Form 3160-3
(November 1983)
(formerly 9-331C)

NM OIL CONS. COMMISSION
Drawer DD
Artesia, NM 88210

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

30-015-26319

Form approved.
Budget Bureau No. 1004-0136
Expires August 31, 1985

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED
MAR 27 '90
O. C. D.
ARTESIA, OFFICE

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

5. LEASE DESIGNATION AND SERIAL NO.: NM-60769

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: H. B. 3 Federal

9. WELL NO.: 1

10. FIELD AND POOL, OR WILDCAT: Cedar Canyon Morrow

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: 3, 24S, 29E

12. COUNTY OR PARISH: Eddy | 13. STATE: NM

1a. TYPE OF WORK: DRILL [X] DEEPEN [ ] PLUG BACK [ ]

b. TYPE OF WELL: OIL WELL [ ] GAS WELL [X] OTHER — SINGLE ZONE [ ] MULTIPLE ZONE [ ]

2. NAME OF OPERATOR: Santa Fe Energy Operating Partners, L.P.

3. ADDRESS OF OPERATOR: 500 W. Illinois, Suite 500, Midland, TX 79701

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: ~~1980'~~ 2080' FEL & ~~660'~~ 860' FNL, Sec. 3, T-24S, R-29E
At proposed prod. zone: Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 6 miles east of Malaga, New Mexico

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)	16. NO. OF ACRES IN LEASE	17. NO. OF ACRES ASSIGNED TO THIS WELL
660'	640	320
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.	**19. PROPOSED DEPTH**	**20. ROTARY OR CABLE TOOLS**
N/A	14,100'	Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): ~~3052.2' GL~~ 3082.6' GL

22. APPROX. DATE WORK WILL START*: ASAP

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2	13 3/8	48.0	700'	975 cu.ft. circ. to surface
12 1/4	9 5/8	40.0	3100'	910 cu.ft. circ. to surface
8 1/2	7	23.0,26.0,29.0	10500'	1260 cu.ft. fill to 8000'
6	4 1/2	11.6	10000-14100' (SOS)	1100 cu.ft. fill to 10200'

Move in and rig up rotary tools. Drill a 17 1/2" hole to 700'. Run 13 3/8" casing and cement with sufficient Class "C" cement containing 4% gel, 1/4#/sk cellophane flakes to circulate to surface when followed by 330 cu.ft. of Class "C" with 2% $CaCl_2$. Drill 12 1/4" hole to 3100'. Run 9 5/8" casing and cement with sufficient lite cement to circulate to surface when followed by 264 cu.ft. Class "C" containing 2% $CaCl_2$. Drill 8 1/2" hole to 10,500'. Run 7" casing and cement with sufficient 50/50 Class H/Poz containing 6# salt per sack and 0.6% fluid loss reducer to bring cement to 8000'. Drill a 6" hole to 14,100'. Run 4 1/2" casing and cement with sufficient Class H cement containing 0.6% fluid loss reducer, 0.4% friction reducer, 0.6% gas block agent, and 5#/sk KCl to fill to 300' above liner top or plug and abandon per BLM instructions.

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 Michael R. Burton TITLE District Drilling Engineer DATE 2-15-90

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY Orig. Signed by Gil Lucero TITLE AREA MANAGER CARLSBAD RESOURCE AREA DATE 3-22-90

CONDITIONS OF APPROVAL, IF ANY:

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

*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.

Submit to Appropriate
District Office
State Lease - 4 copies
Fee Lease - 3 copies

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II
P.O. Drawer DD, Artesia, NM 88210

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

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised 1-1-89

OIL CONSERVATION DIVISION

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator	Lease	Well No.
SANTA FE ENERGY OPERATING PARTNERS L.P.	H. B. 3B Federal	1

Unit Letter	Section	Township	Range	County
B	3	24 South	29 East NMPM	Eddy

Actual Footage Location of Well:
860 feet from the North line and 2080 feet from the East line

Ground level Elev.	Producing Formation	Pool	Dedicated Acreage:
3082.6	Morrow	Cedar Canyon Morrow	320 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

