R-111-POTASH

ATS-08-392

OCD-ARTESIA

493

Form 3160-3
(April 2004)

OCT 09 2008

OCD-ARTESIA

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No 1004-0137
Expires March 31, 2007

S

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☑ DRILL ☐ REENTER	5 Lease Serial No. **LC-070286**
1b. Type of Well: ☐ Oil Well ☑ Gas Well ☐ Other ☐ Single Zone ☐ Multiple Zone	6. If Indian, Allotee or Tribe Name
2. Name of Operator **V-F Petroleum, Inc.** 24010	7 If Unit or CA Agreement, Name and No.
3a Address **P.O. Box 1889 Midland, TX 79702**	8. Lease Name and Well No. 37434 **Hudson Federal (BB), Well #2Y**
3b Phone No. *(include area code)* **432-683-3344**	9 API Well No. **30-015-36721**
4. Location of Well *(Report location clearly and in accordance with any State requirements *)* At surface **1580' FSL & 1870' FEL** - J At proposed prod. zone **990' FSL & 1650' FWL** - N	10 Field and Pool, or Exploratory **Dos Hermanos Morrow**
	11. Sec., T. R. M. or Blk. and Survey or Area **Sec. 29-T20S-R30E**
14 Distance in miles and direction from nearest town or post office* **17 miles NE of Carlsbad, NM**	12 County or Parish **Eddy** / 13 State **NM**

15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig. unit line, if any) **990'**	16 No of acres in lease **320**	17 Spacing Unit dedicated to this well **320**
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft **250' surface loc.**	19 Proposed Depth **12,950'**	20 BLM/BIA Bond No. on file **NM-2246**
21 Elevations (Show whether DF, KDB, RT, GL, etc.) **3375' GL**	22. Approximate date work will start* **03/01/2008**	23. Estimated duration **45-50 days**

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, shall be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature George R. Smith	Name *(Printed/Typed)* **George R. Smith**	Date **2/19/08**
Title **Agent for: V-F Petroleum, Inc.**		
Approved by *(Signature)*	Name *(Printed Typed)*	Date OCT 06 2008
Title Acting STATE DIRECTOR	Office **NM STATE OFFICE**	

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, are attached. APPROVAL FOR TWO YEARS

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make 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 page 2)

Capitan Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Approval Subject to General Requirements & Special Stipulations Attached

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240

DISTRICT II
1301 W. GRAND AVENUE, ARTESIA, NM 88210

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

DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

Form C-102
Revised October 12, 2005
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
	76080	Dos Hermanos Morrow

Property Code	Property Name	Well Number
	HUDSON FEDERAL "BB"	2Y

OGRID No.	Operator Name	Elevation
24010	VF PETROLEUM	3376'

Surface Location

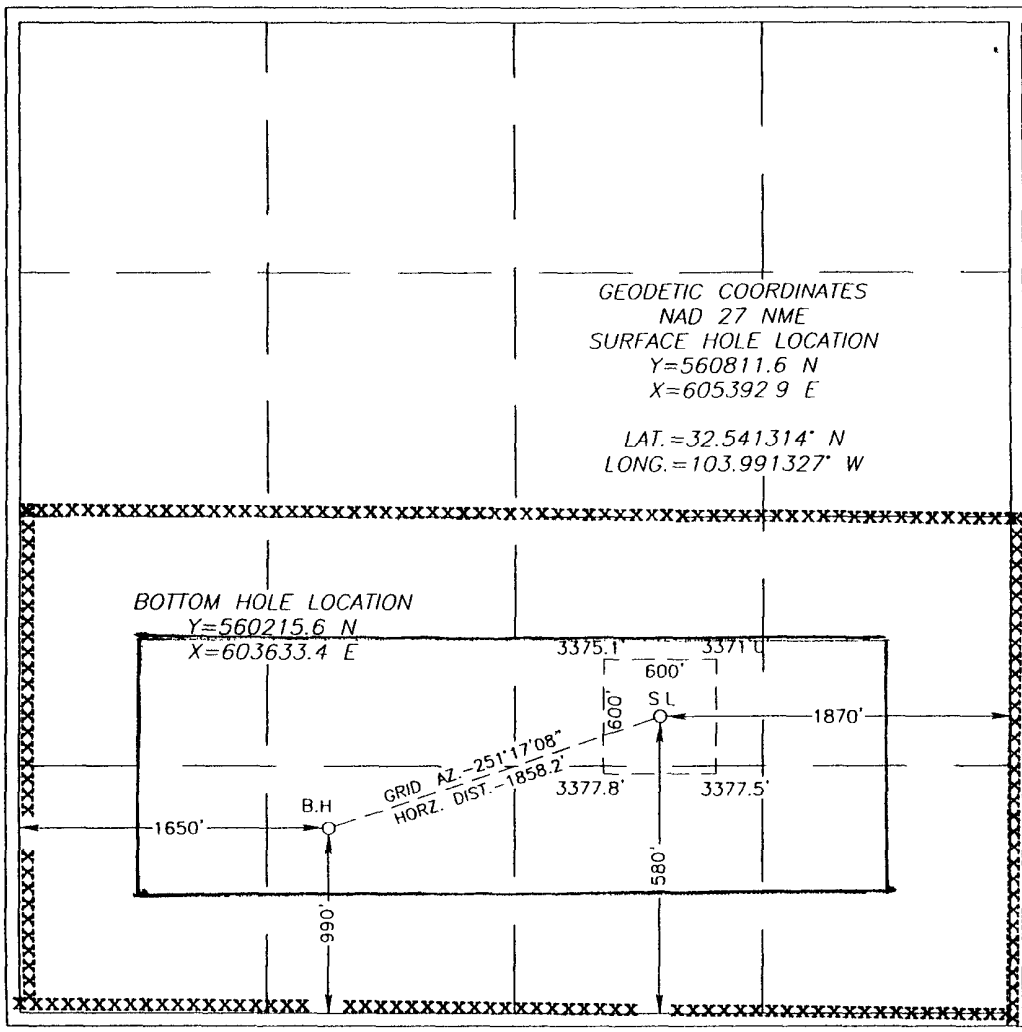
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	29	20-S	30-E		1580	SOUTH	1870	EAST	EDDY

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
N	29	20-S	30-E		990	SOUTH	1650	WEST	EDDY

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 that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

George R. Smith 02/15/08
Signature Date

George R. Smith
Printed Name

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.

FEBRUARY 9, 2008
Date Surveyed LA

Signature & Seal of Professional Surveyor

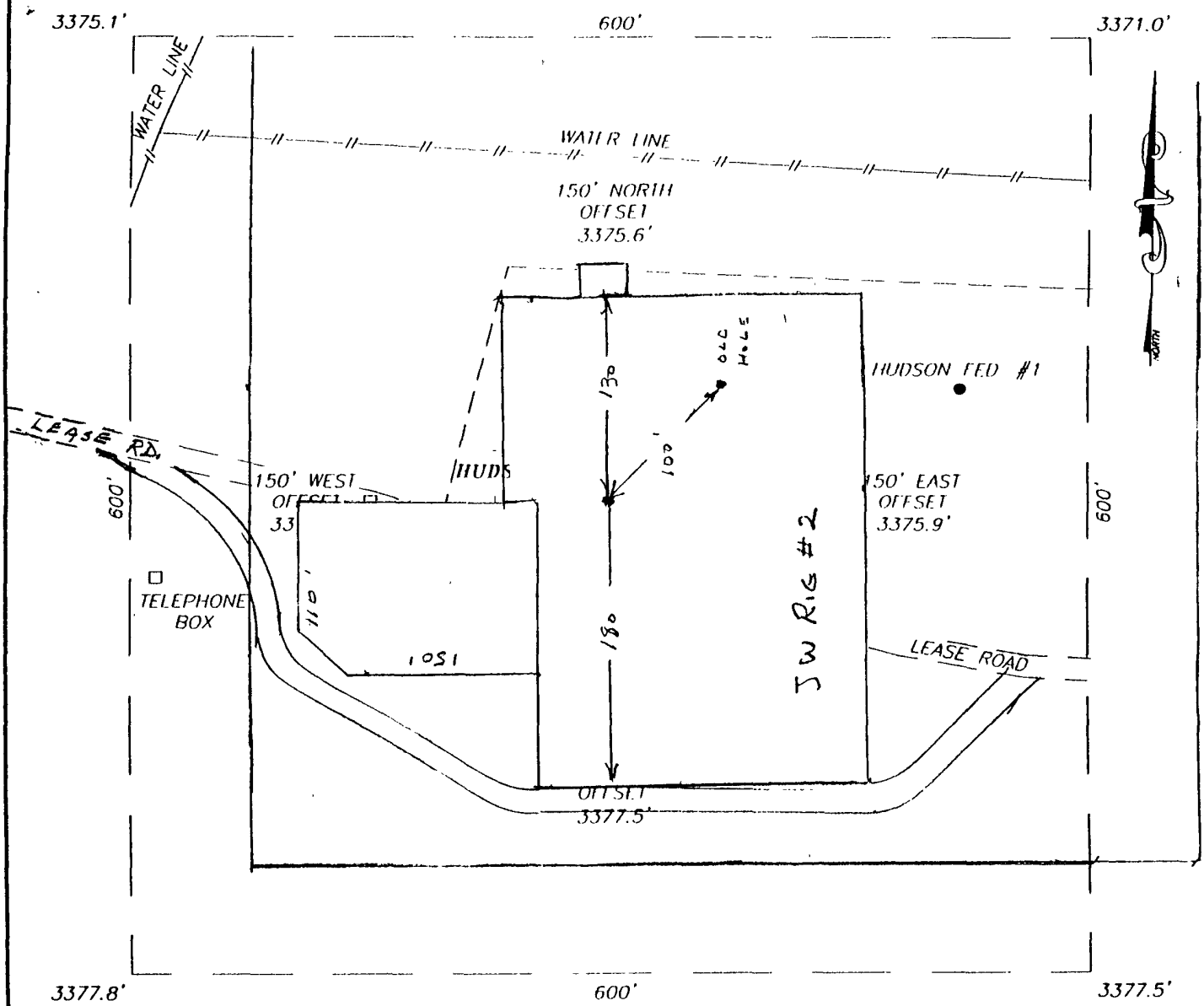
Ronald J. Eidson 2/13/08

08.11.0157

Certificate No. GARY EIDSON 12641
RONALD EIDSON 3239

SECTION 29, TOWNSHIP 20 SOUTH, RANGE 30 EAST, N.M.P.M.,

EDDY COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF U.S. HWY. 62-180 AND ST. HWY. #360 (POTASH MINES), GO NORTHEAST ON ST. HWY. #360 APPROX. 1.4 MILES. TURN RIGHT AND GO EAST-SOUTHEAST APPROX. 0.3 MILES TO THE HUDSON FEDERAL #1 WELL PAD AND THIS LOCATION.

