RECEIVED

FEB 23'88

O. C. D. ARTESIA, OFFICE

Mi-55141 3162.41 (065)

# FEB 2 2 1988

Santa Fe Energy Operating Partners, L.P. 500 W. Illinois, Suite 500 Midland, TX 79701

Dear Sir:

Your application for permit to drill the Storling Silver 3-2 Federal Ro. 1 Well in the SWE NEW, sec. 3, T. 24 S., R. 31 L., Eddy County, New Merico, lease NM-55141, to a depth of 15,500 feet to test the Morrow formation in the Oil-Potash area, is hereby approved as amended by stipulations attached to the application.

One copy of the application is returned service. Please notify the Sureau of Land Managment office checked on the attached special stipulation, in sufficient time for a representative to witness all cementing operations.

Approval of this application 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.

Sincerely,

## Orig. Sgd. Erancis R. Cherry, Jr.

Francis 8. Cherry, Jr. District Senager

Enclosure

cc: /NMOCD - Artesia-2 NM (067) - 2 NM (065) - 1 **GENTED** 

88' F'S AP

C. C. D.

888 \$ \$ 834

Orte Sgd. Brancie K. Cherry, h.

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BUREAU OF LAND MANAGEMENT     MM-55/4/     APPLICATION FOR PEPMIL OB DR DILL, DEEPEN, OR PLUG BACK     In TYPE OF WORK     DRILL Ø O. C. D.     DILL Ø O. C. D.     OTH OR PEPMIL Ø O. C. D.     OTH OR FOR PEPMIL Ø O. C. D.     OTH OR FOR OFFICE     STATE OF OVERATOR     Santa Fe Energy Operating Partners, L.P.     MARE OF OFFICE     Son Will (Report location clearly and in accordance with any State Appyrements.*)     Job VILL (Report location clearly and in accordance with any State Appyrements.*)     JOB WILL (Report location clearly and in accordance with any State Appyrements.*)     JOB VILL (Report location clearly and in accordance with any State Appyrements.*)     JOB VILL (Report location clearly and in accordance with any State Appyrements.*)     JOB VILL (Report location clearly and in accordance with any State Appyrements.*)     JOB VILL (Report location clearly and in accordance with any State Appyrements.*)     JOB VILL (Report location clearly and in accordance with any State Appyrements.*)     JOB VILL (Report location clearly and in accordance with any State Appyrements.*)     JOB VILC (Rep	Form 3160-3 (November 1983) (formerly 9-331C)	DEPAR		TERIOR	IPLICATE structions on se side)	Expires August	No. 1004-0136 31, 1985
Ia. TTPE OF WORK   DRILL Ø   DEEPEN   PLUC. BACK   7. UNIT AGGEDMENT NAME     0. C. D.   ARTERIA. OFFICE   SINGLE   SINGLE   Feering Silver     2. NAME OF OFERATOR   ARTERIA. OFFICE   SINGLE   SINGLE   SINGLE   Feering Silver     2. NAME OF OFERATOR   ARTERIA. OFFICE   SINGLE   SINGLE   SINGLE   SINGLE   Feering Silver   Federal     Santa Fee Energy Operating Partners, L.P.   Santa Fee Energy Operating Partners, L.P.   Single Silver   Federal     500 W. Illinois, Suite 500, Midland, TX 79001   MULL NO.   Single Silver   Single Silver   Single Silver   Federal     4. Location of weak (Report location clearly and in accordance with any State Popymenets.*)   MULL NO.   Single Silver   Single Silver <td></td> <td></td> <td></td> <td></td> <td></td> <td>NM-5514</td> <td>POP TRUE NILLE</td>						NM-5514	POP TRUE NILLE