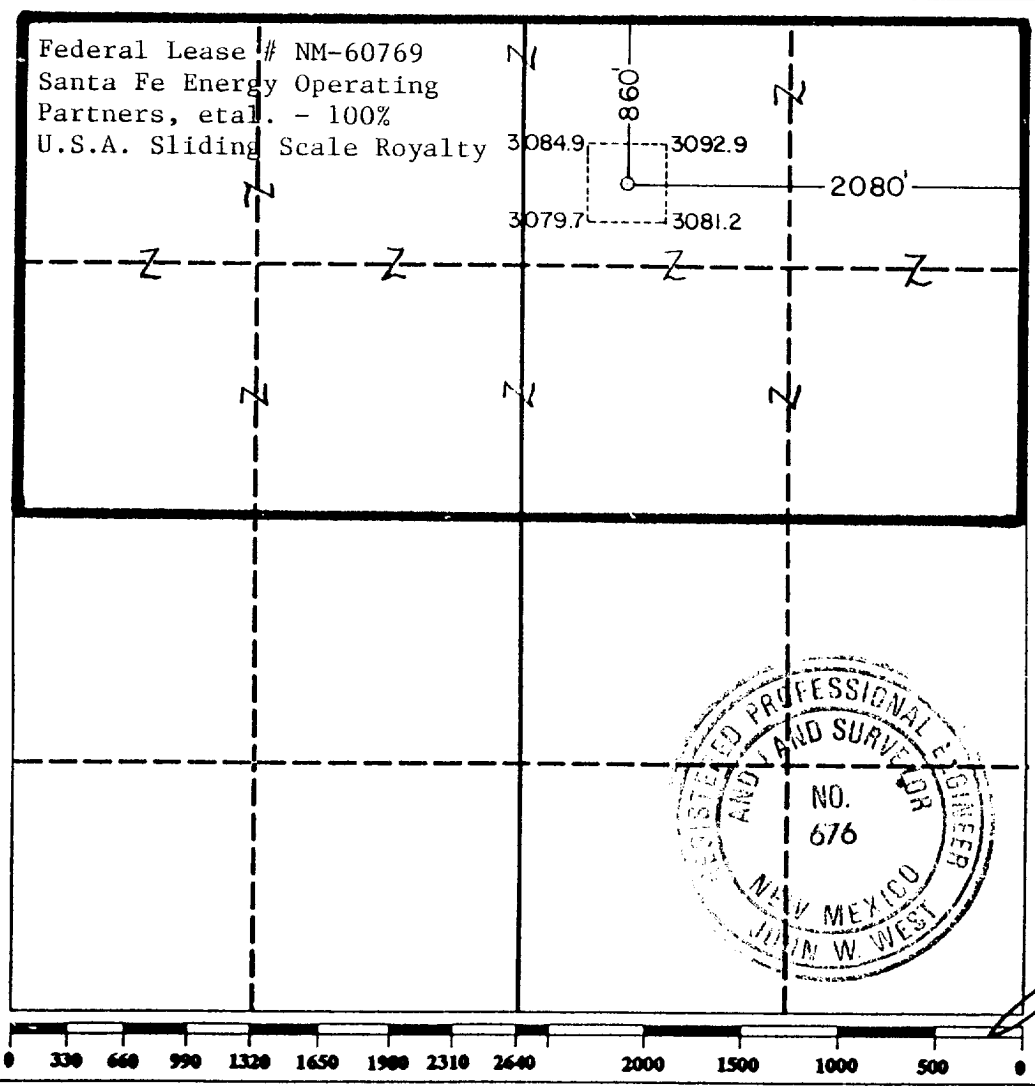
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

3. If more than one lease of different ownership is dedicated to the well, have the interest of all owners been consolidated by communitization, unitization, force-pooling, etc.?

☐ Yes ☒ No If answer is "yes" type of consolidation _____

If answer is "no" list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary. _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interest, has been approved by the Division.



OPERATOR CERTIFICATION

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

Signature: Michael R. Burton

Printed Name: Michael R. Burton

Position: District Drilling Engineer

Company: Santa Fe Energy Operating Partners, L.P.

Date: March 13, 1990

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 supervison, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed: March 5, 1990

Signature & Seal of Professional Surveyor

REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR NO. 676 NEW MEXICO JOHN W. WEST

Certificate No. JOHN W. WEST, 676
RONALD J. EIDSON, 3239

126830

APPLICATION FOR DRILLING
SANTA FE ENERGY OPERATING PARTNERS, L.P.
H. B. 3 Federal No. 2

In conjunction with Form 3160-3, Application to Drill subject well, Santa Fe Energy Operating Partner, L.P., submits the following ten items of pertinent information in accordance with BLM requirements.