100 0 100 200 Feet

Scale: 1"=100'

PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(505) 393-3117

VF PETROLEUM

HUDSON FEDERAL "BB" #2Y WELL
LOCATED 1580 FEET FROM THE SOUTH LINE
AND 1870 FEET FROM THE EAST LINE OF SECTION 29,
TOWNSHIP 20 SOUTH, RANGE 30 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.

Survey Date: 2/9/08	Sheet 1 of 1 Sheets		
W.O. Number: 08.11.0157	Dr By: LA		Rev 1:N/A
Date: 2/13/08		08110157	Scale: 1"=100'

APPLICATION FOR DRILLING

V-F PETROLEUM, INC.
Hudson Federal (BB), Well No. 2Y
Surface: 1580' FSL & 1870' FEL, Sec. 29-T20S-R30E (Re-entry)
Production: 990' FSL & 1650' FWL, Sec. 29-T20S-R30E
Eddy County, New Mexico
Lease No.: LC-070286
(Development Well)

In conjunction with Form C-101, Application for Permit to Drill subject well, V-F Petroleum, Inc. submits the following items of pertinent information in accordance with NMOCD request:

1. The geologic surface formation is recent Permian with quaternary alluvium and other surficial deposits.

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

	Vertical Depth		
Rustler	160'	Wolfcamp	9,900'
Top of salt	450'	Cisco	10,650'
Base of salt	1000'	Strawn	11,000'
Yates	1,562'	Middle Strawn Limestone	11,200'
Capitan Reef	2,037'	Atoka	11,450'
Base of Reef	3,823'	Upper Morrow	11,675'
Delaware	3,874'	Middle Morrow	12,050'
Massive Delaware Sand	4,100'	Lower Morrow	12,375'
Bone Spring	6,575'	Chester	12,560'
		T.D.	12,950'

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

Water: Surface water between 100' - 300'.
Oil: None expected.
Gas: Possible in the Strawn below 11,190', Atoka below 11,655' and the Morrow below 11,885'.

4. Proposed Casing Program: (New Casing)

HOLE SIZE	CASING SIZE	WEIGHT	GRADE	COLLAR	SETTING DEPTH	COLLAPSE DESIGN FACTOR	BURST DESIGN FACTOR	TENSION DESIGN FACTOR
26"	20"	94.0#	H-40	ST&C	400'	2.6	2.2	15.4
17 1/2"	13 3/8"	48.0#	H-40	ST&C	1,200'	1.2	3.5	4.3
17 1/2"	13 3/8"	54.5#	K-55	ST&C	1,500'	1.5	2.7	33.6
12 1/4"	9 5/8"	36.0#	K-55	ST&C	3,000'	1.4	2.8	3.0
12 1/4"	9 5/8"	40.0#	K-55	ST&C	3,800'	1.4	3.2	15.2
8 3/4"	5 1/2"	17.0#	P-110	LT&C	12,950'	1.3	1.2	2.0

NOTE: Deviation Requirements: Commencing at 4,300': Kick off and build angle at 1.5 degrees per 100 feet. Drill and build curve section to 13.13 degrees to T.D. See Exhibit "F".

5. Cement Program:

CASING	SETTING DEPTH	1.79 QUANTITY OF CEMENT	YIELD
20"	400'	Circ. 495 sx CL & 300 "C" to surface.	1.34
13 3/8"	1,500'	Circ. 180 sx HL & 855 sx Poz "C" & 300 sx "C" to surface.	1.34
9 5/8"	3,800'	Circ. 720 sx Poz "C" & 200 sx "C" to surface.	1.34
5 ½"	12,950'	450 sx Poz "H"& 425 sx Poz "C" returned to ~~8,000'~~ for TOC.	1.59

see COA

Yld
HL 180 - 1.57
O 855 - 1.83
C 720 - 2.44
H 450 - 2.29

Yield per operator 3-26-08 WWI

See COA

6. Proposed Control Equipment: A 12" 5000 psi wp Shaffer Type LWS Double Gate BOP will be installed on the 13 3/8" casing. The casing and BOP will be tested according to Onshore Oil & Gas Order #2, not to exceed maximum surface estimated pressures of 2800 psi wp, before drilling out with 12 1/4". The pipe rams will be operated and checked daily, plus each time drill pipe is out of hole. This will be documented on driller's log. See Exhibit "E".

7.

MUD PROGRAM:		MUD WEIGHT	VIS.	W/L CONTROL
0' - 400':	Fresh water mud:	8.6 - 8.8 ppg	32 - 40	No W/L control
400' - 1,500':	Brine water mud:	10.0 - 10.1 ppg	28 - 29	No W/L control
1,500' - 3,800':	Fresh water mud:	8.4 - 8.5 ppg	28 - 90	No W/L control
3,800' - 10,300':	Brine water mud:	8.5 - 9.5 ppg	28 – 29	No W/L control
10300' - 12,950':	Cut brine mud:	9.5 - 9.8 ppg	36 - 40	W/L cont. 12 to 6 cc in Morrow

7. Auxiliary Equipment: Blowout Preventer, gas detector, Kelly cock, and stabbing valve.

8. Testing, Logging, and Coring Program:
   Drill Stem Tests: Possible multiple DST's in Strawn for pressure data. Possible RFT's @ TD
   Logging: T.D. to 3800': GR-Calip.-Comp. Neutron - Pe-Density, DLL w/MSFL
   3800' to Surface:GR-Comp. Neutron
   Coring: None planned

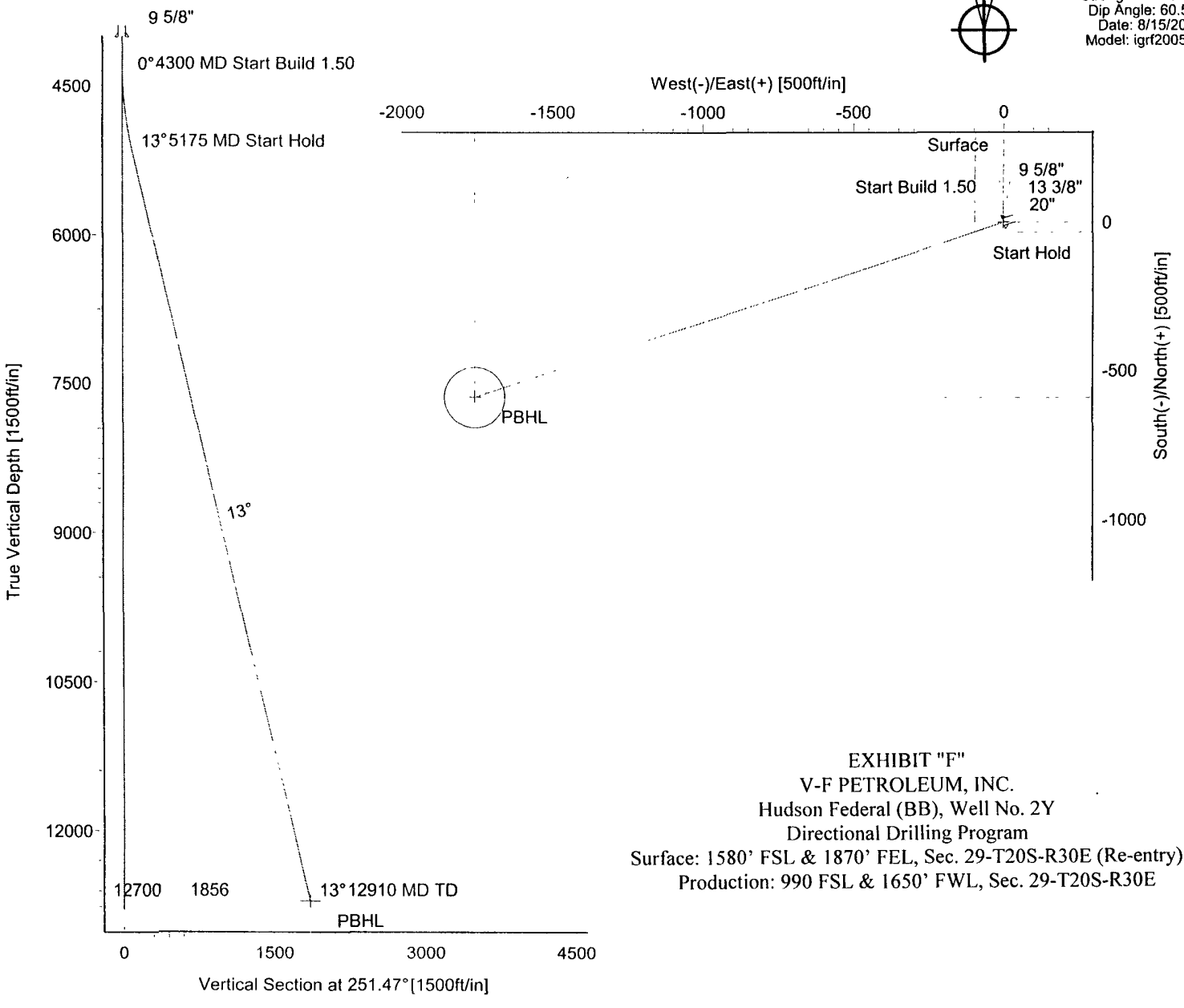
9. No abnormal pressures or temperatures are anticipated. In the event abnormal pressures are encountered the proposed mud program will be modified to increase the mud weight. Estimated maximum BHP = 5588 and Surface Pressure = 2794 with a temperature of 187.

