N. M. Oil Cons. Division
811 S. 1st St
ARTESIA, NM 88210-2834

Form 3160-3
(July 1992)

SUBMIT IN TRIPLICATE
(Other instructions on reverse side)

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

NITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

5. LEASE DESIGNATION AND SERIAL NO.: NM-54856

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME: 26851

8. FARM OR LEASE NAME, WELL NO.: Crow Flat "20" Fed Com #1

9. API WELL NO.: 30-015-31413

10. FIELD AND POOL, OR WILDCAT: Undes Crow Flat (Morrow)

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 20, T-16-S, R-28-E

12. COUNTY OR PARISH: Eddy | 13. STATE: New Mexico

1a. TYPE OF WORK: DRILL ☒ DEEPEN ☐

b. TYPE OF WELL: OIL WELL ☐ GAS WELL ☒ OTHER — SINGLE ZONE ☐ MULTIPLE ZONE ☐

2. NAME OF OPERATOR: Santa Fe Snyder Corp. 20305

3. ADDRESS AND TELEPHONE NO.: 550 W. Texas, Suite 1330; Midland, Texas 79701 (915)682-6373

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: (K) 1980' FSL & 1980' FWL
At proposed prod. zone:

RECEIVED
OCD - ARTESIA

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 12 miles NE of Artesia, 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'	320	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**
NA	9600'	Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 3620' GR

22. APPROX. DATE WORK WILL START*: July 25, 2000

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2"	H-40 13 3/8"	48.0	8.4 ~~380~~ 500	350 sx to circulate
11"	K-55 8 5/8"	24.0	8.4 2000'	600 sx to circulate
7 7/8"	K-55 4 1/2"	11.60	10.0 9600'	600 sx for TOC @ 6000'

MITNES

We propose to drill to a depth sufficient to test the Morrow formation for gas. If productive, 4 1/2" casing will be cemented to TD. If non-productive, the well will be plugged and abandoned in a manner consistent with Federal Regulations. Specific programs as per Onshore Oil and Gas Order No. 1 are outlined in the following attachments:

Drilling Program
- Exhibit A - Operations Plan
- Exhibit B - BOP and Choke Schematic
- Exhibit C - Drilling Fluid Program
- Exhibit D - Auxiliary Equipment
- Exhibit E - Topo Map at Location
- Exhibit F - Plat Showing Existing Wells
- Exhibit G - Well Site Layout
- Surface Use and Operations Plan

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS

Santa Fe Snyder Corp. accepts all applicable terms, conditions, stipulations and restrictions concerning operations conducted on the leased land or portion thereof, as described above.

Bond Coverage: Blanket Bond BLM Bond File No.: UT-0855

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 James P. "Phil" Stinson TITLE Agent for Santa Fe Snyder Corp. DATE 6-28-2000

(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:

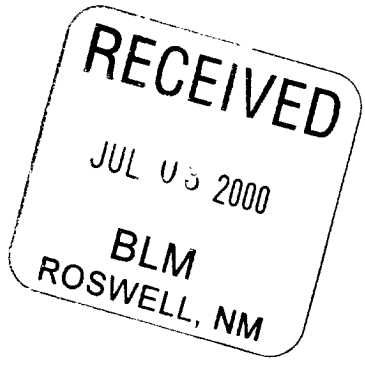
/S/LARRY D. BRAY Assistant Field Manager, Lands And Minerals OCT 31 2000

APPROVED BY _____ TITLE _____ DATE _____

*See Instructions On Reverse Side

APPROVED FOR 1 YEAR

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.


RECEIVED
JUL 05 2000
BLM
ROSWELL, NM

DISTRICT I
P.O. Box 1980, 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 Depart-

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	Pool Code	Pool Name
		Crow Flats Morrow