1. The geologic surface formation is sand.

2. The estimated tops of geologic markers are as follows:

Delaware Lamar Lime	3,050'
Delaware Sands	3,100'
Bone Spring	6,900'
Wolfcamp	10,150'
Strawn	12,185'
Atoka Clastics	12,460'
Lower Atoka	12,610'
Morrow Clastics	13,340'
Lower Morrow Clastics	13,800'
Total Depth	14,100'

3. The estimated depth at which water, oil, or gas formations are expected to be encountered:

Water	Water is not expected to be encountered.	
Oil or Gas	Wolfcamp	10,150' - 12,185'
	Strawn	12,185' - 12,460'
	Atoka	12,460' - 13,340'
	Morrow	13,340' - 14,100'

4. Proposed Casing Program: See Form 3160-3 and Exhibit A.

5. Pressure Control Equipment: See Form 3160-3 and Exhibit B.

6. Drilling Fluid Program: See Exhibit C.

7. Auxiliary Equipment: See Exhibit D.

8. Testing, Logging and Coring Programs:

   Drill Stem Tests (all DST's to be justified by a valid shoe of oil or gas):

Wolfcamp	10,150' - 12,185'
Strawn	12,185' - 12,460'
Atoka	12,460' - 13,340'
Morrow	13,340' - 14,100'

Logging:

Logging from 3,100' - TD
Dual Laterolog with Gamma Ray
Neutron-Density with Gamma Ray
Computer Process Log over selected intervals

Logging from surface to 3,100'
Neutron with Gamma Ray

9. Abnormally high pressured zones are expected at this location. Sufficient barite will be on location to enable the weighting up of the drilling fluid to control any high pressured zone encountered. Along with the above mentioned primary control, a Blow Out Preventer System as outlined in Exhibit B will be utilized should the need arise to shut the well in prior to running and cementing production casing.

10. Starting Date: As soon as possible.

Michael R. Burton
02-15-90

MRB:dw-2053
Attachments

MULTI-POINT SURFACE USE AND OPERATIONS PLAN
SANTA FE ENERGY OPERATING PARTNER, L.P.
H. B. 3 Federal No. 2
1980' FEL & 660' FNL
Section 3, T24S, R29E
Eddy County, New Mexico

This plan is submitted with Form 3160-3, Application for Permit to Drill, covering the above described well. The purpose of this plan is to describe the location of the proposed well, the proposed construction activities and operations plan, the magnitude of necessary surface disturbance involved, and the procedures to be followed by rehabilitating the surface after completion of the operations, so that a complete appraisal can be made of the environmental effects associated with the operation.

1. EXISTING ROADS.

   A. Exhibit E is a topographic map of a scale of approximately one inch to 2000' which shows location of the proposed wellsite and roads in the vicinity. The proposed location is situated approximately 30 miles east of Jal, New Mexico.

      DIRECTIONS:

      1. Proceed east on County Road 720 from Malaga, New Mexico for approximately 1 mile.

      2. Turn right (south) onto County Road 746 and continue for approximately 10 miles.

      3. Turn left (northeast) onto County Road 746A and continue for approximately 4 miles.

      4. Turn left (west) onto oilfield road and continue for 2 miles to abandoned well.

      5. Turn right (northwest) and continue for 1 mile. Turn left and go 1/2 mile to H. B. 3 Federal No. 1.

      6. Turn north and go 1/2 mile to location.

2. PLANNED ACCESS ROAD.

   A 14' wide access road will extend from an existing well in Section 3 into the wellsite in Section 3.

3. LOCATION OF EXISTING WELLS.

   A. The well locations in the vicinity of the proposed well are shown in Exhibit F.

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES.

A. There is no producing well on this lease at this time.

B. In the event the well is productive, the necessary production equipment will be installed on the drilling pad. If the well is productive of oil, a gas or diesel self-contained unit will be used to provide the necessary power. No power will be required if the well is productive of gas.

C. The reserve pits will be plastic lined.

D. A 400' x 400' work area which will contain the pad and pit area has been staked and flagged.

5. LOCATION AND TYPE OF WATER SUPPLY.

A. It is planned to drill the well with both fresh water and brine water systems. Both types of waters will be hauled to the location by truck over existing roads. Both types will be obtained from commercial sources.

6. SOURCES OF CONSTRUCTION MATERIALS.

A. Any caliche required for construction of the drilling pad will be obtained from a pit located off of the wellsite. The pit is located in Section 17, T-24S, R-30E.