10. H_2S: None expected. None in Hudson Federal (BB) #1 drilled in Sec. 29-T20S-R30E. The Mud Log Unit will be cautioned to use a gas trap to detect H_2S and if any is detected the mud weight will be increased along with H_2S inhibitors sufficient to control the gas.

11. Anticipated starting date: March 1, 2008
    Anticipated completion of drilling operations: Approximately 45-50 days.

V-F PETROLEUM

Field: Eddy County, New Mexico
Site: Hudson Fed (BB)
Well: # 2Y
Wellpath: RE
Plan: Plan #4



Azimuths to Grid North
True North: -0 18°
Magnetic North: 8 18°

Magnetic Field
Strength: 49288nT
Dip Angle: 60.53°
Date: 8/15/2006
Model: igrf200510

EXHIBIT "F"
V-F PETROLEUM, INC.
Hudson Federal (BB), Well No. 2Y
Directional Drilling Program
Surface: 1580' FSL & 1870' FEL, Sec. 29-T20S-R30E (Re-entry)
Production: 990 FSL & 1650' FWL, Sec. 29-T20S-R30E

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
Surface	0.00	0.00	0.00	Point
PBHL	12700.00	-590.00	-1760.00	Circle (Radius: 100)

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	251.47	0.00	0.00	0.00	0.00	0.00	0.00	
2	4300.00	0.00	251.47	4300.00	0.00	0.00	0.00	0.00	0.00	
3	5175.05	13.13	251.47	5167.42	-31.72	-94.62	1.50	251.47	99.79	
4	12909.71	13.13	251.47	12700.00	-590.00	-1760.00	0.00	0.00	1856.26	PBHL

Drilling Systems, Inc.

LEAM DRILLING SYSTEMS, INC.
101 Industrial Court Conroe, Texas 77301
Phone: 936-756-7577 Fax: 936-756-7595

Wellpath (# 2Y/RE)

Created By Tony LoRicco Date 2/1/2008
Checked _____ Date _____
Reviewed _____ Date _____
Approved _____ Date _____

Leam Drilling Systems, Inc.
Planning Report

Company:	V-F PETROLEUM	**Date:** 2/1/2008 **Time:** 11:46:00	**Page:** 1
Field:	Eddy County, New Mexico	**Co-ordinate(NE) Reference:**	Well: # 2Y, Grid North
Site:	Hudson Fed (BB)	**Vertical (TVD) Reference:**	SITE 0.0
Well:	# 2Y	**Section (VS) Reference:**	Well (0.00N,0.00E,251.47Azi)
Wellpath:	RE	**Survey Calculation Method:**	Minimum Curvature **Db:** Sybase

Field: Eddy County, New Mexico

Map System: US State Plane Coordinate System 1927
Geo Datum: NAD27 (Clarke 1866)
Sys Datum: Mean Sea Level

Map Zone: New Mexico, Eastern Zone
Coordinate System: Well Centre
Geomagnetic Model: igrf200510

Site: Hudson Fed (BB)

Site Position: **Northing:** ft **Latitude:**
From: Local Only **Easting:** ft **Longitude:**
Position Uncertainty: 0.00 ft **North Reference:** Grid
Ground Level: 3375.00 ft **Grid Convergence:** deg

Well: # 2Y **Slot Name:**

Well Position: +N/-S 0.00 ft **Northing:** ft **Latitude:**
+E/-W 0.00 ft **Easting :** ft **Longitude:**
Position Uncertainty: 0.00 ft

Wellpath: RE **Drilled From:** Surface
Tie-on Depth: 0.00 ft
Current Datum: SITE **Height** 0.00 ft **Above System Datum:** Mean Sea Level
Magnetic Data: 8/15/2006 **Declination:** 8.37 deg
Field Strength: 49288 nT **Mag Dip Angle:** 60.53 deg

Vertical Section:	Depth From (TVD) ft	+N/-S ft	+E/-W ft	Direction deg
	0.00	0.00	0.00	251.47

Plan: Plan #4 **Date Composed:** 2/1/2008
Version: 1
Principal: No **Tied-to:** From Surface

Plan Section Information

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg	Target
0.00	0.00	251.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4300.00	0.00	251.47	4300.00	0.00	0.00	0.00	0.00	0.00	0.00	
5175.05	13.13	251.47	5167.42	-31.72	-94.62	1.50	1.50	0.00	251.47	
12909.71	13.13	251.47	12700.00	-590.00	-1760.00	0.00	0.00	0.00	0.00	PBHL

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
4300.00	0.00	251.47	4300.00	0.00	0.00	0.00	0.00	0.00	0.00	
4400.00	1.50	251.47	4399.99	-0.42	-1.24	1.31	1.50	1.50	0.00	
4500.00	3 00	251.47	4499.91	-1.66	-4.96	5.23	1.50	1.50	0.00	
4600.00	4.50	251.47	4599.69	-3.74	-11.16	11.77	1.50	1.50	0.00	
4700.00	6.00	251.47	4699.27	-6.65	-19.84	20.92	1.50	1.50	0.00	
4800.00	7.50	251.47	4798.57	-10.39	-30.98	32.68	1.50	1.50	0.00	
4900.00	9.00	251.47	4897.54	-14.95	-44.59	47.03	1.50	1.50	0.00	
5000.00	10.50	251.47	4996.09	-20.33	-60.64	63.96	1.50	1.50	0.00	
5100.00	12.00	251.47	5094.16	-26.53	-79.14	83.47	1.50	1.50	0.00	
5175.05	13.13	251.47	5167.42	-31.72	-94.62	99.79	1.50	1.50	0.00	
5200.00	13.13	251.47	5191.71	-33.52	-99.99	105.46	0.00	0.00	0.00	
5300.00	13.13	251.47	5289.10	-40.74	-121.52	128.17	0.00	0.00	0.00	
5400.00	13.13	251.47	5386.49	-47.96	-143.05	150.88	0.00	0.00	0.00	
5500.00	13.13	251.47	5483.88	-55.17	-164.59	173.59	0.00	0.00	0.00	
5600.00	13.13	251.47	5581.26	-62.39	-186.12	196.30	0.00	0.00	0.00	
5700.00	13.13	251.47	5678.65	-69.61	-207.65	219.00	0.00	0.00	0.00	
5800.00	13.13	251.47	5776.04	-76.83	-229.18	241.71	0.00	0.00	0.00	