Property Code	Property Name	Well Number
	CROW FLAT "20" FEDERAL COM	1

OGRID No.	Operator Name	Elevation
20305	SANTA FE SNYDER CORPORATION	3620

Surface Location

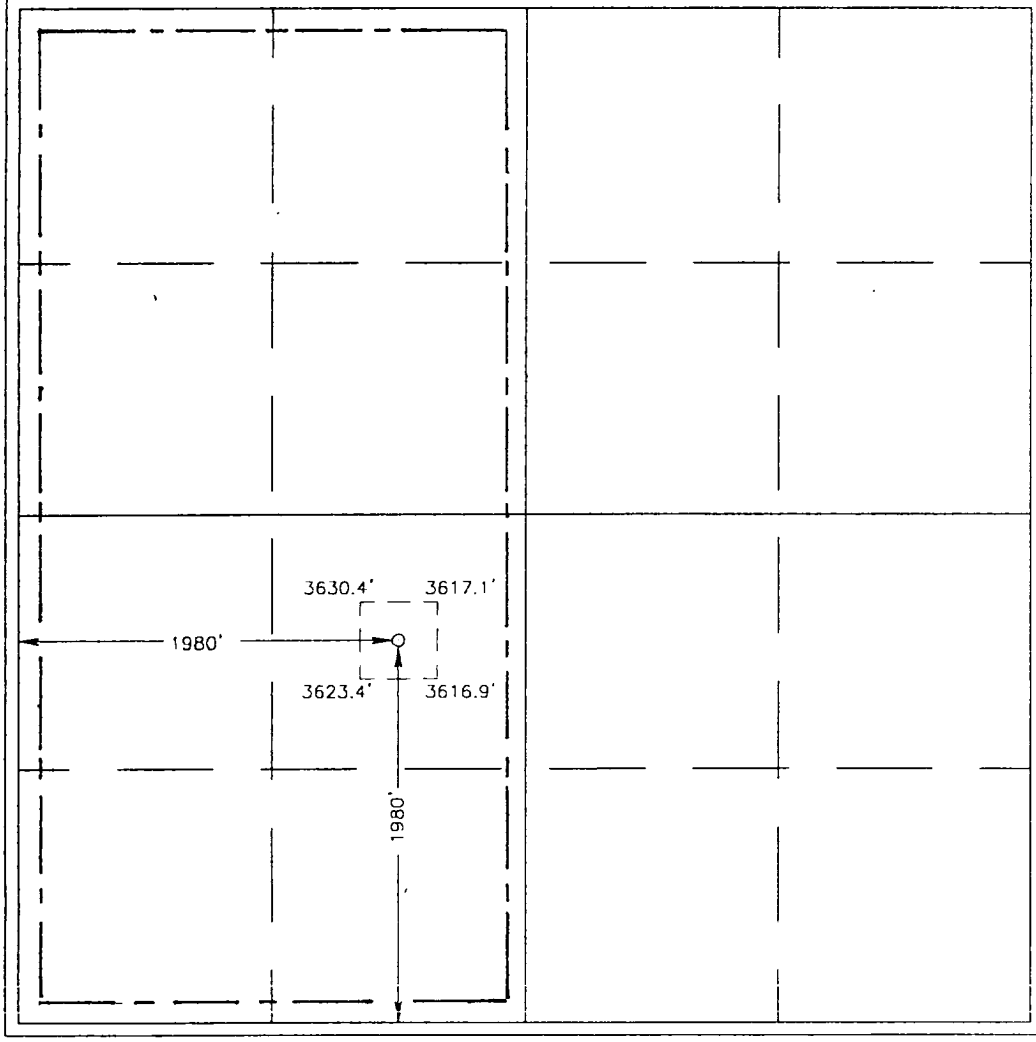
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	20	16 S	28 E		1980	SOUTH	1980	WEST	EDDY

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.
320			

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.

James P. "Phil" Stinson
Signature

James P. "Phil" Stinson
Printed Name

Agent for Santa Fe Snyder
Title

6-28-2000
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 supervison, and that the same is true and correct to the best of my belief.

JUNE 7, 2000
Date Surveyed DC

Signature & Seal of Professional Surveyor

RONALD J. EIDSON
NEW MEXICO
3239

6/08/00
00-11-0682

Certificate No. RONALD J. EIDSON 3239
GARY L. EIDSON 12641
MACON McDONALD 12185

DRILLING PROGRAM

SANTA FE SNYDER CORP.

Crow Flat "20" Fed Com No.1

In conjunction with Form 3160-3, Application to Drill the subject well, Santa Fe Snyder Corp. submits the following ten items of pertinent information in accordance with Onshore Oil & Gas Order No. 1.