7. METHODS OF HANDLING WASTE DISPOSAL.

A. Drill cuttings will be disposed of in the reserve pits.

B. Drilling fluids will be allowed to evaporate in the reserve pits until the pits are dry.

C. Water produced during operations will be either placed in the reserve pits and allowed to evaporate or collected in tanks until hauled to an approved disposal system or a separate disposal application will be submitted to the USGS for appropriate approval.

D. Oil produced during operations will be stored in tanks until sold.

E. Human waste will be buried.

F. Trash, waste paper, garbage, and junk will be buried in a separate trash pit and covered with a minimum of 24" of dirt. All waste materials will be contained to prevent scattering by the wind.

G. All trash and debris will be buried or removed from the wellsite within 30 days after finishing drilling and/or completion operations.

8. ANCILLARY FACILITIES.

None required.

9. WELLSITE LAYOUT.

A. Exhibit G shows the dimensions of the well pad and reserve pits, and the location of major rig components.

B. The ground surface of the location is sloping down toward the northwest. Cutting will be required to level the pad area, which will be covered with at least six inches of compacted caliche.

C. The reserve pits will be plastic lined.

D. A 400' x 400' work area which will contain the pad and pit area has been staked and flagged.

10. PLAN FOR RESTORATION OF THE SURFACE.

A. After finishing drilling and/or completion operations, all equipment and other material not needed for further operations will be removed. The location will be cleared of all trash and junk, to leave the wellsite in as aesthetically pleasing a condition as possible.

B. Unguarded pits, if any, containing fluids will be fenced until they have been filled.

C. If the proposed well is non-productive, all rehabilitation and/or vegetation requirements of the Bureau of Land Management and the United States Geological Survey will be compiled with and will be accomplished as expeditiously as possible. All pits will be filled and levelled within 90 days after abandonment.

11. TOPOGRAPHY.

A. The wellsite and access route are located in a hilly area.

B. The top soil at the wellsite is sandy.

C. The vegetation cover at the wellsite is moderately sparse, with prairie grasses, some yucca, and miscellaneous weeds.

D. No wildlife was observed, but it is likely that rabbits, lizards, insects, and rodents traverse the area.

E. There are not ponds, lakes, streams, or rivers within one mile of the wellsite.

F. The wellsite is located on federal surface.

G. There is no evidence of any archaeological, historical, or cultural sites in the vicinity of the location.

12. OPERATOR'S REPRESENTATIVES.

A. The field representative responsible for assuring compliance with the approved surface use plan are:

Dave Kilpatrick
District Manager
Santa Fe Energy Operating Partners, L.P.
500 W. Illinois, Suite 500
Midland, Texas 79701
915-687-3551 - office

Michael R. Burton
District Drilling Engineer
Santa Fe Energy Operating Partners, L.P.
500 W. Illinois, Suite 500
Midland, Texas 79701
915-687-3551 - office
915-699-1260 - home
915-683-1118 - mobile

13. 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 presently 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 herein will be performed by Santa Fe Energy Operating Partners, L.P., and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

SIGNED this 20th day of February, 1990.

Michael R. Burton
Michael R. Burton
District Drilling Engineer

MRB:dw-2053

SANTA FE ENERGY OPERATING PARTNERS, L.P.
OPERATIONS PLAN
H. B. 3 Federal No. 2

1. Drill a 17-1/2" hole to 700'.

2. Run 13-3/8" 48.0 ppf H-40 casing. Cement with sufficient Class "C" cement containing 4% gel and 1/4# cellophane flakes to circulate to surface when followed by 200 sacks Class "C" containing 2% Calcium Chloride. Run Texas Pattern shoe on bottom and float collar one joint above shoe. Run centralizers on every other joint above shoe. Apply thread lock to bottom two joints, float collar and guide shoe.

3. Wait on cement six hours.

4. Cut off casing. Nipple up and install BOP system.

5. Test casing to 600 psi after cement has attained 500 psi compressive strength.

6. Drill a 12-1/4" hole to 3,100'.

7. Run 9-5/8" 40.0 ppf K-55 casing. Cement with sufficient lite weight cement followed by 200 sacks Class "C" Neat to circulate cement to surface. Centralize bottom 1000' of casing with one centralizer on every third joint above shoe. Run guide shoe on bottom and float collar two joints above shoe. Apply thread lock to bottom two joints, float collar and shoe.

