code	Property Name		Well Number
NM29276	SPARKPLUG RIDGE FEDERAL 17		2
GRID No.	Operator Name		Elevation
000990	BP dba ARCO PERMIAN		3470'

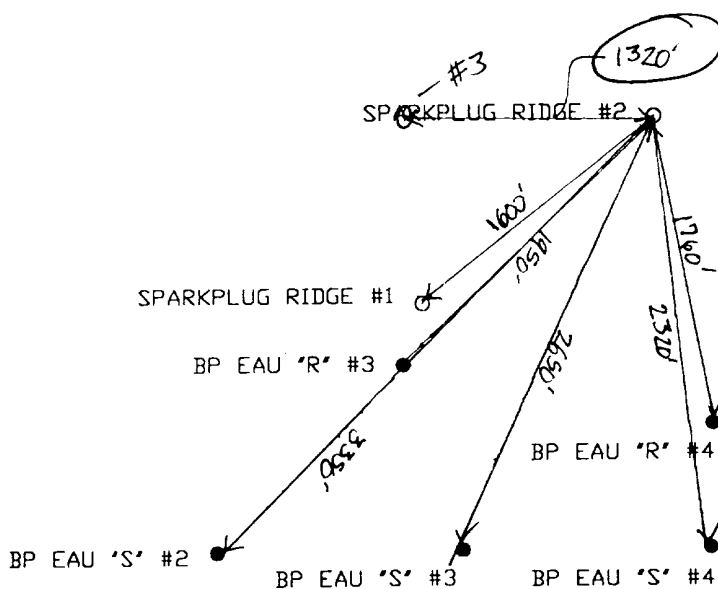
Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	17	18-S	27-E		660	NORTH	660	EAST	EDDY

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		Joint or Infill	Consolidation Code		Order No.				
40		N							

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



OPERATOR CERTIFICATION

I hereby certify the the information
contained herein is true and complete to the
best of my knowledge and belief.

Amy Spang
Signature
Amy Spang
Printed Name
Regulatory Analyst
Title
2/12/02
Date

SURVEYOR CERTIFICATION

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.

DECEMBER 07, 2001

Date Surveyed AWB
Signature & Seal of
Professional Surveyor

01.11.1272

Certificate No. RONALD J. EIDSON 3239
GARY EIDSON 12641

SURFACE USE PLAN

Attachment to BLM Form 3160-3

ARCO Permian

Well: Sparkplug Ridge 17 Federal, Well No. 2

660' FNL & 660' FEL

UNIT A

Section 17, T18S-R27E

Eddy County, New Mexico

1. Directions to location Existing Roads

From Artesia, New Mexico go East 5.4 miles on Highway 82 to Eddy County Rd. 201. Go South on CR 201 6.7 miles and turn left to location. Exhibits "4" and "5" are the Vicinity Map and the Location Verification Map.

- A. The proposed development well site is staked as shown on the certified location plat attached.
- B. Most of the existing roads will not require improvement. Any existing sections of road that needs improvement or repair will be fixed to a condition equal to that of the good sections of the existing road. All roads will be maintained in a condition equal to that which existed prior to the start of the construction.

2. Planned Access Roads

- A. Approximately 1072' of access road will be required. 1000' of existing road will be improved, and 72' of new road constructed.
- B. New access roads will have a 12' wide travel lane and be surfaced with 6" compacted caliche.
- C. Turnouts: None
- D. Culverts: None
- E. Cuts and fills: No major road cuts or fill will be necessary.

3. Location of Existing Wells

- A. The existing wells within a one-mile radius of this location are shown on Exhibit "6".

4. Location of Existing or Proposed Facilities

- A. Existing Facilities – No facilities currently exist for this well.
- B. New Facilities Proposed – If a successful Delaware producer is completed, surface facilities will consist of a treater and collection tanks for oil and water. The location site will be 200' x 200' located at 1720' FNL & 500' FEL. Flowlines will follow the route outlines in Exhibit "8"

5. Location and Type of Water Supply

Fresh and brine water used in drilling and completion operations will be purchased from independent trucking companies located in Loving or Carlsbad, New Mexico. The water will be hauled over existing and new roads to the location.

6. Source of Construction Materials

Caliche for the road and well pad construction will be from the designated caliche pit.