Leam Drilling Systems, Inc.
Planning Report

Company:	V-F PETROLEUM	**Date:** 2/1/2008	**Time:** 11:46:00	**Page:**	2
Field:	Eddy County, New Mexico	**Co-ordinate(NE) Reference:**	Well: # 2Y, Grid North		
Site:	Hudson Fed (BB)	**Vertical (TVD) Reference:**	SITE 0.0		
Well:	# 2Y	**Section (VS) Reference:**	Well (0.00N,0.00E,251.47Azi)		
Wellpath:	RE	**Survey Calculation Method:**	Minimum Curvature	**Db:**	Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
5900.00	13.13	251.47	5873.43	-84.05	-250.71	264.42	0.00	0.00	0.00	
6000.00	13.13	251.47	5970.81	-91.26	-272.24	287.13	0.00	0.00	0.00	
6100.00	13.13	251.47	6068.20	-98.48	-293.77	309.84	0.00	0.00	0.00	
6200.00	13.13	251.47	6165.59	-105.70	-315.31	332.55	0.00	0.00	0.00	
6300.00	13.13	251.47	6262.98	-112.92	-336.84	355.26	0.00	0.00	0.00	
6400.00	13.13	251.47	6360.36	-120.13	-358.37	377.97	0.00	0.00	0.00	
6500.00	13.13	251.47	6457.75	-127.35	-379.90	400.68	0.00	0.00	0.00	
6600.00	13.13	251.47	6555.14	-134.57	-401.43	423.39	0.00	0.00	0.00	
6700.00	13.13	251.47	6652.52	-141.79	-422.96	446.10	0.00	0.00	0.00	
6800.00	13.13	251.47	6749.91	-149.01	-444.49	468.80	0.00	0.00	0.00	
6900.00	13.13	251.47	6847.30	-156.22	-466.02	491.51	0.00	0.00	0.00	
7000.00	13.13	251.47	6944.69	-163.44	-487.56	514.22	0.00	0.00	0.00	
7100.00	13.13	251.47	7042.07	-170.66	-509.09	536.93	0.00	0.00	0.00	
7200.00	13.13	251.47	7139.46	-177.88	-530.62	559.64	0.00	0.00	0.00	
7300.00	13.13	251.47	7236.85	-185.10	-552.15	582.35	0.00	0.00	0.00	
7400.00	13.13	251.47	7334.24	-192.31	-573.68	605.06	0.00	0.00	0.00	
7500.00	13.13	251.47	7431.62	-199.53	-595.21	627.77	0.00	0.00	0.00	
7600.00	13.13	251.47	7529.01	-206.75	-616.74	650.48	0.00	0.00	0.00	
7700.00	13.13	251.47	7626.40	-213.97	-638.28	673.19	0.00	0.00	0.00	
7800.00	13.13	251.47	7723.79	-221.19	-659.81	695.89	0.00	0.00	0.00	
7900.00	13.13	251.47	7821.17	-228.40	-681.34	718.60	0.00	0.00	0.00	
8000.00	13.13	251.47	7918.56	-235.62	-702.87	741.31	0.00	0.00	0.00	
8100.00	13.13	251.47	8015.95	-242.84	-724.40	764.02	0.00	0.00	0.00	
8200.00	13.13	251.47	8113.34	-250.06	-745.93	786.73	0.00	0.00	0.00	
8300.00	13.13	251.47	8210.72	-257.28	-767.46	809.44	0.00	0.00	0.00	
8400.00	13.13	251.47	8308.11	-264.49	-789.00	832.15	0.00	0.00	0.00	
8500.00	13.13	251.47	8405.50	-271.71	-810.53	854.86	0.00	0.00	0.00	
8600.00	13.13	251.47	8502.88	-278.93	-832.06	877.57	0.00	0.00	0.00	
8700.00	13.13	251.47	8600.27	-286.15	-853.59	900.28	0.00	0.00	0.00	
8800.00	13.13	251.47	8697.66	-293.36	-875.12	922.98	0.00	0.00	0.00	
8900.00	13.13	251.47	8795.05	-300.58	-896.65	945.69	0.00	0.00	0.00	
9000.00	13.13	251.47	8892.43	-307.80	-918.18	968.40	0.00	0.00	0.00	
9100.00	13.13	251.47	8989.82	-315.02	-939.72	991.11	0.00	0.00	0.00	
9200.00	13.13	251.47	9087.21	-322.24	-961.25	1013.82	0.00	0.00	0.00	
9300.00	13.13	251.47	9184.60	-329.45	-982.78	1036.53	0.00	0.00	0.00	
9400.00	13.13	251.47	9281.98	-336.67	-1004.31	1059.24	0.00	0.00	0.00	
9500.00	13.13	251.47	9379.37	-343.89	-1025.84	1081.95	0.00	0.00	0.00	
9600.00	13.13	251.47	9476.76	-351.11	-1047.37	1104.66	0.00	0.00	0.00	
9700.00	13.13	251.47	9574.15	-358.33	-1068.90	1127.37	0.00	0.00	0.00	
9800.00	13.13	251.47	9671.53	-365.54	-1090.44	1150.07	0.00	0.00	0.00	
9900.00	13.13	251.47	9768.92	-372.76	-1111.97	1172.78	0.00	0.00	0.00	
10000.00	13.13	251.47	9866.31	-379.98	-1133.50	1195.49	0.00	0.00	0.00	
10100.00	13.13	251.47	9963.70	-387.20	-1155.03	1218.20	0.00	0.00	0.00	
10200.00	13.13	251.47	10061.08	-394.42	-1176.56	1240.91	0.00	0.00	0.00	
10300.00	13.13	251.47	10158.47	-401.63	-1198.09	1263.62	0.00	0.00	0.00	
10400.00	13.13	251.47	10255.86	-408.85	-1219.62	1286.33	0.00	0.00	0.00	
10500.00	13.13	251.47	10353.25	-416.07	-1241.16	1309.04	0.00	0.00	0.00	
10600.00	13.13	251.47	10450.63	-423.29	-1262.69	1331.75	0.00	0.00	0.00	
10700.00	13.13	251.47	10548.02	-430.50	-1284.22	1354.46	0.00	0.00	0.00	
10800.00	13.13	251.47	10645.41	-437.72	-1305.75	1377.16	0.00	0.00	0.00	
10900.00	13.13	251.47	10742.79	-444.94	-1327.28	1399.87	0.00	0.00	0.00	
11000.00	13.13	251.47	10840.18	-452.16	-1348.81	1422.58	0.00	0.00	0.00	
11100.00	13.13	251.47	10937.57	-459.38	-1370.34	1445.29	0.00	0.00	0.00	

Leam Drilling Systems, Inc.
Planning Report

Company:	V-F PETROLEUM	**Date:**	2/1/2008	**Time:**	11:46:00 **Page:** 3
Field:	Eddy County, New Mexico	**Co-ordinate(NE) Reference:**	Well: # 2Y, Grid North		
Site:	Hudson Fed (BB)	**Vertical (TVD) Reference:**	SITE 0.0		
Well:	# 2Y	**Section (VS) Reference:**	Well (0.00N,0.00E,251.47Azi)		
Wellpath:	RE	**Survey Calculation Method:**	Minimum Curvature	**Db:**	Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
11200.00	13.13	251.47	11034.96	-466.59	-1391.88	1468.00	0.00	0.00	0.00	
11300.00	13.13	251.47	11132.34	-473.81	-1413.41	1490.71	0.00	0.00	0.00	
11400.00	13.13	251.47	11229.73	-481.03	-1434.94	1513.42	0.00	0.00	0.00	
11500.00	13.13	251.47	11327.12	-488.25	-1456.47	1536.13	0.00	0.00	0.00	
11600.00	13.13	251.47	11424.51	-495.47	-1478.00	1558.84	0.00	0.00	0.00	
11700.00	13.13	251.47	11521.89	-502.68	-1499.53	1581.55	0.00	0.00	0.00	
11800.00	13.13	251.47	11619.28	-509.90	-1521.06	1604.26	0.00	0.00	0.00	
11900.00	13.13	251.47	11716.67	-517.12	-1542.59	1626.96	0.00	0.00	0.00	
12000.00	13.13	251.47	11814.06	-524.34	-1564.13	1649.67	0.00	0.00	0.00	
12100.00	13.13	251.47	11911.44	-531.56	-1585.66	1672.38	0.00	0.00	0.00	
12200.00	13.13	251.47	12008.83	-538.77	-1607.19	1695.09	0.00	0.00	0.00	
12300.00	13.13	251.47	12106.22	-545.99	-1628.72	1717.80	0.00	0.00	0.00	
12400.00	13.13	251.47	12203.61	-553.21	-1650.25	1740.51	0.00	0.00	0.00	
12500.00	13.13	251.47	12300.99	-560.43	-1671.78	1763.22	0.00	0.00	0.00	
12600.00	13.13	251.47	12398.38	-567.65	-1693.31	1785.93	0.00	0.00	0.00	
12700.00	13.13	251.47	12495.77	-574.86	-1714.85	1808.64	0.00	0.00	0.00	
12800.00	13.13	251.47	12593.15	-582.08	-1736.38	1831.35	0.00	0.00	0.00	
12909.71	13.13	251.47	12700.00	-590.00	-1760.00	1856.26	0.00	0.00	0.00	

Targets

Name	Description Dip.	Dir.	TVD	+N/-S	+E/-W	Map Northing	Map Easting	<---- Latitude ----> Deg	Min	Sec	<--- Longitude ---> Deg	Min	Sec

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
425.00	425 00	20.000	26.000	20"
1650.00	1650.00	13.375	17.500	13 3/8"
4000.00	4000.00	9.625	12.250	9 5/8"