8. Wait on cement six hours.

9. Cut off 13-3/8" casing head. Install 9-5/8" casing head. Install BOP stack and choke manifold.

10. Test BOP stack and choke manifold to 5000 psi. Test casing to 1500 psi.

11. Drill 8-1/2" hole to first good lime section after topping Wolfcamp. This is anticipated to be at 10,500'±.

12. Run logs.

13. Run 7" 23.0 ppf S-95, 26.0# S-95, and 29.0# N-80 casing. Cement with sufficient 50/50 Class H Poz cement containing 0.6% fluid loss reducer 6 pps salt to fill to 8000'. Run guide shoe on bottom and float collar two joints above shoe. Centralize bottom 1000' with centralizers placed on every other joint above shoe.

14. Nipple down BOP. Set slips. Cut off casing. Nipple up BOP.

15. Test BOP and choke manifold to 5000 psi.

16. Test casing to 2800 psi.

17. Drill 6" hole to 14,100'.

18. Run logs.

19. Run 4-1/2" 13.5 ppf S-95 liner to extend from 10,500' to 14,100'. Cement with sufficient Class "H" cement containing 0.6% fluid, 0.4% friction reducer, 0.6% gas block agent loss, and 5 pps KCl to circulate liner. Run float collar two joints above float shoe.

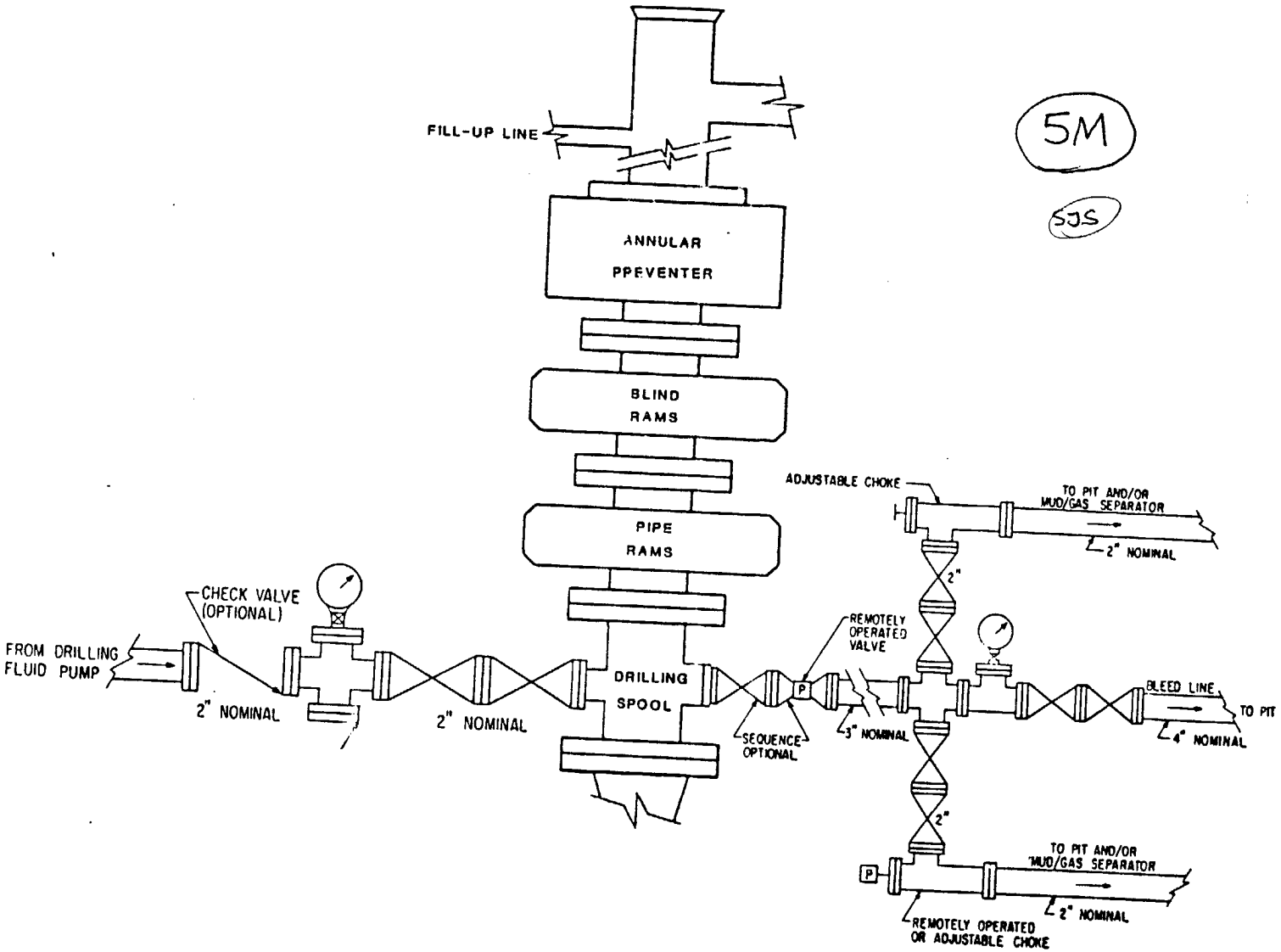
20. Blowout preventer equipment will be pressure tested to 5000 psi upon initial installation, anytime equipment is worked on or changed, and every 30 days, whichever is sooner.