7. Methods of Handling Waste Disposal

- A. Drill cuttings will be handled in the reserve pit and buried during reclamation operations.
- B. Trash, waste paper, garbage and junk will be contained in a fenced trash trailer to prevent scattering by the wind and hauled to a municipal sanitary landfill. The supplier will pick up all sacked drilling mud. The drilling contractor will haul away any chemicals that they used while drilling.
- C. Toilet facilities will be provided for human waste. Sewage disposal facilities will be in accordance with State and Local Regulations.
- D. Drilling fluids will be handled as follows: The free water will be either hauled to the reserve pit of the next drilling well for re-use or hauled to a permitted SWD. If any mud is hauled away it will be disposed of at an approved mud disposal site. Remaining drilling fluids will be allowed to evaporate in the reserve pit until dry enough for reclamation.
- E. Any fluids produced during swab testing the well while the pulling unit is on location will be collected in a test tank. Produced water will be hauled to a permitted SWD. Oil produced will remain in the test tank until sold and hauled from the site.

8. Auxiliary Facilities

No new facilities will be built during drilling of this well. A trailer will be used as an office and temporary living quarters for well site supervision.

9. Well site Layout

- A. Exhibit "7" shows the proposed well site layout and dimensions. Major rig components and reserve pits are shown.
- B. No significant cuts or fills will be required.
- C. The reserve pits will be plastic lined with minimum 6 mil double x laminated plastic. The liner will overlap the pit dikes and be anchored down. The reserve pit will be fenced on three sides during drilling operations. After drilling operations have ceased the fourth side of the pit will be fenced.

10. Plans for Reclamation of the Surface

- A. In a timely manner, after finishing the drilling and/or completion operations all equipment and other material not needed for production operations will be removed. The location will be cleared of all trash and debris then any ruts, etc. will be filled. The cellar will be filled around the wellhead.

- B. Any pits containing fluids will be fenced until they are filled. The NMOCD pit netting rules will be followed. The reserve pits will be reclaimed by deep burying the drill cuttings. The pit area will be leveled and contoured to conform to the surrounding area. A stockpile of topsoil from the location construction will be evenly distributed over the disturbed area. Re-vegetation procedures will comply with BLM standards.
- C. Upon abandonment of the well, surface restoration will be in accordance with the surface owner requirements and will be accomplished as expediently as possible.

11. Surface Ownership

The surface for the well site locations is on BLM surface and minerals and administered by the BLM.

12. Additional Information

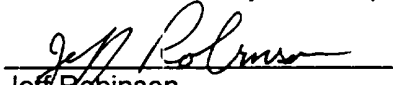
- A. Topography: Gently rolling grassland with caprock mesa formations.
- B. Vegetation includes Honey mesquite, creosote, broom snakeweed, various cacti, sand sage various yucca, and mixed grasses.
- C. Soils are of the Reeves-Gypsum land-Cottonwood association as defined by the Soil Conservation Service of the U.S. Department of Agriculture.
- D. Primary use of the land is livestock grazing and accessing producing wells.
- E. There are no dwellings in the vicinity.
- F. An archaeological block survey was performed by Mesa Field Services report # MFS-537
- G. The selected dirt contractor will be furnished with an approved copy of the Surface Use Plan and any additional stipulations prior to beginning any work.

13. Operator's Representatives

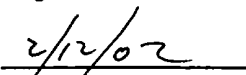
Jeff Robinson, Engineer
ARCO Permian
200 Westlake Park Blvd, Rm 245
Houston, TX 77079
(281) 366-3706

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 that currently exist; that the statements made in this plan are, to the best of my knowledge, true and correct. ARCO Permian and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved will perform the work associated with the operations proposed herein. This statement is subject to the provisions of 18 U.S.C. 1001 for filing of a false statement.