Formations

MD	TVD	Formations	Lithology	Dip Angle	Dip Direction

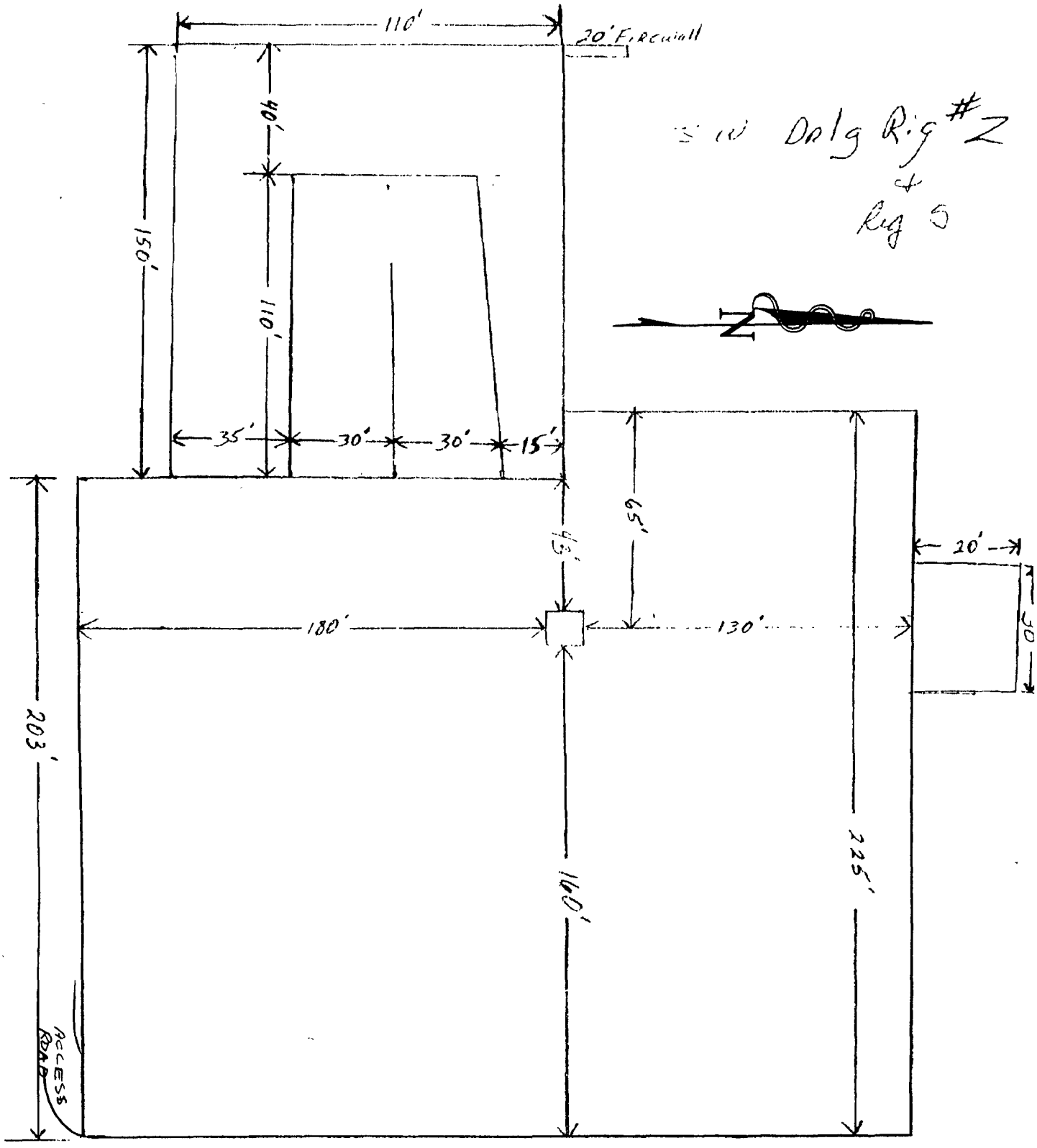


EXHIBIT "B"
V-F PETROLEUM, INC.
Hudson Federal (BB), Well No. 2
Pad & Pit Layout

5000 PSI WORKING PRESSURE BLOWOUT PREVENTER STACK

EXHIBIT C-1

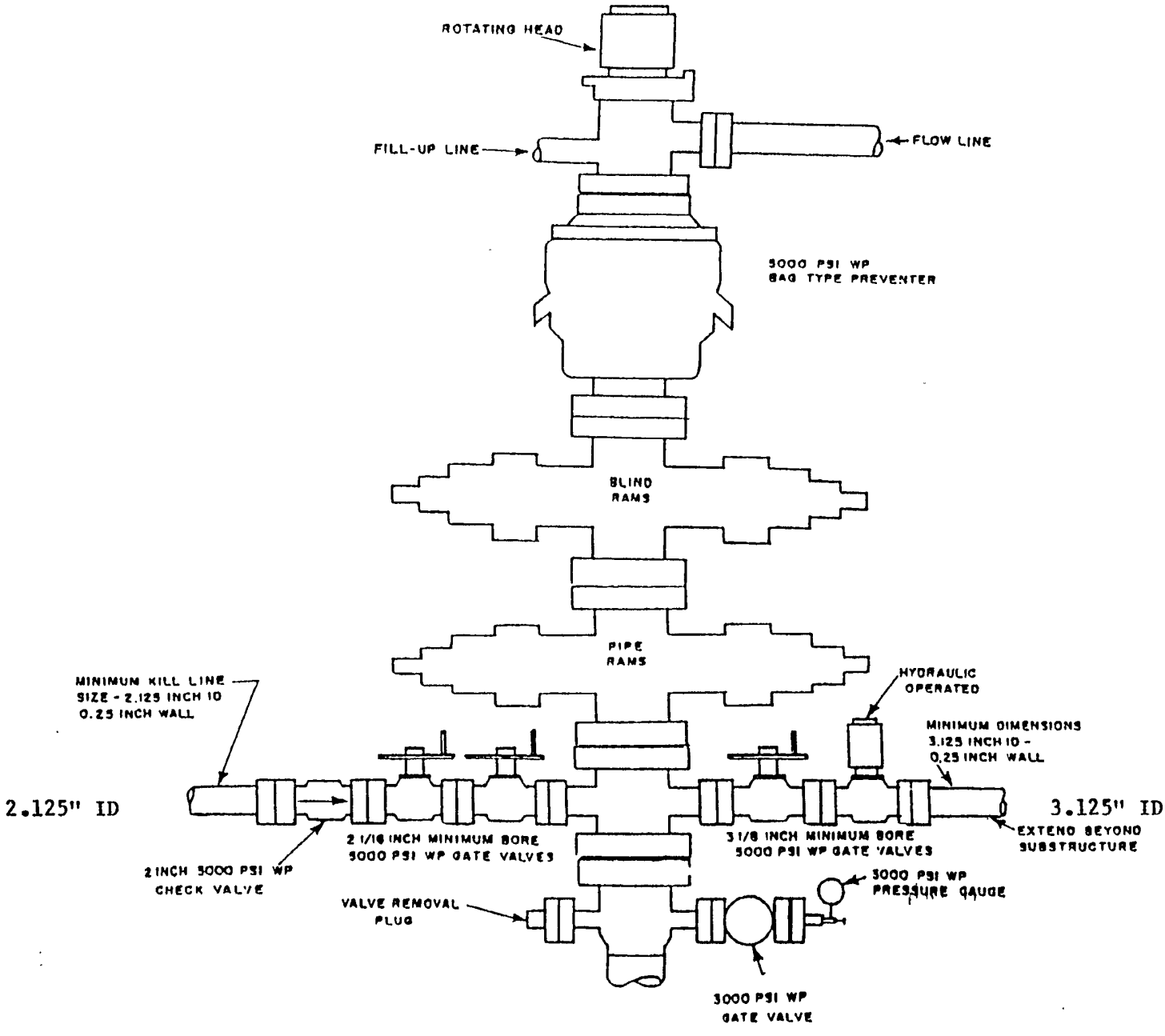
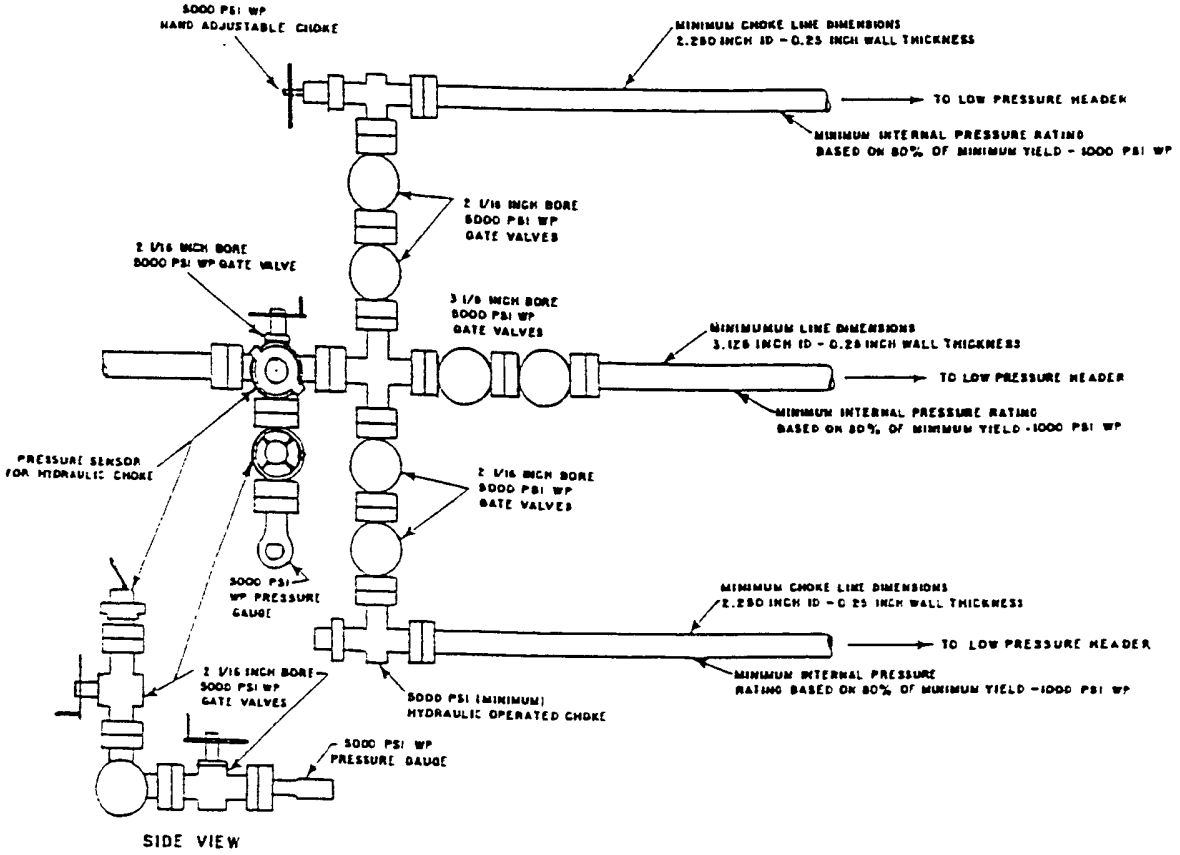


EXHIBIT "E"
V-F PETROLEUM, INC.
Hudson Federal (BB), Well No. 2
BOP Specifications



5000 PSI WORKING PRESSURE CHOKE MANIFOLD

EXHIBIT E-2

MULTI POINT SURFACE USE AND OPERATIONS PLAN

V-F PETROLEUM INC.
Hudson Federal (BB), Well No. 2Y
Surface: 1580' FSL & 1870' FEL, Sec. 29-T20S-R30E (Re-entry)
Production: 990' FSL & 1650' FWL, Sec. 29-T20S-R30E
Eddy County, New Mexico
Lease No.: LC-070286
(Development Well)

This plan is submitted with the Application for Permit to Drill the above described well. The purpose of the plan is to describe the location of the proposed well, the proposed construction activities and operations plan, to be followed in rehabilitating the surface environmental effects associated with the operations.