21. Blowout preventer equipment including both pipe rams preventers, blind ram preventer, and valves on choke manifold will be rated at 5000 psi working pressure or greater.

Exhibit A
Santa Fe Energy Operating Partners, LP
H. B. 3 Federal No. 2
Section 3-24S-29E
Eddy County, New Mexico

MRB:dw-2053

PROPOSED BOPE AND CHOKE ARRANGEMENT



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SJS

EXHIBIT B

SANTA FE ENERGY OPERATING PARTNERS, LP.
HB "3" Fed #2
1980' FEL & 660' FNL, Sec 3, T 24 S, R 29 E
EDDY CO., NEW MEXICO

PROPOSED DRILLING FLUID PROGRAM

0 - 700'

Spud mud consisting of AQUAGEL flocculated with Lime. Use ground paper for seepage loss of fluid and KWIK-SEAL, FIBERTEX and Cottonseed Hulls for severe or total loss.

If total loss of circulation occurs, we suggest mixing two or three 150-200 barrel pills of viscous AQUAGEL/Lime mud treated with 10-15 ppb KWIK-SEAL and/or Cottonseed Hulls. If this does not regain circulation, we suggest drilling to casing point without returns and spotting a similar pill on bottom prior to logging and running casing.

700 - 3,100'

Drill out with brine water and treat with CON DET and BEN-EX/MF-1 to flocculate solids. Circulate controlled section of the reserve pit. Use ground paper for seepage loss. Use pre-hydrated AQUAGEL or ZEOGEL/paper slugs as needed to sweep hole. For corrosion control, use Sodium Bichromate.

3,100 - 10,500'

Drill out with fresh water or cut brine circulating a controlled section of the reserve pit using BEN-EX/MR-1 and CON DET for control of solids build up. The fluid weight in this interval should be 8.5 - 9.5 pH. Use ZEOGEL/ground paper or pre-hydrated AQUAGEL pills to sweep the hole free of cutting when needed and prior to trips. Use Lime for a 9.0 - 9.5 pH. Use Sodium Bichromate at 600-800 ppm concentration for drill pipe and casing corrosion control.

The addition of MR-1/BEN-EX and CON DET may be used for control of solids build up. Use ZEOGEL/ground paper sweeps for seepage and additional hole cleaning. Should abnormal pressures be encountered in the Strawn formation an early mud up may be necessary.

10,500 - 14,100'

Prior to entering the Atoka, limit circulation to the steel pits and treat out hardness with Soda Ash. Lower filtrate to 10-15 cc with DEXTRID/PAC-R. Add XC Polymer for desired viscosity. Use BARIOD for density as dictated by hole conditions. This non-dispersed bipolymer system should have the following properties:

Weight:	To be dictated by hole conditions
Viscosity:	34-38 sec/1000 cc
Filter Loss:	10-15 ml

Exhibit C
Santa Fe Energy Operating Partners, LP
H. B. 3 Federal No. 2
Section 3-24S-29E
Eddy County, New Mexico

MRB:dw-2053

AUXILIARY EQUIPMENT

DRAW WORKS	National 80-B
COMPOUND/ENGINES	National 3 Section Compound Three Caterpillar D379 diesel engines.
ROTARY	27-1/2" National C-275
MAST/SUBSTRUCTURE	Derrick Service International 142' jackknife. 25' high substructure.
TRAVELLING EQUIPMENT	National 545-G 350 ton hook and block. National P-400 400 ton swivel.
PUMPS	Two National 8-P-80, 6-1/4" x 8-1/2" 800 HP triplex pumps charged by 6" x 8" centrifugal pump.
PIT SYSTEM	Three steel mud pits with lightning mixers. Two 6" x 8" centrifugal pumps each driven by a 75 HP electric motor.
GENERATORS	Two 320 KW AC generators each powered by a turbocharged diesel engine.
BOP EQUIPMENT	One annular and two ram preventers rated at 5000 psi. Choke manifold rated at 5000 psi.