Jeff Robinson
Engineer



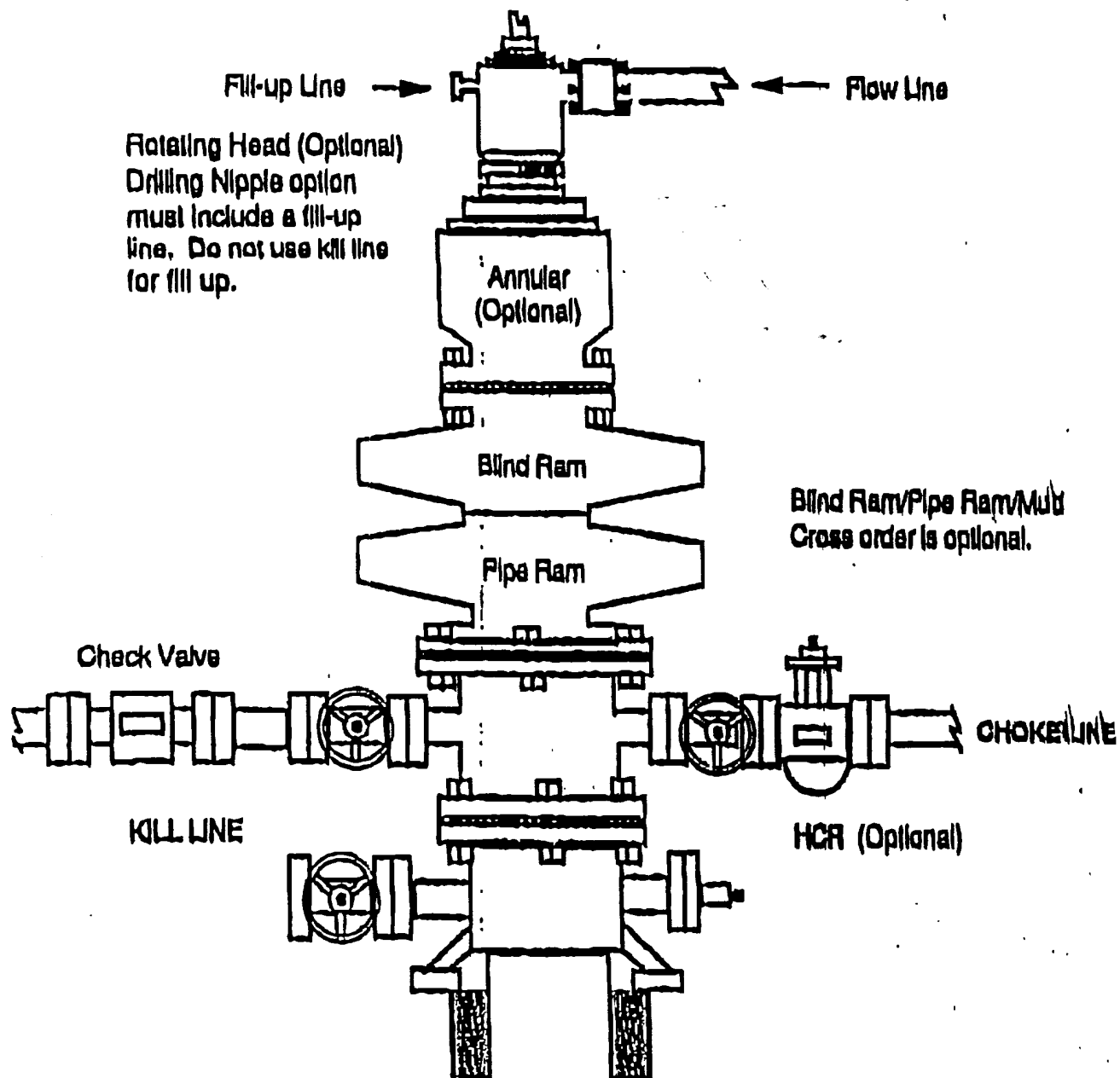
Date

DRILLING OPERATIONS

C 39-1: NORMAL PRESSURE < 10 PF

OPTION - 1: ARCO STANDARD LCPM STACK

EXHIBIT #1



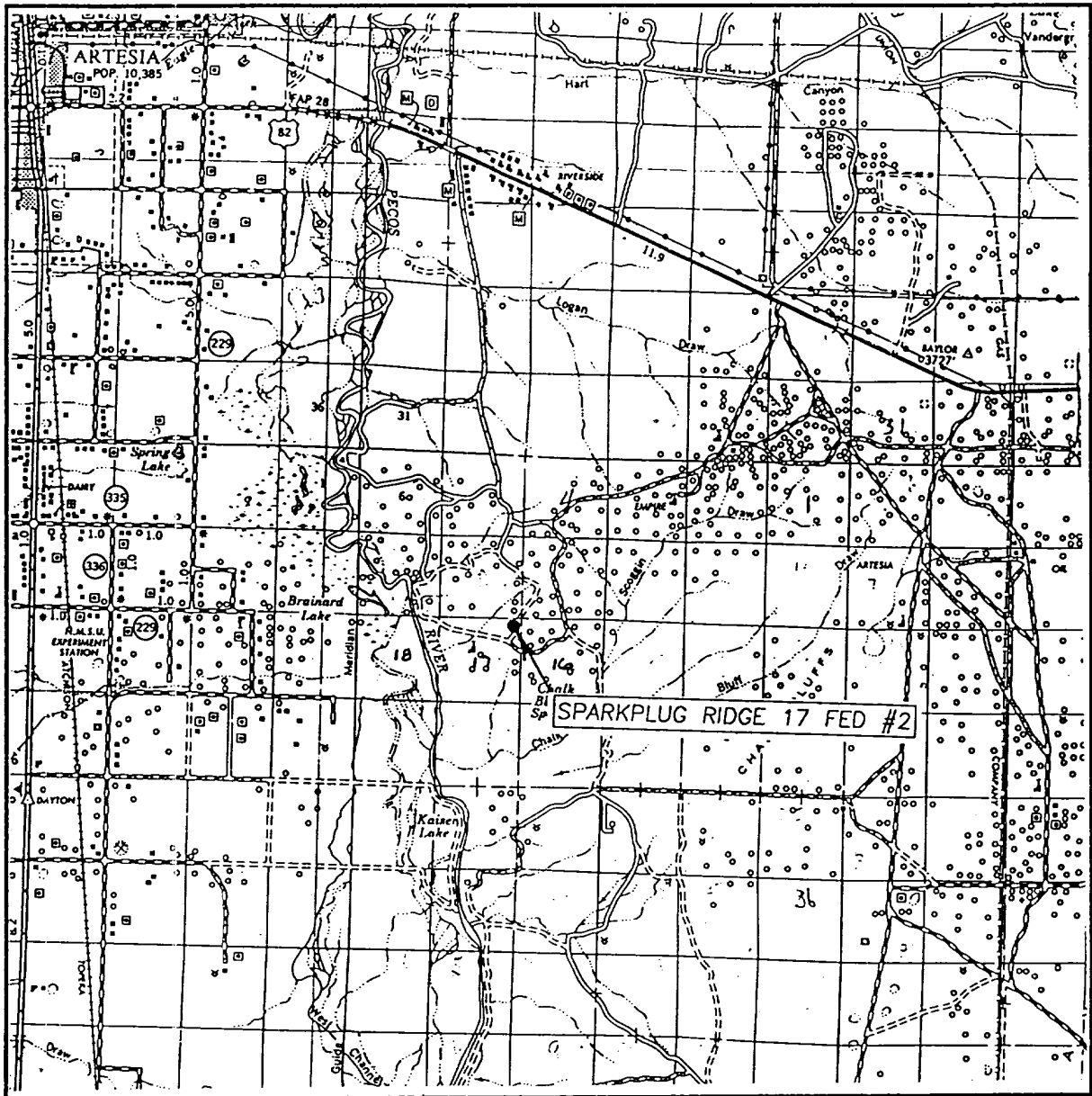
111.0.1 + 3

BLOWOUT PREVENTION EQUIPMENT SPECIFICATIONS

1. All BOP equipment shall be fluid and/or mechanically operated.
2. BOP's and all fittings will be in good working condition.
3. Equipment through which the bit must pass shall be at least as large as the casing size being drilled.
4. The nipple above the BOP shall be at least the same size as the last casing set.
5. The upper kelly cock with handle and lower kelly cock shall be rated at the BOP working pressure.
6. A floor safety valve (full opening) or drill string BOP with appropriate pressure ratings shall be available on the rig floor with connections or subs to fit any tool joint in the string.
7. The minimum size choke line shall be 3 inches nominal diameter, with a minimum size for vent lines downstream of chokes of 2 inches nominal, and vent lines which by-pass shall be a minimum of 3 inches nominal and as straight as possible.
8. All valves, fittings and lines between the closing unit and the blowout preventer stack should be of steel construction with rated working pressure at least equal to working pressure rating of the stack. Lines shall be bundled and protected from damage.
9. Minimum size for kill line is 2 inches nominal.
10. Ram type preventers shall be equipped with extension hand wheels or hydraulic locks.