DRILL   DEEPEN   PLUG BACK   1. UNIT AGREEMENT NAME     0. C. D.   ARTESIA, OFFICE   SINGLE   SINGLE   NUMBER AND     2. NAME OF OFERATOR   ARTESIA, OFFICE   SINGLE   SINGLE </td <td></td> <td>IN FOR PERMISS</td> <td>BORILL, DE</td> <td>EPEN, OR PLUC</td> <td>BACK</td> <td>of it motan, ablotte</td> <td>A OR TRIBE NAME</td>		IN FOR PERMISS	BORILL, DE	EPEN, OR PLUC	BACK	of it motan, ablotte	A OR TRIBE NAME
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Santa Fe Energy Operating Partners, L.P.   II. U.M. Sterling Silver Federal     3. ADDRESS OF OFERATOR   III pisto AND FOOL, ON WILDCAT     500 W. Illinois, Suite 500, Midland, TX 79001   III pisto AND FOOL, ON WILDCAT     4. DOCATION OF WALL (Report location clearly and in accordance with any State requirements.)   III pisto AND FOOL, ON WILDCAT     4. DOCATION OF WALL (Report location clearly and in accordance with any State requirements.)   III pisto AND FOOL, ON WILDCAT     1980' FNL, 1980' FEL, Section 3, T-24S, R31E   III pisto AND FOOL, ON WILDCAT     At surgers   III pisto AND FOOL, ON WILDCAT     1980' FNL, 1980' FEL, Section 3, T-24S, R31E   III pisto AND FOOL, ON WILDCAT     At proposed prod. zone   Sec. 3, T-24S, R-31E     14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*   Sec. 3, T-24S, R-31E     15. DISTANCE FROM PROPOSED*   III NO. OF ACRES IN LEASE   Sec. 3, T-24S, R-31E     16. DISTANCE FROM PROPOSED*   III NO. OF ACRES IN LEASE   Sec. 3, T-24S, R-31E     16. DISTANCE FROM PROPOSED*   IIIIINO, CONTREST   NM     17. NO. OF ACRES IN LEASE INE, FR.   Sec. 3, T-24S, R-31E     18. DISTANCE FROM PROPOSED LOCATION*   IIIIINO, CONTREST   Sec. 3, T-24S, R-31E     19. PROPOSED CASING AND CEMENTING PROGRAM   Sec. 3, T-24S, R-31E   Sec. 3, T-24S,	WELL W		FFICE	SINGLE ZONE	LTIPLE	8. FARM OR LEASE NA	ME
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)   1980' FNL, 1980' FEL, Section 3, T-24S, R31E   Undesignated West Sand Danes Morrow     1980' FNL, 1980' FEL, Section 3, T-24S, R31E   N.M. W   Image Morrow   Image Morrow     At proposed prod. zone   Same   Sec. 3, T-24S, R-31E   Image Morrow   Image Morrow     14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*   N.M. W   Sec. 3, T-24S, R-31E   Image Morrow     35 miles NW from Jal, NM   Iso nearest fig. unit line, if any, 660'   16. NO. OF ACRES IN LEASE   Sec. 3, T-24S, R-31E     10. DISTANCE FROM PROPOSED*   LOCATION TO NEAREST TOWN OR POST OFFICE*   Sec. 3, T-24S, R-31E   Image Morrow     13. DISTANCE FROM PROPOSED*   CO   Sec. 3, T-24S, R-31E   Image Morrow     LOCATION TO NEAREST   M.M.   13. STATE   Eddy   NM     14. DISTANCE FROM PROPOSED   GO '   16. NO. OF ACRES IN LEASE   17. NO. OF ACRES ASSIGNED   To TRIAREST WELL, DRILLING, COMPLETED, N/A   19. PROPOSED DEPTH   320   20. ROTART OR CABLE TOOLS     3450.9   21. ELEVATIONS (Show whether DF, RT, GR, etc.)   3450.9   22. APPROX. DATE WORK WILL START*     3450.9   Size OF HOLE   Size OF CASING   WEIGHT FER FOOT   SETTIN	Santa Fe Ene 3. Address of Operator	. <u>.</u>		JANIS		9. WELL NO.	
At proposed prod. zone   Same   AND SUBVET OR AREA     14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*   Argument of the second product of the	4. LOCATION OF WELL (R At surface	teport location clearly and	in accordance with a	any State requirements.*)	<u>~ 1988 (</u>	Undesignated Danes Morrow	West Sand