1. **Geologic Name of Surface Formation:** Alluvium

2. **Estimated Tops of Significant Geologic Markers:**

Premier	1800'
Abo	5300'
Wolfcamp	6500'
Atoka	8900'
Morrow	9200'
Mississippian	9600'
Total Depth	9600'

3. **The estimated depths at which water, oil or gas formations are expected:**

Water	None expected in area
Gas	Atoka - Morrow @ 8900'- 9300'

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

5. **Pressure Control Equipment:** See Exhibit B

6. **Drilling Fluid Program:** See Exhibit C

7. **Auxiliary Equipment:** A mud logging unit will be utilized to monitor penetration rate and hydrocarbon shows while drilling below 2000' to TD.

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

Drill Stem Tests: (all DST's to be justified on the basis of valid show of oil or gas):

Atoka - Morrow 8900'- 9300'

Logging:

Dual Laterolog W/MSFL and Gamma Ray	2000' - 9600'
Compensated Neutron/Litho-Density/Gamma Ray	2000' - 9600'
Compensated Neutron/Gamma Ray (thru csg)	Surface-2000'

Coring: No conventional cores are planned.

9. **Abnormal Conditions, Pressures, Temperatures & Potential Hazards:**

No abnormal pressures are anticipated. The estimated bottom hole temperature is 138° and the estimated bottom hole pressure is 4015 psi. No Hydrogen Sulfide or other hazardous gases or fluids have been encountered, reported or are known to exist at this depth in this area. No major lost circulation zones have been reported in the offsetting wells.

10. Anticipated Starting Date and Duration of Operations:

Road and location work will not begin until approval has been received from the B.L.M. The anticipated spud date is July 25, 2000. Once spudded, the drilling operation should be completed in approximately 20 days. If the well is productive, an additional 30 days will be required for completion and testing before permanent facilities are installed.

EXHIBIT A
OPERATIONS PLAN
SANTA FE SNYDER CORP.
Crow Flat "20" Fed Com No.1
Section 20, T-16-S, R-28-E
Eddy County, New Mexico

1. Drill a 17-1/2" hole to approximately 350'.

2. Run 13-3/8" 48.0 ppf H-40 ST&C casing. Cement with 350 sx Class "C" cement containing 2% $CaCl_2$. Run centralizers on every other joint above the shoe. Apply thread lock to bottom two joints and guide shoe.

3. Wait on cement twelve hours prior to cutting off.

4. Nipple up an annular BOP system and test casing to 600 psi. WOC twenty-four (24) hours prior to drilling out.

5. Drill a 11" hole to approximately 1150'.

6. Run 2000' 8 5/8" 24 ppf J-55 ST&C casing. Cement with 400 sx Cl "C" Lite containing 1/4 pps celloflake followed by 200 sx Class "C" with 2% $CaCl_2$. Run guide shoe on bottom and float collar two joints from bottom. Centralize every other joint for bottom 400' of casing and place two centralizers in surface casing. Thread lock bottom 2 joints.

7. Wait on cement for twelve hours prior to cutting off.

8. Nipple up and install a Double Ram and Annular BOP system with choke manifold.

9. Test BOP system to 1500 psi with the rig pump. Test casing to 1500 psi.

10. Drill 7-7/8" hole to 9600'. Run logs.

11. Either run and cement 9600' of 4-1/2" 11.60 ppf K-55 LT&C casing or plug and abandon as per BLM requirements.

PROPOSED 3-M BOPE AND CHOKE ARRANGEMENT

EXHIBIT B
SANTA FE SNYDER CORP.
Crow Flat "20" Fed Com No. 1
1980' FSL & 1980' FWL
Section 20, T-16-S, R-28-E
Eddy County, New Mexico