EXHIBIT #1

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 17 TWP. 18-S RGE. 27-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 650' FNL & 660' FEL

ELEVATION 3470'

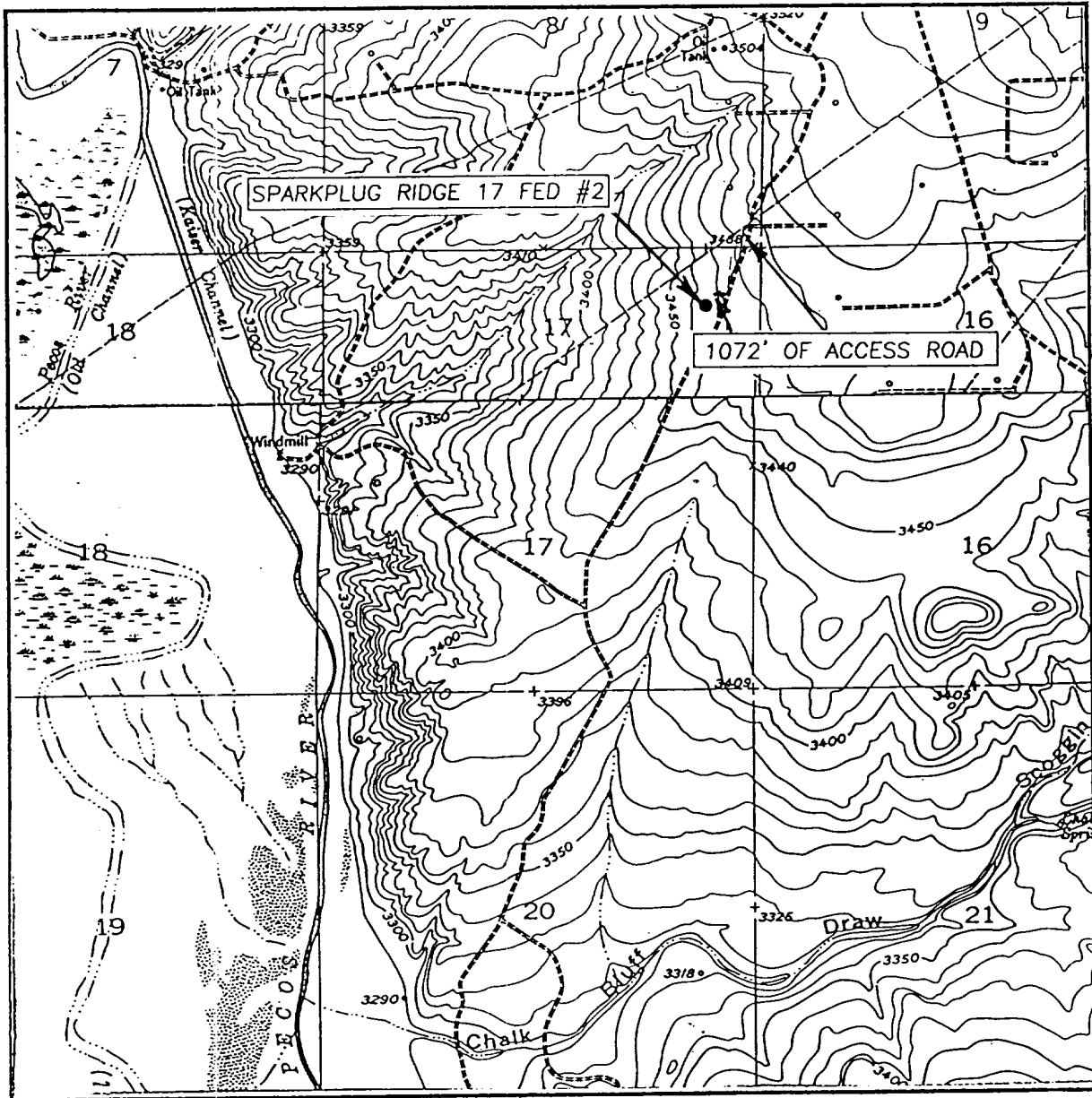
OPERATOR BP dba ARCO PERMIAN

LEASE SPARKPLUG RIDGE 17 FEDERAL

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

EXHIBIT #5

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL: 10'
SPRING LAKE, N.M.
LAKE McMILLAN NORTH, N.M.