Exhibit D
Santa Fe Energy Operating Partners, LP
H. B. 3 Federal No. 2
Section 3-24S-29E
Eddy County, New Mexico

MRB:dw-2053

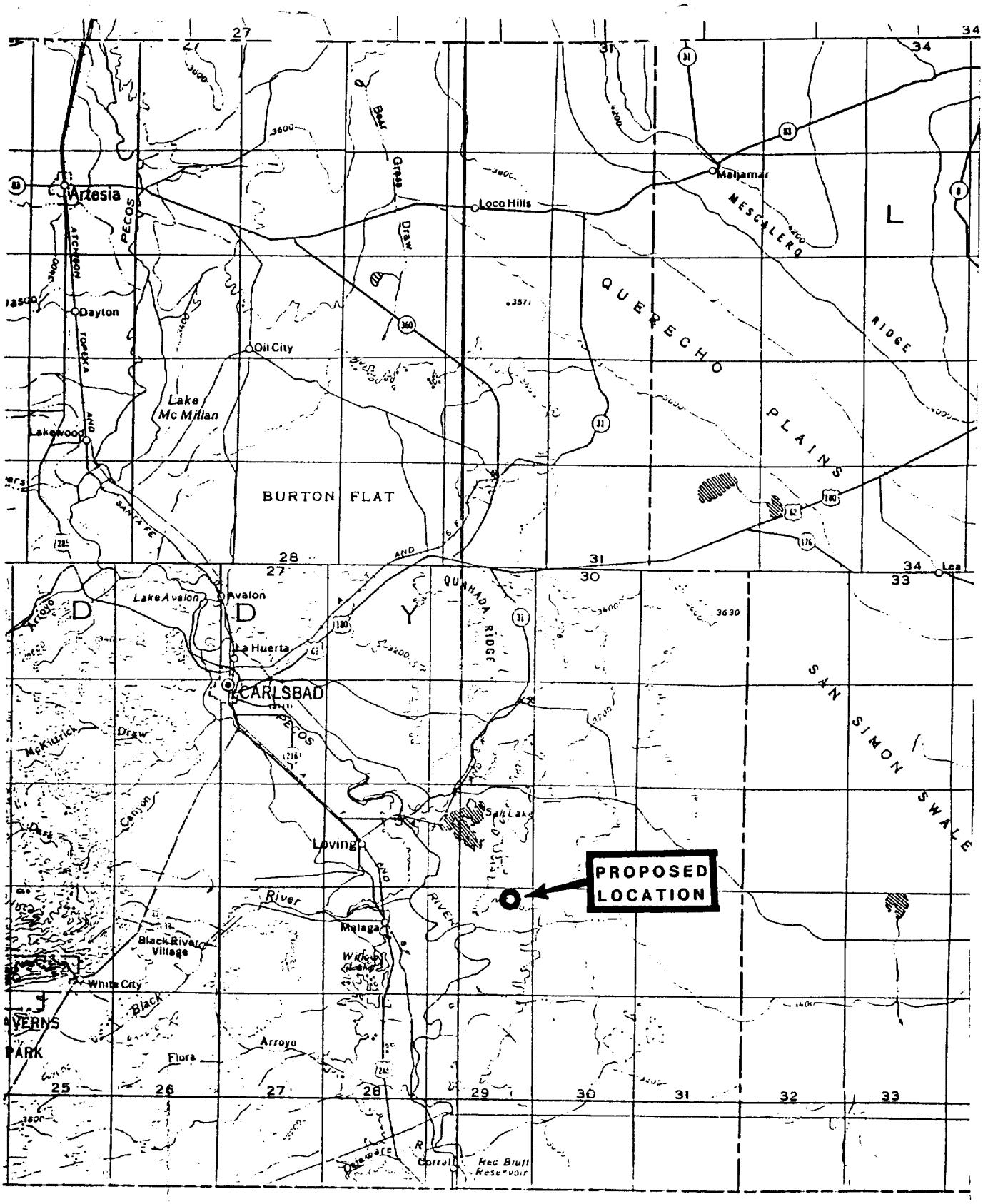

EXHIBIT E

SANTA FE ENERGY OPERATING PARTNERS, LP.
HB "3" Fed #2
1980' FEL & 660' FNL, Sec 3, T 24 S, R 29 E
EDDY CO., NEW MEXICO