Same     Sec. 3, T-24S, R-31E     Sec. 3, T-24S, R-31E     35 miles AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*     Sec. 3, T-24S, R-31E     12. COUNTY OR PARISH 13. STATE Eddy     Solution to nearest drig. unit line, if any)     16. NO. OF ACRES IN LEASE PROPERTY OR LEASE LINE, FT. (Also to nearest drig. unit line, if any)   660'     18. DISTANCE FROM TROOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, TT. N/A   16. NO. OF ACRES IN LEASE 320   17. NO. OF ACRES ASSIGNED TO THIS WELL 320   17. NO. OF ACRES ASSIGNED TO THIS WELL 320     18. DISTANCE FROM TROOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, TT. N/A   19. PROPOSED DEPTH 15,500'   20. ROTARY OR CABLE TOOLS Rotary     21. ELEVATIONS (Show whether DF, RT, GR, etc.) 3450.9   22. APPROX. DATE WORE WILL START* as SOON as possible     PROPOSED CASING AND CEMENTING PROGRAM     SIZE OF HOLE			II J, 1-243,	NOTE VE O	V.A. HEVI		
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*   12. COUNTY OR PARISH   13. STATE     35 miles NW from Jal, NM   Eddy   NM     15. DISTANCE FROM PROPOSED*   16. NO. OF ACRES IN LEASE   17. NO. OF ACRES ASSIGNED     18. DISTANCE FROM PROPOSED decorrection of the server drig. unit line, if any)   660'   320   320     18. DISTANCE FROM PROPOSED LOCATION*   660'   19. PROPOSED DEPTH   20. ROTART OR CABLE TOOLS     06 APPLIED FOR, ON THIS LEASE, FT.   N/A   15,500'   Rotary     21. ELEVATIONS (Show whether DF, RT, GR, etc.)   3450.9   22. APPROX. DATE WORE WILL START*     23.   PROPOSED CASING AND CEMENTING PROGRAM   s soon as possible     SIZE OF HOLE     8IZE OF CASING   WEIGHT FER FOOT   SETTING DEPTH   QUANTITY OF CEMENT     171/2''   13-3/8''   48.0   650'   1175   cu.ft. circulated     121/4''   9-5/8''   40.0   4,350'   3892   cu.ft. circulated     8-1/2''   7''   26.0 & 29.0   12,000'   1200   cu.ft. circulated		16	•		··· v	Sec. 3. T-2	45. R-31F
35 miles NW from Jal, NM   Eddy   NM     15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPOSED TO NEAREST PROPOSED GALASE LINE, FT. (Also to nearest drig. unit line, if any)   660'   16. NO. OF ACRES IN LEASE 320   17. NO. OF ACRES ASSIGNED TO THIS WELL 320   320	14. DISTANCE IN MILES	AND DIRECTION FROM NEAR	EST TOWN OR POST O	FFICE*	Mexic	-	•
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3450.9     23.     PROPOSED CASING AND CEMENTING PROGRAM     SIZE OF HOLE   SIZE OF CASING     17-1/2"   13-3/8"   WEIGHT PER FOOT   SETTING DEPTH   QUANTITY OF CEMENT     12-1/4"   9-5/8"   40.0   4,350'   3892 cu.ft. circulated     8-1/2"   7"   26.0 & 29.0   12,000'   1200 cu.ft. circulated	OR APPLIED FOR, ON TH	IS LEASE, FT. N/	A	15,500'	F	lotary	
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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     650'     1175 cu.ft. circulated       12-1/4"     9-5/8"     40.0     4,350'     3892 cu.ft. circulated       8-1/2"     7"     26.0 & 29.0     12,000'     1200 cu.ft. circulated		····				as soon as	possible
17-1/2"     13-3/8"     48.0     650'     1175 cu.ft. circulated       12-1/4"     9-5/8"     40.0     4,350'     3892 cu.ft. circulated       8-1/2"     7"     26.0 & 29.0     12,000'     1200 cu.ft. circulated	20.	1	PROPOSED CASING	AND CEMENTING PROC	RAM		
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660 cu.ft.	- / -	1 1			4		ated
	б <sup></sup>	' 4-1/2" 1	13.	متحد, 15–11, 500-15 <sup>11</sup>	660	cu.ft.	