1. EXISTING ROADS:

A. Exhibit "A" is a portion of a USGS/BLM Topo map showing the location of the proposed well as staked. The well site location is approximately 17 road miles northeast of Carlsbad, New Mexico. Traveling east from Carlsbad there will be approximately 16.6 miles of paved highway and .2 mile of gravel ranch/oilfield road.

B. Directions: Travel east from Carlsbad, NM on U.S. Highway 62/180 for approximately 15 miles to the NM Highway 360 turnoff. Turn north on Highway 360 for 1.4 miles to a cattle guard on the east side of highway. Turn east for .7 mile. The new location is staked 100' SW of a dry hole marker staked 150' west of the Hudson Federal (BB), No. 1 well site with tank battery. The existing road will access the pad on the southwest corner of the existing well site.

2. PLANNED ACCESS ROAD:

A. Length and Width: The existing access road will re-routed south of the new well pad to service this well site portion and the existing well No. 1 well. The new portion will be 12' wide and approximately 650' in length to the SE corner of the new well pad and continue to the east to the Hudson Fed. (BB) #1.

B. Construction: The new portion of the existing access road will be constructed by grading and topping with compacted caliche. There will be a new access road constructed for a pad created for a steel water tank being moved west from the drill site for the rancher's water storage and water trough.

C. Turnouts. None required.

D. Culverts: None required.

E. Cuts and Fills: None required.

F. Gates, Cattle guards: None required.

G. Off Lease R/W: None required.

3. LOCATION OF EXISTING WELLS:

A. Existing wells within a two-mile radius are shown on Exhibit "C".

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES;

A. There are production facilities on the lease at this time.

B. If the well proves to be commercial, the necessary production facilities, gas production-process equipment and tank battery, if required, will be installed on the drilling pad. A Sundry Report will be submitted for a gas pipeline when the access location is determined.

5. LOCATION AND TYPE OF WATER SUPPLY:

A. It is planned to drill the proposed well with fresh water that will be obtained from private or commercial sources and will be transported over the existing and proposed access roads.

6. SOURCE OF CONSTRUCTION MATERIALS:

A. Caliche for surfacing the proposed access road and well site pad will be obtained on location, if available, or from a Federal pit in the SE¼NW¼ of Section 5-T21S-R29E. No surface materials will be disturbed except those necessary for actual grading, leveling and repair of the drill site and access road plus the rancher's water tank location.

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. All pits will be fenced with normal fencing materials to prevent livestock and wildlife from entering the area.

D. Water produced during operations will be collected in tanks until hauled to an approved disposal system, or a separate disposal application will be submitted to the BLM for approval.

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

F. Current laws and regulations pertaining to the disposal of human waste will be complied with.

G. Trash, waste paper, garbage and junk will be contained in trash bins to prevent scattering and will be removed for deposit in an approved sanitary landfill within 30 days after finishing drilling and/or completion operations.

8. ANCILLARY FACILITIES:

A. None required.

9. WELL SITE LAYOUT:

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

B. Mat Size: 203' X 310', plus 110' X 150' reserve pits. The pits will be on the west.

C. Cut & Fill: The pad will not require any cuts and fills except for the pits and the pad for the rancher's watering tank and trough.

D. The surface will be repaired as needed by toping with compacted caliche and the reserve pits will be plastic lined.

10. PLANS FOR RESTORATION OF THE SURFACE:

A. After completion of drilling and/or completion operations, all equipment and other material not required for operations will be removed. Pits will be filled and the location cleaned of all trash and junk to leave the well site in an aesthetically pleasing a condition as possible

B. Any unguarded pits containing fluids will be fenced until they are filled.

C. If the proposed well is non-productive, all rehabilitation and/or vegetation requirements of the Bureau of Land Management will be complied with and will be accomplished as expeditiously as possible. All pits will be filled and leveled as soon as they are dry enough to work after abandonment.

11. OTHER INFORMATION:

A. Topography: The existing well site and access road is located east of the Mimosa Ridge. The location has a southwesterly slope of 1% from an elevation of 3375'.

B. Soil: The topsoil at the well site is a moderately dark brown colored, calcareous soil with caliche outcrops. The soil is shallow over indurated caliche about 1.5 feet below surface. The soil is of the Simona-Bippus complex.

C. Flora and Fauna: The vegetation cover is a sparse to fair grass cover of three-awn, grama, dropseed and other miscellaneous native grasses along with plants of mesquite, yucca, creosote bush, sage, Javelina bush, broomweed, cacti and miscellaneous weeds and wildflowers. The wildlife consists of rabbits, coyotes, rattlesnakes, lizards, dove, quail and other wildlife typical of the semi-arid desert land.

D. Ponds and Streams: None in the immediate vicinity.

E. Residences and Other Structures: None, but existing oil field facilities and a stock water storage tank near the P/A well that is being moved to a new site on a small hill 550' west of P/A well bore. The existing water line will be accessed at the new location.

F. Land Use: Cattle grazing and potash mines.

G. Surface Ownership: The proposed well site and access road are on Federal surface.

H. There is no evidence of archaeological, historical or cultural sites on the proposed 600' X 600'site. Southern New Mexico Archaeological Services, Inc., P. O. Box 1, Bent, NM 88314, conducted the original survey and their report was submitted to the appropriate government agencies. This archaeological survey will still cover the new pad location..

12. OPERATOR'S REPRESENTATIVE:

A. The field representative responsible for assuring compliance with the approved surface use and operations plan is as follows:

Jerry Gahr
V-F Petroleum Inc.
P.O. Box 1889
Midland, TX 79702
Office Phone: (432) 683-3344

Tom Beall
V-F Petroleum, Inc.
P.O. Box 1889
Midland, TX 79702
Office Phone: (432) 687-0008

V-F Petroleum Inc.
Hudson Federal (BB), Well No. 2Y

CERTIFICATION:

I hereby certify that I have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in the 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 V-F Petroleum Inc. and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