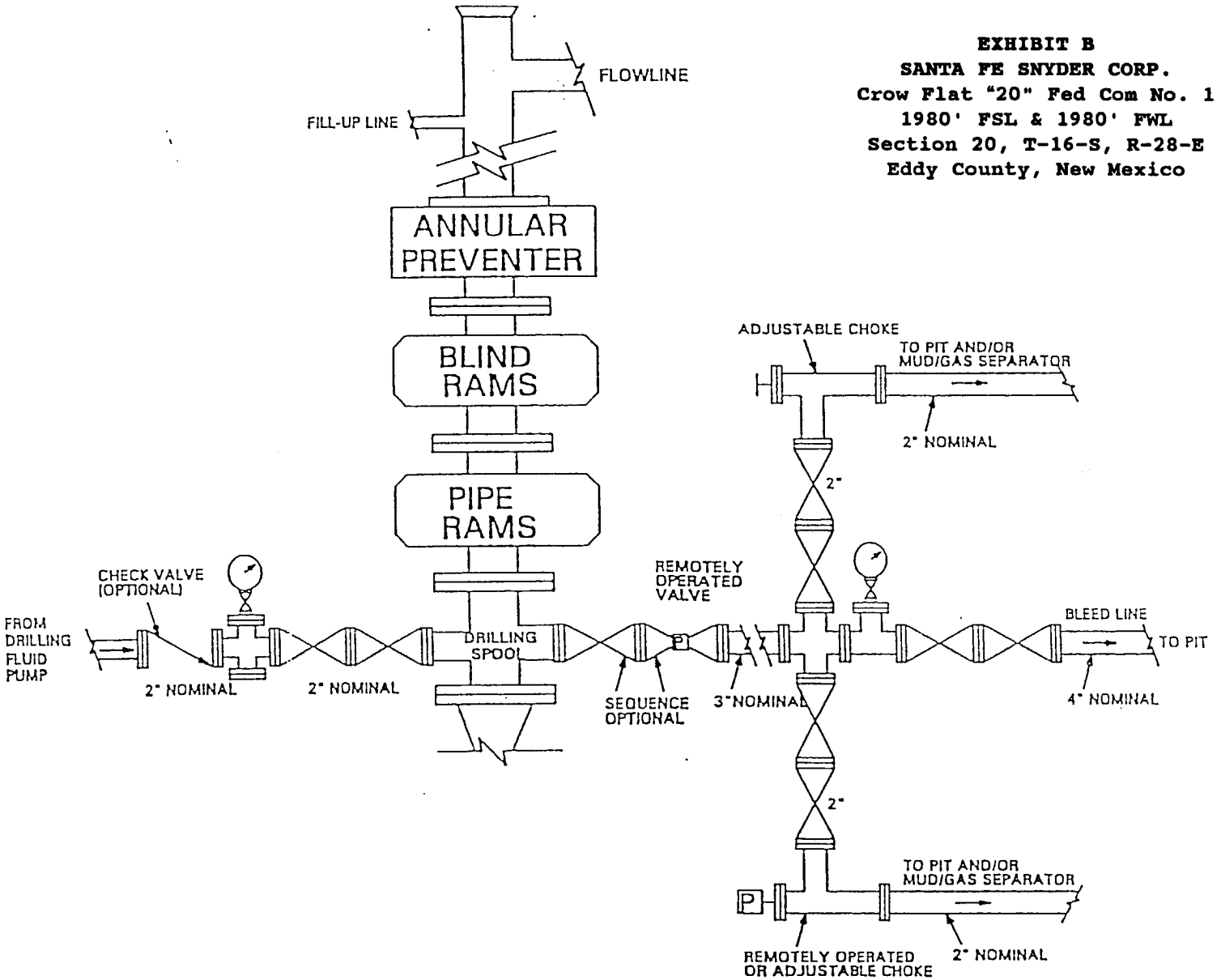


EXHIBIT C
DRILLING FLUID PROGRAM
SANTA FE SNYDER CORP.
Crow Flat "20" Fed Com No.1
Section 20, T-16-S, R-28-E
Eddy County, New Mexico

0 - 350'

Spud mud consisting of fresh water gel flocculated with Lime. Use ground paper for seepage control and to sweep the hole. MW-8.5 ppg and Vis-40.

350 - 2000'

Drill out with fresh water circulating the inner portion of the reserve pit. Utilize ground paper mixed in prehydrated fresh gel to sweep the hole. MW-10.0 ppg and Vis-28.