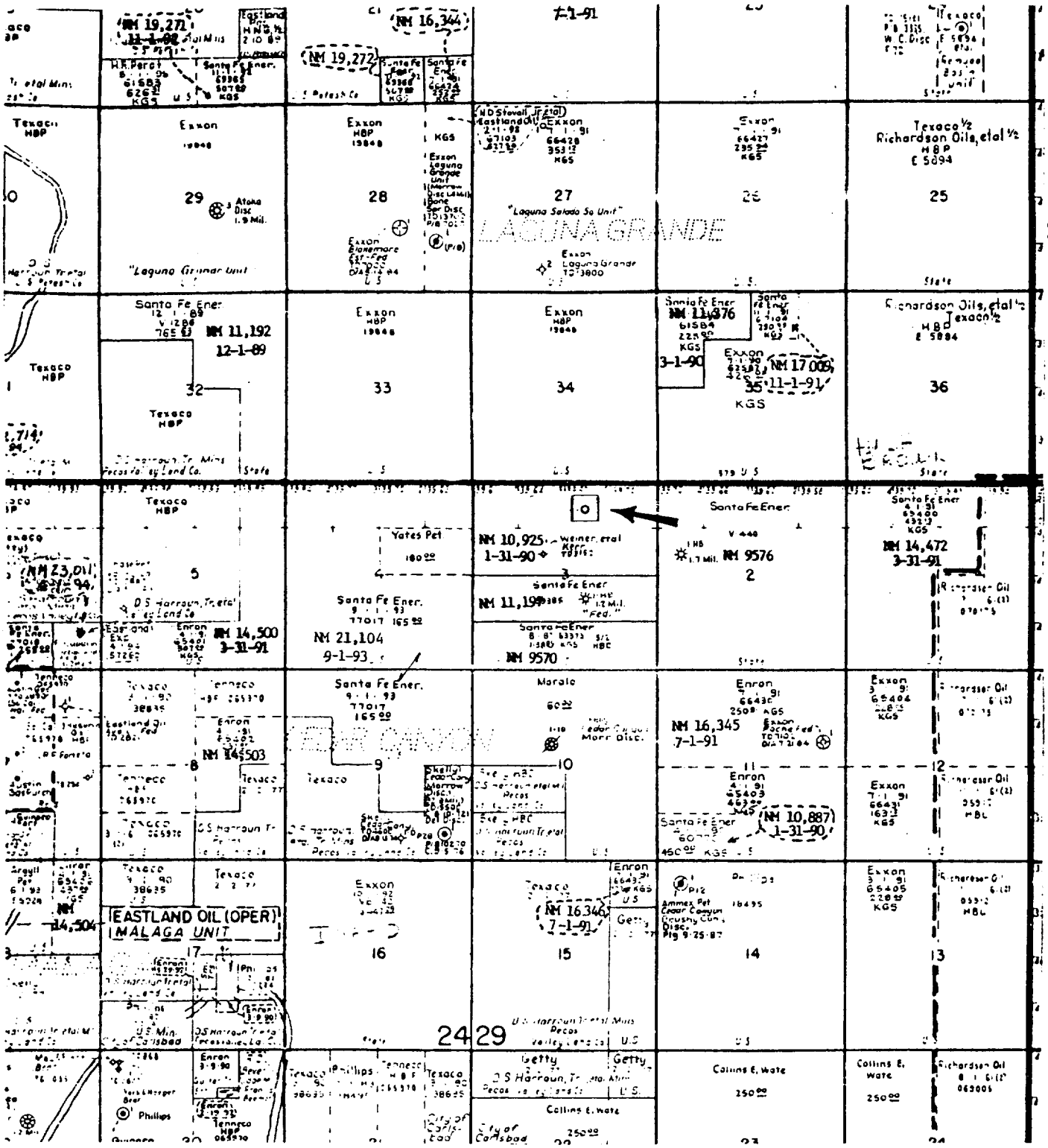

EXHIBIT F
SANTA FE ENERGY OPERATING PARTNERS, LP.
HB "3" Fed #2
1980' FEL & 660' FNL, Sec 3, T 24 S, R 29 E
EDDY CO., NEW MEXICO

EXHIBIT G
WELL SITE LAYOUT

SANTA FE ENERGY OPERATING PARTNERS, LP.
HB "3" Fed #2
1980' FEL & 660' FNL, Sec 3, T 24 S, R 29 E
EDDY CO., NEW MEXICO