February 19, 2008

George R. Smith
Agent for V-F Petroleum

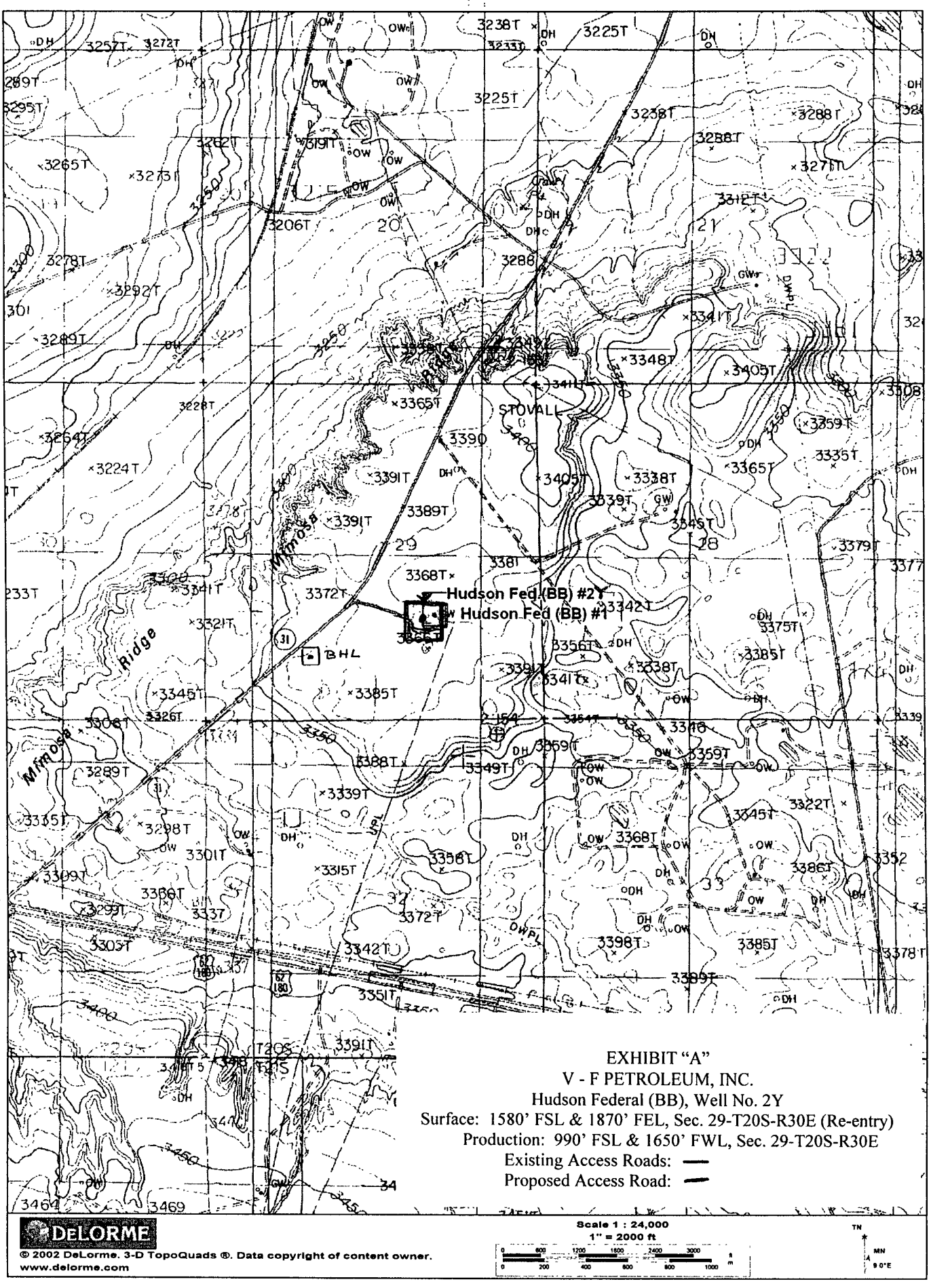


EXHIBIT "A"
V - F PETROLEUM, INC.
Hudson Federal (BB), Well No. 2Y
Surface: 1580' FSL & 1870' FEL, Sec. 29-T20S-R30E (Re-entry)
Production: 990' FSL & 1650' FWL, Sec. 29-T20S-R30E
Existing Access Roads: —
Proposed Access Road: —

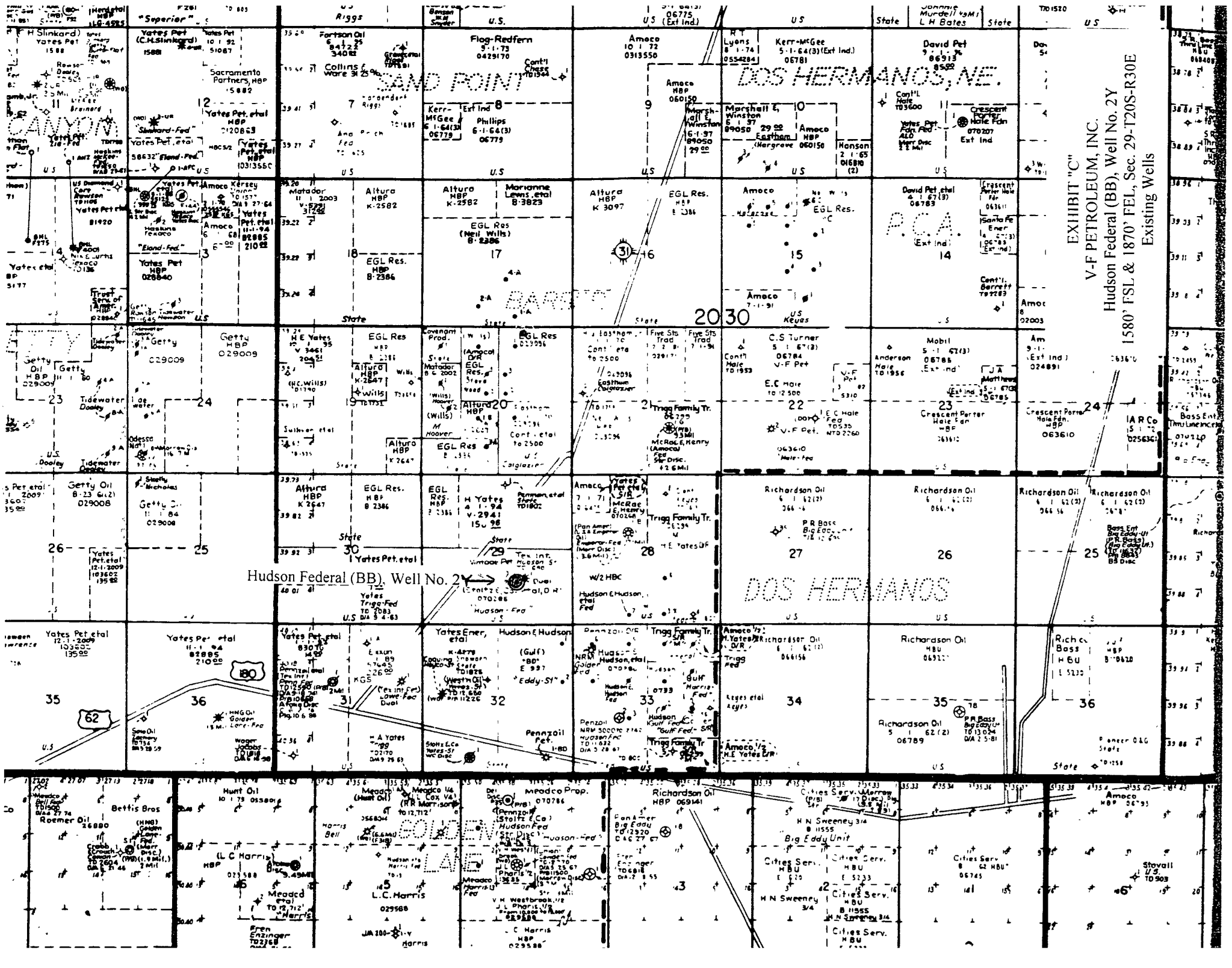


EXHIBIT "C"
V-F PETROLEUM, INC.
Hudson Federal (BB), Well No. 2Y
1580' FSL & 1870' FEL, Sec. 29-T20S-R30E
Existing Wells
Hudson Federal (BB), Well No. 2
SAND POINT
DOS HERMANOS, NE.
DOS HERMANOS
CANYON
BARTLETT
SOUTH LAKE
Flag-Redfern
Amoco
Fortson Oil
Collins & Ware
Sacramento Partners, HBP
Yates Pet. etal
Yates Pet (C.H.Stinkard)
Kerr-McGee
Phillips
Marshall E. Winston
Eastham
Hanson
David Pet
Crescent Porter Hale Fdn.
Santa Fe Energy
Matador
Altura
Marianne Lewis, etal
EGL Res.
Neil Wills
Trigg Family Tr.
McRae E. Henry
Getty
Getty Oil
Tidewater Dooley
Lee Water
Odessa Nat'l
H E Yates
Covenant Prod.
Amoco-Cal DVR
Five Sts Trad
C.S Turner
Mobil
Anderson Hale
E.C Hale
V-F Pet.
J A Matthews
Richardson Oil
P R Bass Big Eddy Unit
Bass Ent. Thru Line Incr.
Yates Pet. etal
Yates Per. etal
Yates Ener. etal
Hudson & Hudson
Penzoil
Gulf
Eddy-St
Pennzoil Prop.
Meadco Prop.
Meadco
Hunt Oil
Roemer Oil
Bettis Bros
Crabb (Crouch-Crabb)
L.C. Harris
Cities Serv.
H N Sweeney
Big Eddy Unit
Stovall
Pioneer O&G
Richardson Oil HBP 069141
Richardson Oil HBU 069122
Richardson Oil 06789
Richardson Oil 066156
Richardson Oil 066116
Richardson Oil 066 56
Richardson Oil 066 78
Richardson Oil 06785
Richardson Oil 06784
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Richardson Oil 070000

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

MOVE RANCHER'S FRESH WATER STORAGE TANK 550 FT. WEST TO A HIGHER AREA. CLOSE OUT RANCHER TWO-TRACK TO EAST, AS AGREED UPON, INVOLVING RIPPING, BERMING, RESEEDING AND BERMING ON TOP OF WATER LINE WHERE IT CROSSES THIS ROAD.

THE ABOVE TWO PROJECTS MUST BE COMPLETED PRIOR TO THE LOCATION AND ROAD BEING WORKED ON. THE RANCHER MUST BE CONTACTED TWO WEEKS BEFORE TANK RELOCATION DUE TO THE WATER STORAGE TANK IS ALSO THE MAIN WATER SOURCE FOR THE RANCHERS HOUSE.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (505) 234-5972 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall stockpile the topsoil of the well pad. The topsoil to be stripped is approximately 6 inches in depth. The topsoil shall not be used to backfill the reserve pit and will be used for interim and final reclamation.

C. RESERVE PITS

The reserve pit shall be constructed and closed in accordance with the NMOCD rules.

The reserve pit shall be constructed 110' X 150' on the West side of the well pad.

The reserve pit shall be constructed, so that upon completion of drilling operations, the dried pit contents shall be buried a minimum depth of three feet below ground level. Should the pit content level not meet the three foot minimum depth requirement, the excess contents shall be removed until the required minimum depth of three feet below ground level has been met. The operator shall properly dispose of the excess contents at an authorized disposal site.

The reserve pit shall be constructed and maintained so that runoff water from outside the location is not allowed to enter the pit. The berms surrounding the entire perimeter of the pit shall extend a minimum of two (2) feet above ground level. At no time will standing fluids in the pit be allowed to rise above ground level.

The reserve pit shall be fenced on three (3) sides during drilling operations. The fourth side shall be fenced immediately upon rig release.

D. FEDERAL MINERAL MATERIALS PIT

If the operator elects to surface the access road and/or well pad, mineral materials extracted during construction of the reserve pit may be used for surfacing the well pad and access road and other facilities on the lease.

Payment shall be made to the BLM prior to removal of any additional federal mineral materials from any site other than the reserve pit. Call the
Carlsbad Field Office at (505) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. ON LEASE ACCESS ROADS

Road Width
The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed thirty (30) feet.