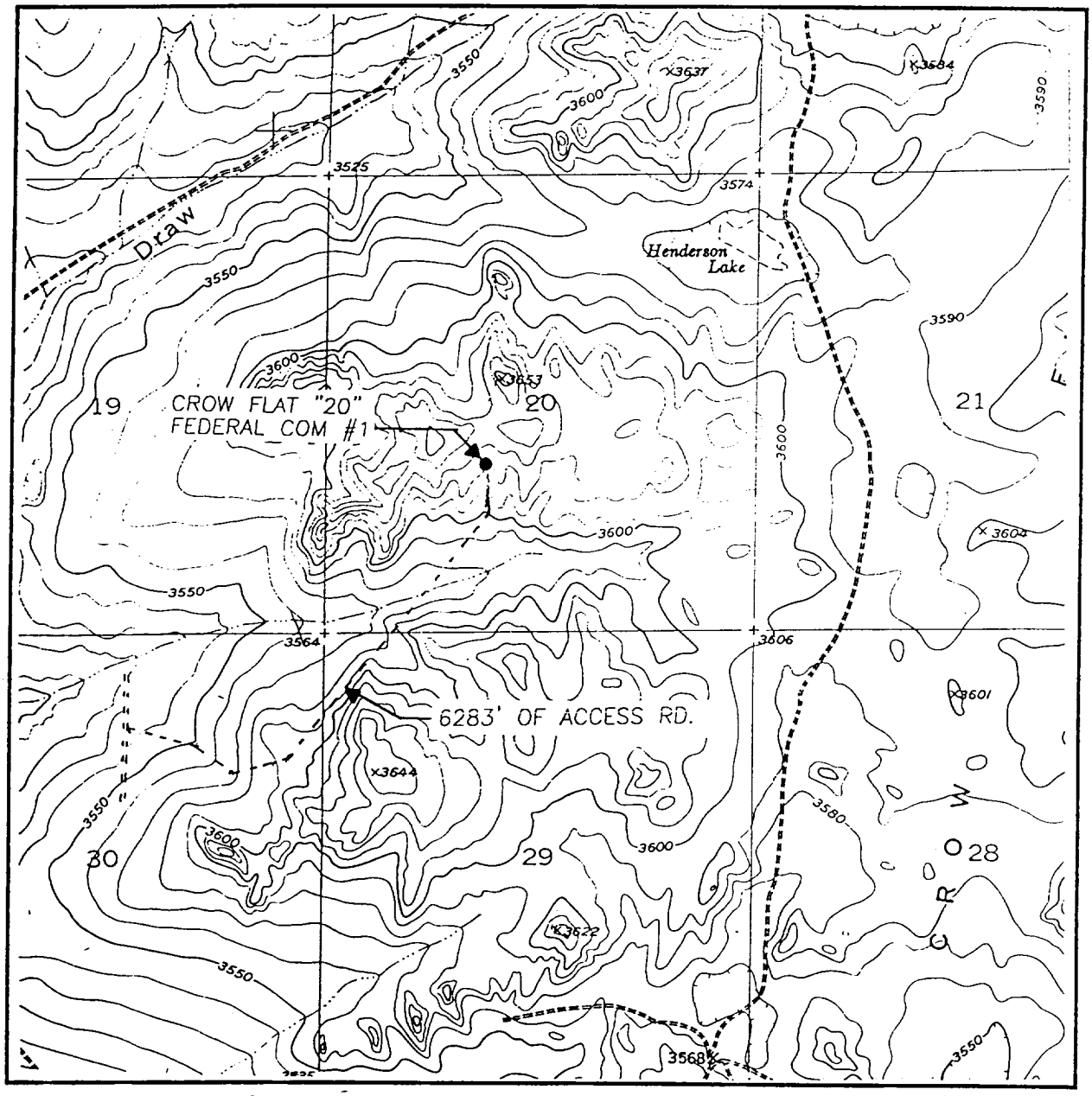
2000 - 9600'

Drill out with fresh water circulating the outer portion of the reserve pit. Convert to cut brine water (8.6 - 9.2 ppg) prior to reaching the Abo @ ± 5300'. Pump salt gel/paper sweeps as necessary to clean hole. Increase fluid weight to 9.6 - 10.0 ppg by 7600'. Adjust the fluid loss to 10CC and the viscosity to 32.34 prior to drilling to the Atoka.