13-3/8" casing will be cemented with sufficient Class "C" cement containing 4% gel, 1/4#/sk cellofane flakes to circulate to surface when followed by 330 cu. ft. of Class "C" with 2% Calcium Chloride.

9-5/8" casing to be cemented with sufficient lite cement to circulate to surface when followed by 264 cu.ft. Class "C" containing 2% Calcium Chloride.

7" casing to be cemented with 50/50 Class "H" Poz containing 6# salt per sack and 0.6% fluid loss reducer to bring cement to 8,000'.

4-1/2" casing to be cemented 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. All cement to weigh at least 1 ppg more than mud weight used to drill the interval. Post ID #I

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.

SIGNED

District Drilling Entineer

DATE

APPROVAL DATE \_\_

(This space for Federal or State office use)

PERMIT NO. \_

APPROVED BY \_\_\_\_\_\_ CONDITIONS OF APPROVAL, IF ANY : TITLE \_\_\_\_\_

#### \*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.

## EW MEXICO OIL CONSERVATION COMM. JON WELL LOCATION AND ACREAGE DEDICATION PLAT

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Form C-102 Supersedes C-128 Offective 1-1-65

··· <u>_</u>	····	All distances must be from	no the outer bounda	ries of the Secti	on	
Santa Fe	Operating Co	• L.P.	ease Sturling	g Silver 3	2	Wa. *: .
aut Letter	Section	Township	Figniqe	, SILVER 3	rederal	<i>F</i>
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	MOR		Under. West	- SAND D	unes	320.11
1. Outline t	he acreage dedic	ated to the subject well	by colored per	ncil or hachui	e marks on t	he plat below.
	·····	dedicated to the well,				
dated by		unitization, force-pooling	(.etc?	vell, have the	interests o	f all owners been consoli
If answer	is "no?" list the	owners and tract descrip	otions which ha	ve actually b	een consolid	ated. (Ese reverse side o
	- Hoceboar					
No allowa forced-poo sion.	ble will be assigr lling, or otherwise	ned to the well until all ir ) or until a non-standard u	nterests have be init, eliminating	een consolid: g such interes	ated (by com sts, has been	munitization, unitization, approved by the Commis-
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Fodomal In	ase No. NM-55				T the	- J Company
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HSA - 12.5	%—25% Royalty	ng Partners, L.P.,	et al - 100	<u>)% W.I,</u>		
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T-24-S, R-31-E, Eddy County, New Mexico Section 3: Lots 1, 2 & S/2NE/4, SE/4

WI<br/>Santa Fe Energy Operating Partners, L.P.33 1/3%<br/>66 2/3%<br/>100.000%

<u>RI</u> USA - 12.5%-25%\*

\*Federal Sliding Scale Royalty

## APPLICATION FOR DRILLING SANTA FE ENERGY COMPANY Sterling Silver 3 Federal No. 2

6

In conjunction with form 9-331C, Application to Drill subject well, Santa Fe Energy Company 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:

Rustler	959 <b>'</b>
Base of Salt	4234 <b>'</b>
Delaware Lamar Lime	4314'
Cherry Canyon	5344'
Bone Springs	8124'
Wolfcamp	11534'
Strawn	13234'
Atoka	13684'
Lower Morrow Clastics	14924'
TD	15500'

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 11,534-13,1234'			
	Strawn 13,234-13,684'			
	Atoka 13,684-14,924'			
	Morrow 14,924-15,500 '			

- 4. Proposed casing program: See Form 9-331C and Exhibit A.
- 5. Pressure control Equipment: See Form 9-331C and Exhibit B.
- 6. Drilling Fluid Program: See Exhibit C.
- 7. Auxilliary Equipment: See Exhibit D.
- 8. Testing, Logging and Coring Programs:

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

Wolfcamp	11534-13234'
Strawn	13234-13684'
Atoka	13684-14924'
Morrow	14924-15500'

Application for Drilling Sterling Silver 3 Federal No. 2 Page 2

Logging:

Logging from 4314 - TD: Dual Laterolog with Gamma Ray Neutron-Density with Gamma Ray Computer Process Log over selected intervals

Logging from surface to 4314': 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.

MRB:SL-904

MULTI-POINT SURFACE USE AND OPERATIONS PLAN SANTA FE ENERGY OPERATING PARTNERS, L.P. Sterling Silver 3 Federal No. 2 1980' FNL, 1980' FEL Section 3, T-24S, R-31E Eddy County, New Mexico

This plan is submitted with Form 9-331C, 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.

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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 38 miles northwest of Jal, New Mexico.

DIRECTIONS:

- Proceed West on Highway 128 from Ja1, New Mexico for 38 miles.
- 2. Turn left (south) onto oilfield road and continue for 2.5 miles.
- 3. Turn left on dirt road into location.
- 2. PLANNED ACCESS ROAD.