SEC. 17 TWP. 13-S RGE. 27-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 660' FNL & 660' FEL

ELEVATION 3470'

OPERATOR BP dba ARCO PERMIAN

LEASE SPARKPLUG RIDGE 17 FEDERAL

U.S.G.S. TOPOGRAPHIC MAP
SPRING LAKE, LAKE McMILLAN NORTH, N.M.

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

EXHIBIT 6

T 18 S

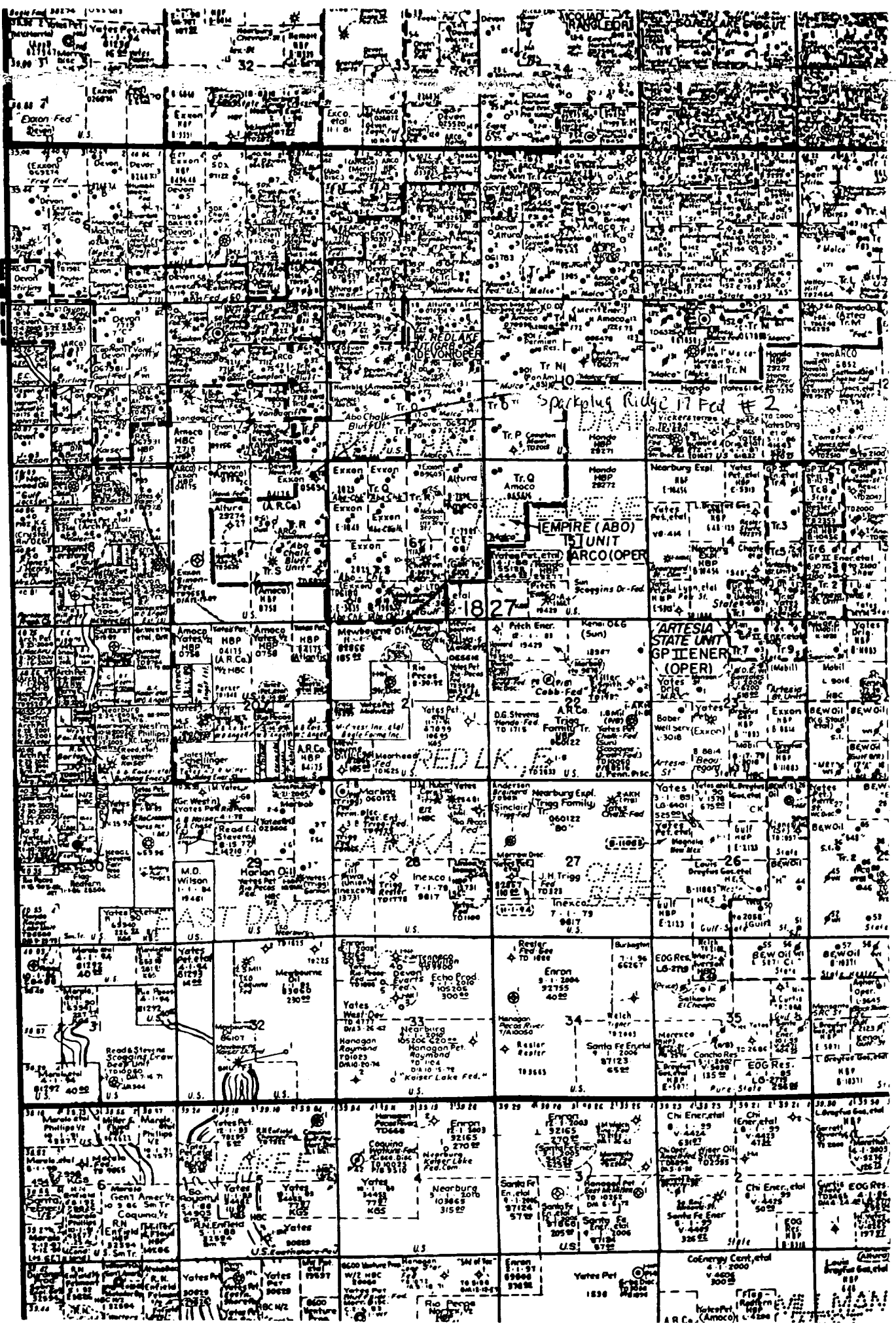


EXHIBIT 17

CAPSTAR DRILLING LOCATION SPECIFICATIONS ELENBURG RIGS

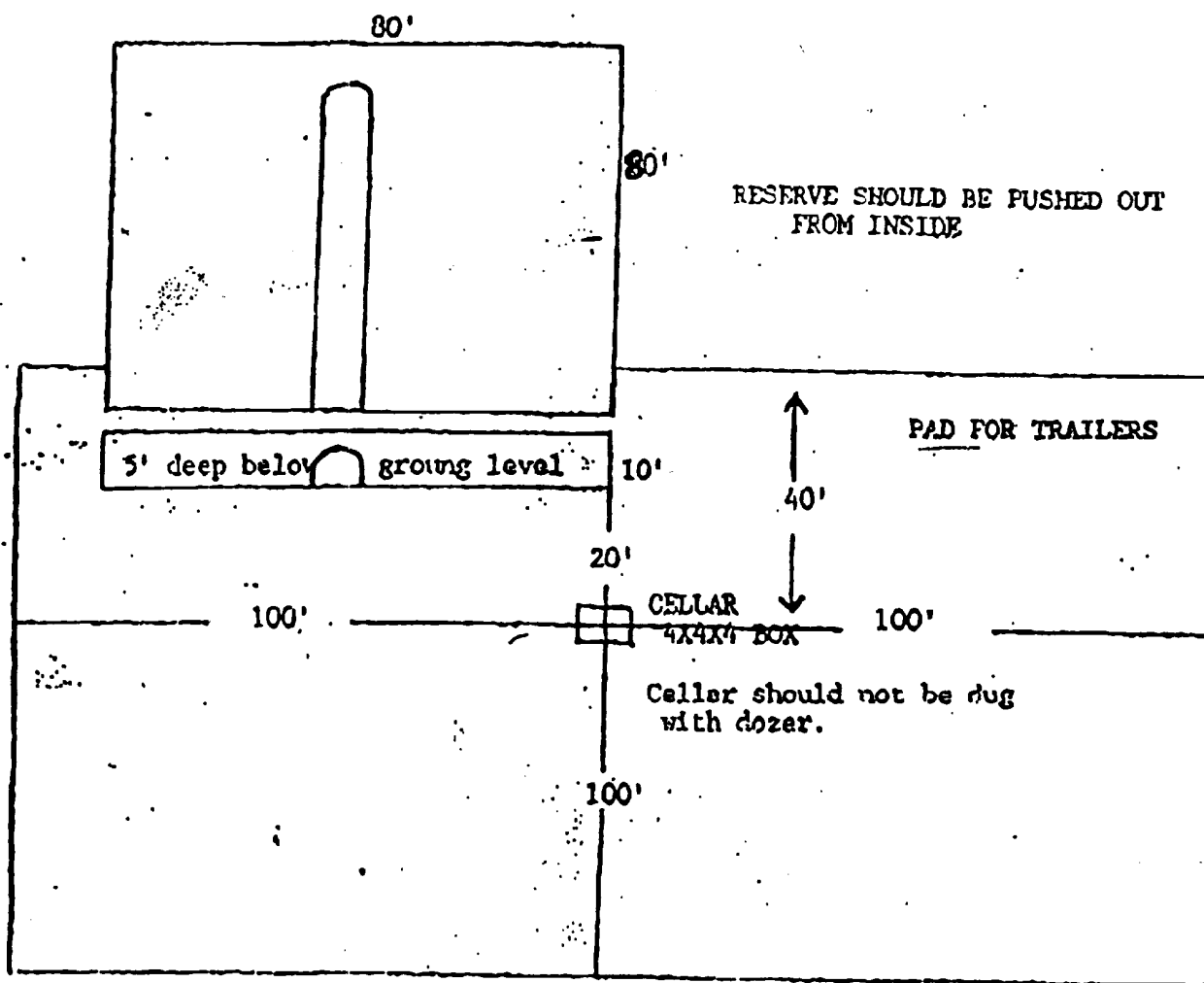


EXHIBIT 8: FLOWLINE ROUTING