EXHIBIT D
AUXILIARY EQUIPMENT
SANTA FE SNYDER CORP.
Crow Flat "20" Fed Com No.1
Section 20, T-16-S, R-28-E
Eddy County, New Mexico

DRAWWORKS	BDW 650M 650 HP, with Parmac Hydromatic brake
ENGINES	Two Caterpillar D-353 diesels rated at 425 HP each
ROTARY	Ideco 23", 300 ton capacity
MAST/SUB	Ideal 132', 550,000 lb rated static hook load with 10 lines. Wagner 15' high substructure
TRAVELLING EQUIPMENT	Gardner-Denver, 300 ton, 5 sheave w/BJ 250 ton hook. Brewster Model 7 SX 300 ton swivel
PUMPS	Continental-EMSCO DC-700 and DB-550, 5-12 x 16" Duplex, Compound driven
PIT SYSTEM	1-Shale Pit 6X7X35', 1-Setting Pit 6X7X38', 1-Suction Pit 6X7X34' w/5 mud agitators. Two centrifugal mud mixing pumps and a Double Screen Shale Shaker.
LIGHT PLANT	Two CAT 3306 diesel electric sets 180 KW prime power
BOP EQUIP	13-5/8" 3000 psi WP double ram and 13-5/8" 3000 psi WP Shaffer Annular Preventer. Choke manifold rated at 3000 psi. Valvcon 5-station 80 gallon closing unit

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
DIAMOND MOUND - 10'

SEC. 20 TWP. 16-S RGE. 28-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 1980' FSL & 1980' FWL

ELEVATION 3620

OPERATOR SANTA FE SNYDER CORPORATION

LEASE CROW FLAT "20" FEDERAL COM

U.S.G.S. TOPOGRAPHIC MAP
DIAMOND MOUND, N.M.

EXHIBIT E
TOPO MAP OF LOCATION AREA
SANTA FE SNYDER CORP.
Crow Flat "20" Fed Com No. 1
1980' FSL & 1980' FWL
Section 20, T-16-S, R-28-E
Eddy County, New Mexico