Surfacing
Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

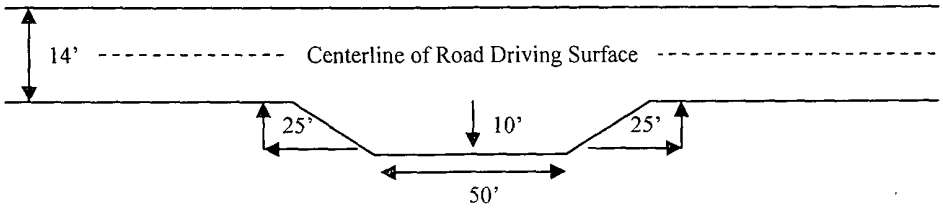
Ditching

Ditching shall be required on both sides of the road.

Turnouts

Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:

Standard Turnout – Plan View

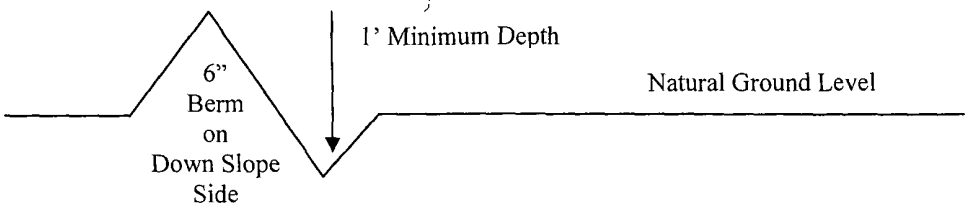


Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

400 foot road with 4% road slope: $\frac{400'}{4\%} + 100' = 200'$ lead-off ditch interval

Culvert Installations
Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

Cattleguards
An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations.

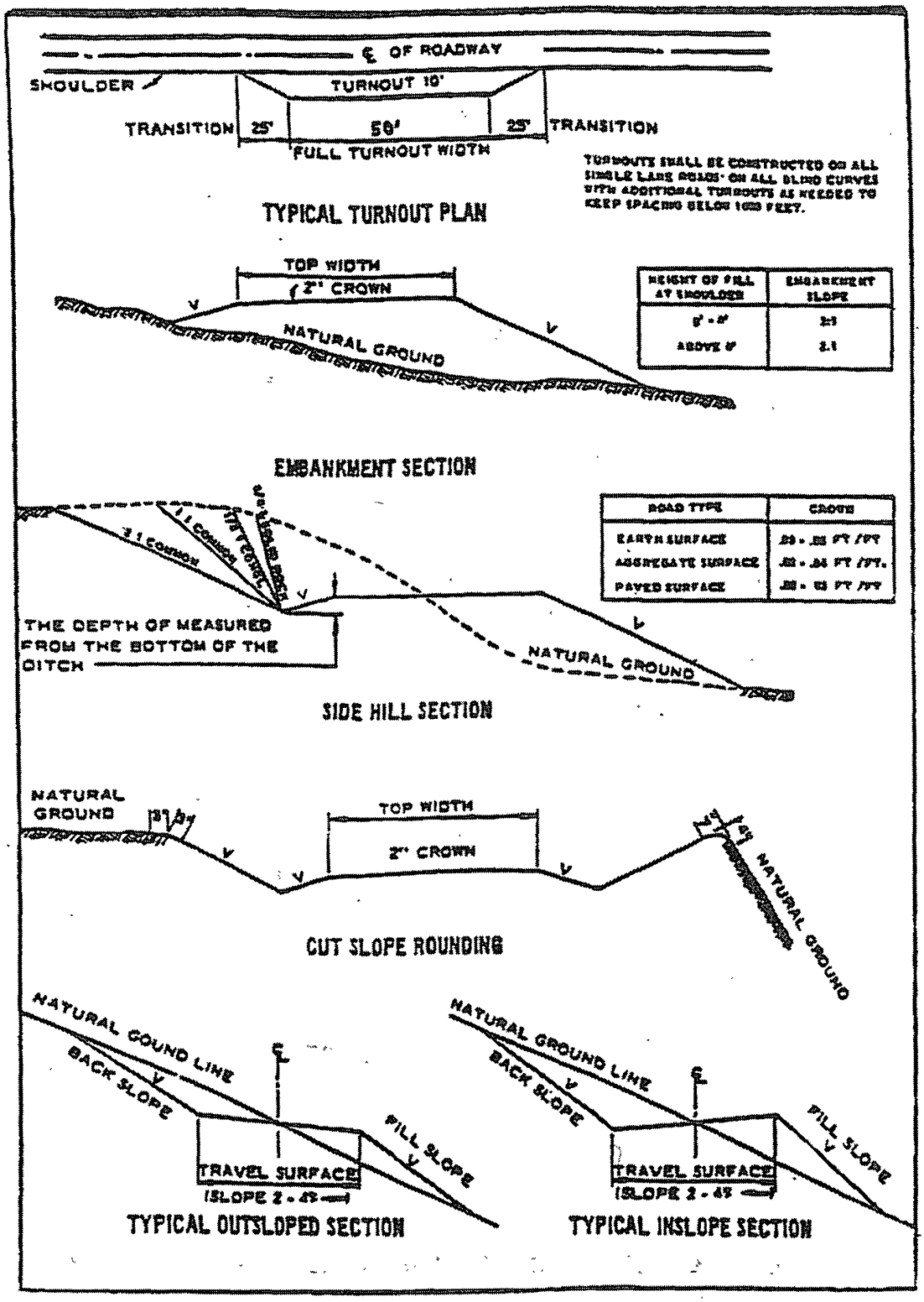
A gate shall be constructed and fastened securely to H-braces.

Fence Requirement
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Public Access
Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Figure 1 – Cross Sections and Plans For Typical Road Sections



VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

a. Spudding well
b. Setting and/or Cementing of all casing strings
c. BOPE tests

☒ **Eddy County**
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

1. **Although Hydrogen Sulfide has not been reported in the area, it is always a potential hazard. If Hydrogen Sulfide is encountered, please report measured amounts and formations to the BLM. Canyon formation may produce H2S.**

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

4. Gamma-Ray/Neutron logs shall be run from the base of the Salado formation to the surface. The logs shall be run at a speed which allows the logs to be legible and no faster than manufactures of the logging tools recommended speed. (R-111-P area only)

B. CASING

Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work.

1. The **13-3/8** inch surface casing shall be set **at approximately 400 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt)** and cemented to the surface. **The Rustler Anhydrite can dip considerably in this area and may make it difficult to maintain a straight hole. Centralizers required on surface casing per Onshore Order 2.III.B.1.f.**

a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.

b. Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, **24 hours in the potash area,** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement). **Please provide WOC times to inspector for cement slurries.**

c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

d. If cement falls back, remedial cementing will be done prior to drilling out that string.

Possible lost circulation in the Artesia Group, Delaware and Bone Spring formations.
Possible high pressure gas bursts in the Wolfcamp formation (approximately 7000 psi) and possible over pressured zones in the Pennsylvanian section, particularly the lower sand member of the Atoka.

2. The minimum required fill of cement behind the **13-3/8** inch salt protection casing is:

   ☒ Cement to surface. If cement does not circulate see B.1.a-d above. **Please provide WOC times to inspector for cement slurries.**

3. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

   ☒ Cement to surface. If cement does not circulate see B.1.a-d above. **Please provide WOC times to inspector for cement slurries.**

Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i.

NB! Mud weight will need to be increased if expected pressures of 7000 psi in the Wolfcamp and Atoka are encountered.

4. The minimum required fill of cement behind the **5-1/2** inch production casing is:

   ☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification. **Additional cement will be required to reach the required cement height.**

5. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

6. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **20"** surface casing shoe shall be **2000 (2M)** psi.

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **13-3/8** intermediate casing shoe shall be **2000 (2M)** psi.

4. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8** intermediate casing shoe shall be **5000 (5M)** psi. **Full 5M test required.**

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. The tests shall be done by an independent service company.

    b. The results of the test shall be reported to the appropriate BLM office.

    c. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

    d. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

e. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the **Wolfcamp** formation **if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days**. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

D. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the **Wolfcamp** formation, and shall be used until production casing is run and cemented.

Have sufficient mud weighting material available in preparation for high pressure zones.

E. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

WWI 032408

VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities
Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Containment Structures
The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

Painting Requirement
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color
Shale Green, Munsell Soil Color Chart # 5Y 4/2

IX. INTERIM RECLAMATION & RESERVE PIT CLOSURE

A. INTERIM RECLAMATION

If the well is a producer, interim reclamation shall be conducted on the well site in accordance with the orders of the Authorized Officer. The operator shall submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting interim reclamation.

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

At the time reserve pits are to be reclaimed, operators should work with BLM surface management specialists to devise the best strategies to reduce the size of the location. Any reductions should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

B. RESERVE PIT CLOSURE

The reserve pit, when dried and closed, shall be recontoured, all trash removed, and reseeded as follows:

Seed Mixture 3, for Shallow Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorised officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Plains Bristlegrass (*Setaria magrostachya*) 1.0	
Green Spangletop (*Leptochloa dubia*)	2.0
Side oats Grama (*Bouteloua curtipendula)*	5.0

*Pounds of pure live seed:

Pounds of seed **x** percent purity **x** percent germination = pounds pure live seed

(Insert Seed Mixture Here)

X. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS

Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation and restoration of all disturbed areas.

On private surface/federal mineral estate land the reclamation procedures on the road and well pad shall be accomplished in accordance with the private surface land owner agreement.