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

Multi-Point Surface Use and Operations Plan Sterling Silver 3 Federal No. 2 Page 2

- 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 of waters 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 3, T-24S, R-31E.
- 7. METHODS OF HANDLING WASTE DISPOSAL.

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- 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 unitl 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 material 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.

Multi-Point Surface Use and Operations Plan Sterling Silver 3 Federal No. 2 Page 3

- C. The reserve pits will be plastic lined.
- D. A 600' X 600' 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 complied 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 no 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, histroical, 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:

Hugh Boyt	Michael R. Burton
District Production Manager	District Drilling Engineer
Santa Fe Energy Operating	Santa Fe Energy Operating
Partners, L.P.	Partners, L.P.
500 West Illinois	500 West Illinois
Midland, Texas 79701	Midland, Texas 79701
915/687-3551 - office 915/697-4768 - home	915/687-3551 - office
915/69/-4/68 - home	915/699-1260 - home
	806/373-1911 - mobile

Multi-Point Surface Use and Operations Plan Sterling Silver 3 Federal No. 2 Page 4

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.

1/19/88 Date \_\_\_\_

Michael R. Buton

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MRB:SL-904a

## SANTA FE ENERGY OPERATING PARTNERS, L.P. OPERATIONS PLAN Sterling Silver 3 Federal No. 2

- 1. Drill a 17 1/2" hole to 650'.
- 2. Run 13 3/8" 48.0 ppf H-40 casing. Cement with 500 sacks lite weight cement containing 3% salt and 1 lb./sack hi-seal followed by 400 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.

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- 5. Test casing to 600 psi after cement has attained 500 psi compressive strength.
- 6. Drill a 12 1/4" hole to 4350'.
- 7. Run 9 5/8" 40.0# K-55 casing. Cement with sufficient lite weight cement containing 5# salt per sack and 1# Hi-seal per sack followed by 640 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.
- Drill 8 1/2" hole to first good lime section after topping wolfcamp. This is anticipated to be at 12000'±.
- 12. Run Logs.
- 13. Run 7" 29.0# S-95 casing. Cement with sufficient lite weight cement containing 0.75% fluid loss reducer 2#/sk hi-seal followed by 300 sacks class H with 1% fulid loss reducer to fill 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.

Operations Plan Sterling Silver 3 Federal No. 1 Page 2

- 16. Test casing to 5000 psi.
- 17. Drill 6" hole to 15500'.
- 18. Run logs.
- 19. Run 4 1/2" 13.5# S-95 liner to extend from 11500' to 15500'. Cement with sufficient Class H cement containing 1.5% fluid loss to circulate liner. Run float collar two joints above float shoe.
- 20. Blow out 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 ram preventers, blind ram preventer, and values on choke manifold will be rated at 5000 psi working pressure or greater.

Exhibit A Santa Fe Energy Operating Partners, L.P. Sterling Silver 3 Federal No. 2 Sec. 3, T-24S, R-31E Eddy County, New Mexico

MRB:SL-904b

after Prentice and Records





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## 0 - 650'

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.

### 650 - 4350'

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 AQAGEL or ZEOGEL/paper slugs as needed to sweep hole. For corrosion control, use Sodium Bichromate.

### 4350 - 12000'

Drill out with fresh water or cut brine circulating a controlled section of the reserve pit using BEN-EX/MF-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 AQUGEL pills to sweep the hold free of cutting shen 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 additions 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.

## 12000 - 15500'

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 BAROID for density as dictated by hole conditions. This non-dispersed bipolymer system should have the following properties: Weight: to be dicated by hole conditions, Vis-cosity: 34 - 38 sec/1000 cc, Filter Loss: 10 -15 ml.

> Exhibit C, Page 1 Santa Fe Energy Operating Partners, L.P. Sterling Silver 3 Federal No. 2 Section 3, T-24S, R-31E Eddy County, New Mexico

## AUXILLIARY EQUIPMENT

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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' jacknife. 25' high substructure.		
TRAVELING 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 320KW AC generators each powered by a turbo- charged diesel engine.		
BOP EQUIPMENT	One annular and three ram preventers rated at 5000 psi. Choke Manifold rated at 5000 psi.		
	Exhibit D Santa Fe Energy Operating Partners, L.P. Sterling Silver 3 Federal No. 2 Section 3, T-24S, R-31E Eddy County, New Mexico		

MRB:SL-904d



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