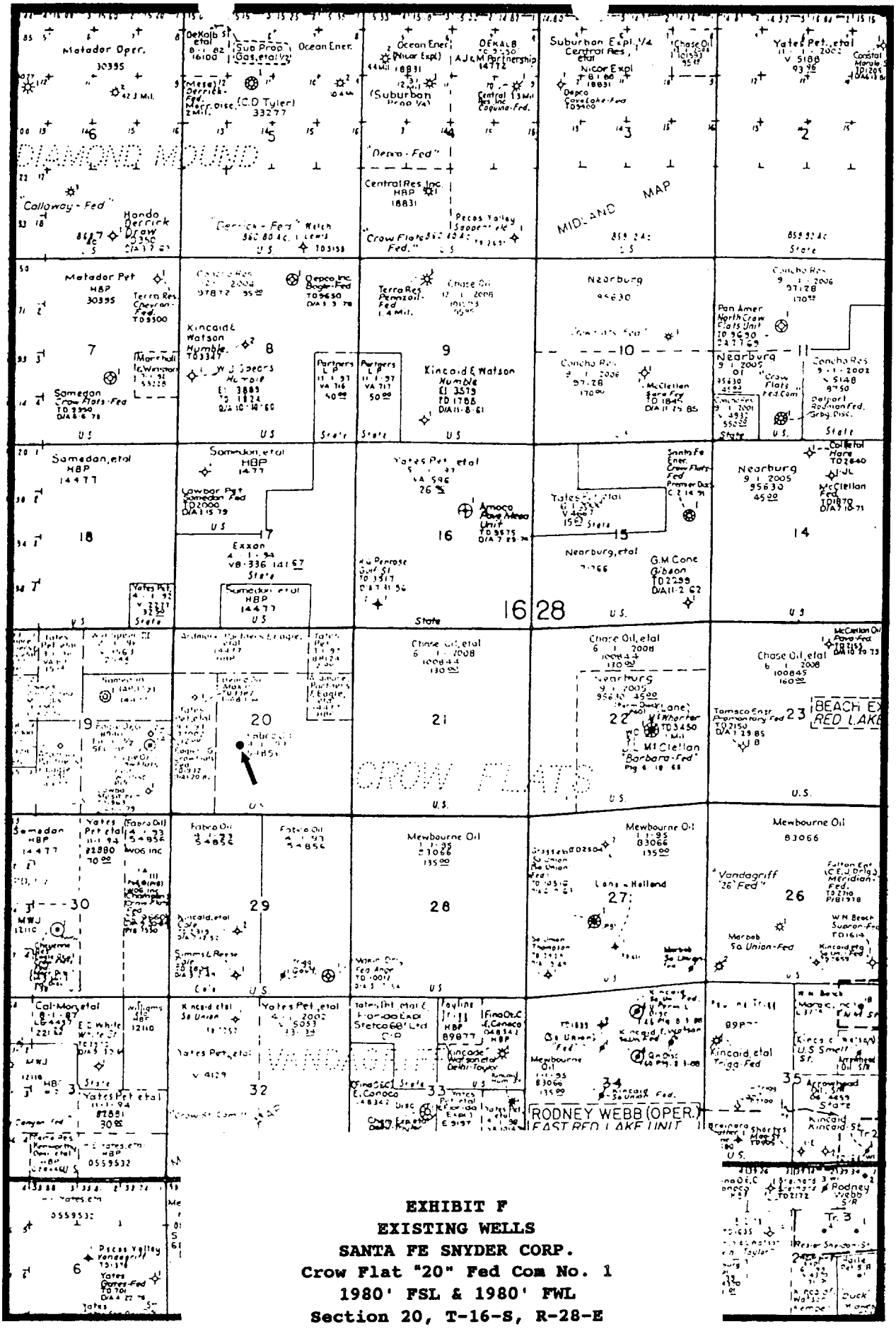


EXHIBIT F
EXISTING WELLS
SANTA FE SNYDER CORP.
Crow Flat "20" Fed Com No. 1
1980' FSL & 1980' FWL
Section 20, T-16-S, R-28-E
Eddy County, New Mexico

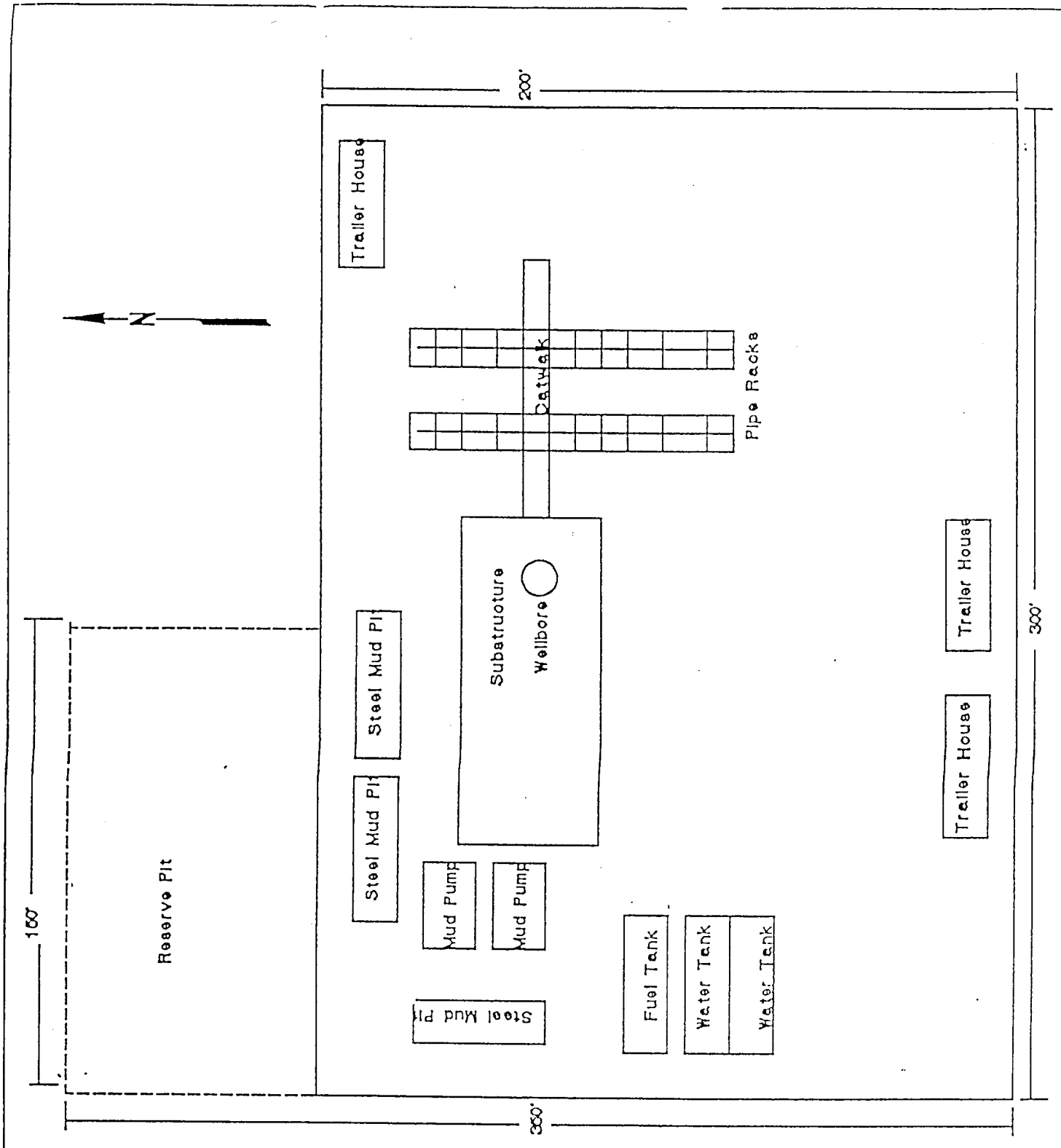


EXHIBIT G
WELL SITE LAYOUT
SANTA FE SNYDER CORP.
Crow Flat "20" Fed Com No. 1
1980' FSL & 1980' FWL
Section 20, T-16-S, R-28-E
Eddy County, New Mexico

SANTA FE SNYDER CORP.
MULTI-POINT SURFACE USE AND OPERATIONS PLAN
Crow Flat "20" Fed Com No.1
Section 20, T-16-S, R-28-E
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 15 minute topographic map which shows the location of the proposed wellsite and roads in the vicinity. The proposed location is situated approximately 12 miles northeast of Artesia, New Mexico.

DIRECTIONS

1. From Artesia go east on Hwy 82 to Co. Rd 202, turn left and go 4.5 miles north, northwest and northeast to the proposed location.

2. PLANNED ACCESS ROAD.

A. Repair as necessary approximately 3 miles of existing road and build 1.5 miles of new access road to the proposed location.

3. LOCATION OF EXISTING WELLS.

A. The well locations in the vicinity of the proposed well are shown in Exhibits E.

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES

A. There are no producing gas wells 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.

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 approved by the BLM.

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 BLM for appropriate approval.

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

E. Human waste will be disposed of per current standards.

F. Trash, waste paper, garbage, and junk will be collected in trash trailers and disposed of in an approved waste facility such as a land fill. The trash trailers will contain all of the material to prevent scattering by the wind.

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

8. ANCILLARY FACILITIES

None Required at this time.

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 relatively flat. Minor 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 fluid 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 300 days after abandonment.

11. TOPOGRAPHY

A. The wellsite is located in a relatively flat area.

B. The top soil at the wellsite is sandy.

C. The vegetation cover at the wellsite is moderately sparse, with prairie grasses, some mesquite bushes, and shinnery oak.

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

OPERATOR'S REPRESENTATIVES

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

Michael R. Burton
Division Drilling Manager
Santa Fe Snyder Corp.
550 W. Texas, Suite 1330
Midland, Texas 79701
915-686-6616 - office
915-556-7063 - cellular

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 Snyder Corp. and its contractors and subcontractors in conformity with this plan and the terms and conditions under which is approved.

SIGNED this 28th day of June 2000.

James P. "Phil" Stinson
James P. (Phil) Stinson
Agent for Santa Fe Snyder Corp.